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In this issue
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Changes in 1979

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MONTHLY LABOR REVIEW

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Labor Month In Review

STATE OF THE UNIONS. Two seasoned observers of trade unions offered assessments of the U.S. labor movement during the year-end meeting of the Allied Social Science Associations in Atlanta.

A. H. Raskin, long a *New York Times* labor affairs writer and now associate director of the National News Council, was dismayed about labor's "standpattism:"

"The best thing the American trade union movement has going for it is the near-hopelessness of its current position. Organized labor is on the skids in economic, social and political power; and a strong argument can be made that that is exactly where it deserves to be, given the assiduousness with which labor has helped spread the banana peels that are speeding its downhill slide. . . .

"Familiar as the alarm signals must be to this sophisticated audience, bear with me for a bit as I tick off a few of the more menacing evidences of union decline. Foremost, of course, is the steady fall-off in the proportion of the nonfarm work force in union ranks, from one out of three at the time of the AFL-CIO merger in 1955 to one out of four today.

"Industry is moving out of the union heartland in the Northeast and Middle West to the right-to-work States of the Sunbelt and to low-wage sanctuaries in the Far East and Latin America. . . .

"The pursuit of more remains as solidly the centerpiece of unionism's design for living as it was when Samuel Gompers first enshrined it almost a century ago. Yet ingrained inflation makes a mockery of that chase by devouring union-negotiated wage increases before workers can get to the supermarket to spend them. In the 1970s, the average weekly wage for all employees nearly doubled, from $114 to $224; yet the average worker with three dependents wound up the decade with a 3.5-percent cut in what his pay envelope could buy after the bite of higher living costs and taxes.

"It is true that the entrenched unions in auto, steel, and other administered-price industries have stayed well ahead of the parade, but their insulated position has created its own compass of problems. Their industries are losing ground in world trade competition. The causes extend far beyond labor, yet the necessity for cost-cutting will force these industries to seek payroll relief in ways that will differ in character but not in effect from those that are making orphans of the storm of the construction crafts, once the undisputed champions in grab-with-both-hands unionism."

Jerome M. Rosow, a former U.S. Assistant Secretary of Labor, and current president of the Industrial Relations Research Association, cited three areas in which unions must be more responsive to the people they serve.

"Women have moved into the labor force in record-breaking numbers in recent years with the result that over 41 percent of the working population today is female. Yet only one in four union members is a woman. The discrepancy is not surprising, since labor union membership today continues to be concentrated in the traditionally male blue-collar occupations; women, on the other hand, predominate in the so-called "helping" occupations, which the labor movement has been slower to organize. If labor unions are to tap this new and growing pool of workers for membership, a twin agenda will be required. First, unions will have to be responsive to the unique and growing role of women in the work force. . . . Second, unions should think in terms of opening up their membership to women.

"The interest of both blacks and Hispanics in unionization is evidenced by their higher participation rates: 29 percent of Hispanic workers and 33 percent of black workers are represented by labor unions as compared to 26 percent of white workers. . . . To counterbalance the requirements of its energy-hungry neighbor to the North, Mexico, it is believed, will demand an escape valve for its crushing overpopulation, forecast to almost double by the year 2000. Thus a new underclass of workers may well flood the labor markets as the energy/employment tradeoff grows in importance. Labor will have to decide whether to try to stem the tide—or to sign up the new workers, legal or illegal.

"Some unions, in industries with a predominantly immigrant work force, have already made the decision. It is reported that several of these unions—in garment making, food and services, and light manufacturing—are signing up aliens without regard to their legal status, to eliminate a source of cheap labor and to prevent the undercutting of union contract wage levels.

"Increasing education, changing values, and the strong urge to move up the socioeconomic ladder make it more difficult for unions to respond to the needs of white-collar office and professional workers. Many of these educated and upwardly mobile employees are difficult to organize because they tend to identify with management and feel that they would lose the esteem of others if they became card-carrying union members." □

Targeting worker safety programs: weighing incidence against expense

Case data for three States show that accidents selected for safety programs will be the same, whether chosen from the costliest or most frequent cases

NORMAN ROOT AND DAVID MCCAFFREY

Increasing costs associated with work-related injuries and illnesses—rising outlays for direct compensation and medical payments, and increasing premiums for workers' compensation insurance[1]—have set many firms seeking effective, cost-reducing safety programs. In undertaking these efforts, safety professionals are faced with deciding how to plan programs that will best reduce these increasing costs. Two possible approaches emerge: sorting out the costliest cases, the "expensive case" approach, or targeting the most frequent, the "general frequency" approach.

Which approach is better? Analysis of case characteristics and costs can identify whether relatively few cases account for most of the expense and, if they do, whether the distribution of these few differs from the overall distribution of cases among certain descriptive categories.

This article presents the distribution of incidence and costs of indemnity compensation cases among kinds of occupational injuries and types of accidents for three States.[2] The data indicate that, although a small number of cases accounted for a large proportion of the costs and certain categories resulted in costlier cases, the targets selected for safety programs would essentially be the same, whether chosen from a list of the most expensive cases or a list of the most frequent. The data also support the hypothesis that any type of accident can result in an expensive case.

Underlying logic

Proponents of the expensive case approach point out that a large percentage of the costs associated with occupational injuries over any period are accounted for by a relatively small number of cases.[3] Thus, identification of these types of cases will pinpoint the costly areas and direct safety workers to specific accident prevention programs. For example, if a firm's workers have had amputations or serious falls in the recent past, the firm will concentrate prevention efforts based on the characteristics associated with these specific types of cases. Adherents claim this approach reduces major costs, marshals resources efficiently, and avoids diffusing safety efforts over many different, less expensive, or "trivial" problems.

Underlying the general frequency approach is the concept of a range of injury severity for any type of accident. That is, every accident has the potential for resulting in a serious (expensive) injury.[4] For example, a falling hammer can result in a near miss (no injury), a glancing blow to the arm (minor injury), or a crushing blow to the head (major injury). This logic contrasts with the expensive case approach in an important respect: the general frequency approach accepts the fact that a small number of injuries account for a large proportion of the costs but does not accept the proposition that these cases can be singled out for accident preven-

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Table 1. Distribution and rank of the costliest work-related injury cases, and of all cases, in Arkansas, Nortn Carolina, and Wisconsin, by type of accident, 1976[1]

Accident type	Arkansas				North Carolina				Wisconsin			
	Costliest cases[2]		All cases[3]		Costliest cases[2]		All cases[3]		Costliest cases[2]		All cases[3]	
	Percent of cases	Rank	Percent of cases	Rank	Percent of cases	Rank	Percent of cases	Rank	Percent of cases	Rank	Percent of cases	Rank
Total	100.0	....	100.0	...	100.0	...	100.0	...	100.0	...	100.0	...
Struck against	1.9	9	4.8	7	3.4	7	7.7	6	6.8	7	10.6	3
Struck by	13.2	2	18.2	2	19.6	1	22.5	1	14.8	2	21.2	2
Fall from elevation	11.1	5	7.4	5	17.2	2	10.4	5	11.8	4	7.1	7
Fall on the same level	11.6	3	10.1	4	8.9	6	12.0	4	12.5	3	9.3	4
Caught in, under, or between	11.3	4	15.1	3	14.9	3	13.8	3	11.4	5	8.9	5
Rubbed or abraded	.1	13/14	1.6	11	.2	14	.2	13	1.2	11	1.7	11
Bodily reaction	4.9	7	6.4	6	3.2	8	5.1	7	10.0	6	8.0	6
Overexertion	33.4	1	26.7	1	13.6	4	18.1	2	20.3	1	23.5	1
Contact with electric current	1.0	11	.4	13	2.3	11	.8	11	.4	13	.2	13
Contact with temperature extremes	1.3	10	2.8	9	2.9	10	3.0	9	1.9	10	2.9	8
Contact with radiations, caustic, toxic, and noxious substances	.3	12	1.5	12	3.1	9	2.0	10	.7	12	1.5	12
Public transportation accidents	.1	13/14	.0	14	.3	13	.1	14	.1	14	.0	14
Motor vehicle accidents	6.1	6	3.1	8	9.5	5	4.1	8	5.0	8	2.6	9
Unclassified or not determined	3.6	8	1.9	10	.8	12	.5	12	3.1	9	2.4	10

[1] All closed cases for which indemnity payments were made in 1976, regardless of when cases occurred. "Accidents" also includes injuries, illnesses and exposure.
[2] The most expensive 10 percent of all accident cases.
[3] Total cases equaled 9,003 in Arkansas, 25,036 in North Carolina, and 52,440 in Wisconsin.
NOTE: Column percentages may not add to totals because of rounding.

tion efforts because, as noted above, any type of accident can conceivably result in an expensive case. Furthermore, over time, expensive cases will be spread proportionately among all types of cases. Adherents maintain that safety efforts should be sustained, overall programs directed at preventing *all* injuries or illnesses, with proportionate efforts in the largest identifiable areas of risk. By reducing the total number of events, these programs would reduce the chance of a serious injury occurring in any of the categories.

Data sources and methodology

Data in this article are from the Bureau of Labor Statistics' Supplementary Data System.[5] This system obtains data from records of cases reported to State workers' compensation agencies. The cases are coded for nature of injury or illness, part of body affected, source of injury or illness, type of accident or exposure, and, for some States, the indemnity compensation and medical payments associated with the case.[6]

The three States chosen for comparison were Arkansas, North Carolina, and Wisconsin. They were selected because data for them were available, and because geographic dispersion made them highly representative of the Nation. The data are from all closed cases for which indemnity payments were made during 1976, regardless of the year in which the cases occurred. Arkansas and North Carolina require 7 days of disability before awarding indemnity compensation. In Wisconsin, there is a 3-day waiting period for such benefits.

Table 2. Distribution and rank of the costliest work-related injury cases, and of all cases, in Arkansas, North Carolina, and Wisconsin, by part of body affected, 1976[1]

Part of body	Arkansas				North Carolina				Wisconsin			
	Costliest cases[2]		All cases[3]		Costliest cases[2]		All cases[3]		Costliest cases[2]		All cases[3]	
	Percent of cases	Rank	Percent of cases	Rank	Percent of cases	Rank	Percent of cases	Rank	Percent of cases	Rank	Percent of cases	Rank
Total	100.0	....	100.0	...	100.0	...	100.0	...	100.0	...	100.0	...
Head, excluding eyes	2.2	10	2.8	8	5.1	8	4.5	8	2.6	8	2.7	8
Eyes	2.1	11	1.4	10	3.7	10	1.7	9	.9	11	1.6	9
Neck	2.8	8	1.8	9	1.5	11	1.2	10	.5	12	.9	11
Upper extremities, unknown, not elsewhere classified or multiple	.4	14	1.1	11	1.4	12	1.0	12	.3	14	.7	12
Arm, including hand	7.2	3	12.7	3	8.6	4	12.5	3	15.6	3	15.2	3
Fingers	5.2	6	14.8	2	7.7	5	16.9	2	13.0	4	16.5	2
Trunk, excluding back	7.1	4	10.0	6	6.9	6	9.8	6	5.8	7	9.6	6
Back	49.2	1	28.9	1	25.4	1	21.4	1	24.2	1	22.4	1
Lower extremities, unknown, not elsewhere classified, or multiple	.9	12/13	.6	13	.8	13	.7	13	.3	13	.4	14
Leg	9.6	2	10.2	5	9.5	3	10.6	5	19.4	2	10.5	5
Ankle, foot, or toes	2.9	7	10.7	4	5.4	7	11.6	4	8.9	5	12.3	4
Multiple parts	6.9	5	3.6	7	18.9	2	6.8	7	6.6	6	5.5	7
Body system	2.6	9	.9	12	4.8	9	1.2	11	1.0	10	.5	13
Not elsewhere classified or unclassified	.9	12/13	.4	14	.3	14	.1	14	1.0	9	1.1	10

[1] See table 1, footnote 1.
[2] See table 1, footnote 2.
[3] See table 1, footnote 3.
NOTE: Column percentages may not add to totals because of rounding.

Table 3. Distribution and rank of the costliest work-related injury cases, and of all cases, in Arkansas, North Carolina, and Wisconsin, by source of injury, 1976[1]

Source of injury	Arkansas				North Carolina				Wisconsin			
	Costliest cases[2]		All cases[3]		Costliest cases[2]		All cases[3]		Costliest cases[2]		All cases[3]	
	Percent of cases	Rank	Percent of cases	Rank	Percent of cases	Rank	Percent of cases	Rank	Percent of cases	Rank	Percent of cases	Rank
Total	100.0	....	100.0	...	100.0	...	100.0	...	100.0	...	100.0	...
Animals	.1	22	.9	17	.1	24	.3	23	.2	22	.3	21
Bodily motion	1.3	12	2.4	10	3.2	8	5.1	7	10.2	4	8.6	6
Boxes, containers	11.4	3	10.3	3	5.3	6	7.7	5	7.6	7	9.7	5
Buildings, structures	.7	19	.6	22	1.0	15	.9	17	2.2	11	1.9	12
Chemicals	.4	20	1.1	15	.7	19	1.1	14	.4	18	1.0	15
Coal and petroleum products	.8	17/18	.9	16	.7	18	.5	21	.4	19	.5	20
Cold					.0	25	.0	25	.1	24/25	.0	25
Drugs, medicine	.0	23	.0	23	.0	26	.0	26	.0	26	.0	26
Electrical apparatus	1.1	14/15	.8	19/20	2.8	9	1.7	12	1.1	13	1.1	14
Flame, fire, smoke					1.6	12/13	.7	18	.3	20	.3	22
Furniture, fixtures	1.8	9/10	1.7	13	1.9	10	2.8	10	1.2	12	1.7	13
Hand tools, not powered	1.0	16	3.3	9	1.0	16	3.1	9	2.8	9	5.1	8
Hand tools, powered	1.1	14/15	3.5	8	1.2	14	2.5	11	1.0	14	1.9	11
Liquids, not elsewhere classified	.3	21	.9	18	.4	22	1.0	15	.3	21	.7	18
Machines	8.6	5	9.8	4	14.3	3	14.4	2	12.2	2	10.6	3
Mechanical powered transmission apparatus	1.6	11	2.0	12	.6	20	.7	19	.7	15	.8	17
Metal items not elsewhere classified	14.6	2	15.8	2	6.0	5	7.6	6	9.4	5	13.4	2
Mineral items, nonmetallic	1.2	13	.8	19/20	1.6	12/13	.6	20	.5	17	.8	16
Plants, trees, vegetation	1.8	9/10	1.4	14	1.7	11	1.1	13	.6	16	.5	19
Steam					.1	23	.2	24	.1	24/25	.0	23
Textile items, not elsewhere classified	.8	17/18	.6	21	.8	17	.9	16	.2	23	.2	24
Vehicles	10.1	4	6.1	7	16.0	2	11.5	3	10.2	3	7.9	7
Wood items, not elsewhere classified	7.8	6	7.1	6	3.8	7	4.4	8	2.6	10	3.3	10
Working surfaces	23.1	1	18.5	1	24.0	1	19.4	1	21.8	1	14.1	1
Miscellaneous	6.2	7	8.2	5	10.6	4	11.2	4	8.6	6	10.1	4
Unknown, unclassified	4.2	8	2.2	11	.5	21	.5	22	5.3	8	5.1	9

[1] See table 1, footnote 1.
[2] See table 1, footnote 2.
[3] See table 1, footnote 3.
NOTE: Column percentages may not add to totals because of rounding.

Case records, classified according to the American National Standards Institute's Z16.2 code system (see footnote 6) were sorted in descending order of total costs of indemnity compensation and medical payments and ranked by frequency. For each State, the most expensive 10 percent of all the cases were compiled (900 cases for Arkansas, 2,503 cases for North Carolina, and 5,244 cases for Wisconsin).

Analysis focused on the distribution of four case characteristics: nature of injury, part of body affected, source of injury, and type of accident. For each State, the categorical distributions of the most expensive 10 percent of cases were compared to the distributions of all State cases to determine whether the characteristics of the most expensive cases were different from those of all cases.

Although "unclassified," "unidentified," or "multiple category" cases were included in the tables, they were not included in the rankings unless *some* description of the case was given (for example, "metal items, not elsewhere classified"). This is because a safety program cannot target an "unclassified" or "unidentified" case.[7]

Examining accident characteristics

The data confirm that a small minority of cases accounted for a large percentage of costs. The most expensive 10 percent of cases accounted for 60 percent of the cost in Arkansas, 58 percent in Wisconsin, and 55 percent in North Carolina. The most expensive groupings were examined by characteristics. Then the dispersion of each characteristic for the groupings was compared to the distribution for all cases in each State.

One of the most critical elements to identify for an accident prevention program is the type of accident. (See table 1.) This category describes how the person contacted the source of injury, thereby indicating the events that must be prevented.

In Arkansas's costliest 10 percent of all cases, the five most prevalent types were "overexertion," "struck by," "fall on the same level," "caught in, under, or between," and "fall from elevation." They made up 81 percent of the costliest cases. Of all cases, the same five types prevailed, accounting for 78 percent.

The leading five types among North Carolina's most costly cases were "struck by," "fall from elevation," "caught in, under, or between," "overexertion," and "motor vehicle accidents," making up 75 percent of the cases. All of these, with the exception of "motor vehicle accidents," are in the top five of the total cases ("fall on the same level" replaces "motor vehicle accidents"). The leading five accounted for 77 percent of all cases.

Wisconsin's most costly cases showed the same five most frequent types of Arkansas's—"overexertion,"

Table 4. Distribution and rank of the costliest work-related injury cases, and of all cases, in Arkansas, North Carolina, and Wisconsin, by nature of injury, 1976[1]

Nature of injury	Arkansas				North Carolina				Wisconsin			
	Costliest cases[2]		All cases[3]		Costliest cases[2]		All cases[3]		Costliest cases[2]		All cases[3]	
	Percent of cases	Rank	Percent of cases	Rank	Percent of cases	Rank	Percent of cases	Rank	Percent of cases	Rank	Percent of cases	Rank
Total	100.0	....	100.0	...	100.0	...	100.0	...	100.0	...	100.0	...
Amputation	3.1	9	3.4	6	6.3	6	4.1	6	6.8	5	3.3	7
Burn	1.8	10	2.9	7	3.9	9	3.4	7	2.4	8	3.5	6
Contusion, bruise	5.1	5/6	10.2	4	5.9	8	10.8	4	4.4	6	12.6	3
Cut, laceration	5.9	4	13.7	3	9.9	3	16.2	3	1.4	11	13.3	2
Dislocation	3.4	8	1.9	11	1.3	10	1.0	12	14.3	3	2.8	9
Fracture	19.1	2	17.1	2	27.9	1	22.0	2	20.3	2	12.3	4
Hernia	18.9	3	6.8	5	6.4	5	4.3	5	2.0	9	2.3	10
Inflammation	.8	12	2.5	9	.5	12	1.2	10	.7	12	2.0	11
Scratches, abrasions	.2	13	1.0	13	.4	13	1.2	11	.0	13	.1	13
Sprain, strains	30.6	1	33.7	1	20.9	2	29.4	1	11.9	4	32.1	1
Multiple injuries	4.9	7	1.8	12	9.8	4	2.8	9	4.3	7	1.9	12
Not elsewhere classified or unclassified	5.1	5/6	2.4	10	.8	11	.5	13	29.4	1	11.0	5
Miscellaneous	1.1	11	2.8	8	6.0	7	3.1	8	2.0	10	2.8	8

[1] See table 1, footnote 1.
[2] See table 1, footnote 2.
[3] See table 1, footnote 3.
NOTE: Column percentages may not add to totals because of rounding.

Table 5. Distribution and rank of the costliest work-related injury cases, and of all cases in the construction industry, in Arkansas, North Carolina, and Wisconsin, by type of accident, 1976[1]

Accident type	Arkansas				North Carolina				Wisconsin			
	Costliest cases[2]		All cases[3]		Costliest cases[2]		All cases[3]		Costliest cases[2]		All cases[3]	
	Percent of cases	Rank	Percent of cases	Rank	Percent of cases	Rank	Percent of cases	Rank	Percent of cases	Rank	Percent of cases	Rank
Total	100.0	...	100.1	...	100.0	...	100.0	...	100.0	...	100.0	...
Struck against	1.9	10/11	5.1	7	2.6	9	5.5	6	5.4	7	9.7	4
Struck by	12.5	3	18.7	2	20.6	2	23.7	1	17.4	2	21.8	1
Fall from elevation	29.8	1	18.0	3	35.1	1	23.5	2	27.0	1	16.5	3
Fall on the same level	4.8	7	7.4	5	2.9	8	7.3	4	9.4	4	6.9	6
Caught in, under, or between	7.7	4	12.1	4	9.7	3	7.1	5	5.8	6	6.1	7
Rubbed or abraded	.0	12/13	2.2	9	.6	13	.5	13	.6	12	1.0	11
Bodily reaction	5.8	5/6	6.5	6	.9	12	4.9	7	9.0	5	9.2	5
Overexertion	24.0	2	21.0	1	9.1	4	16.7	3	13.3	3	21.0	2
Contact with electric current	2.9	8/9	1.1	13	7.4	5	1.6	11	.9	10/11	.5	13
Contact with temperature extremes	1.9	10/11	3.5	8	3.4	7	3.8	8	.9	10/11	2.4	8
Contact with radiations, caustic, toxic, and noxious substances	.0	12/13	1.2	11/12	1.4	10	1.7	10	.4	13	.7	12
Public transportation accidents					.3	14	.0	14	.2	14	.0	14
Motor vehicle accidents	5.8	5/6	2.1	10	4.9	6	3.0	9	4.9	8	2.1	9
Unclassified or not determined	2.9	8/9	1.2	11/12	1.1	11	.7	12	4.7	9	2.0	10

[1] See table 1, footnote 1.
[2] See table 1, footnote 2.
[3] Total cases equaled 1,043 in Arkansas, 3,498 in North Carolina, and 4,660 in Wisconsin.
NOTE: Column percentages may not add to totals because of rounding.

"struck by," "fall on the same level," "fall from elevation," and "caught in, under, or between." They accounted for 71 percent of the most expensive cases. The same types, except for "fall from elevation" (which ranked seventh), were included in the top five of the State's total cases.

"Falls from elevation" tended to be among the most expensive cases in all three States and in the leading five categories for total cases in Arkansas and North Carolina as well. Also, "motor vehicle accidents" tended to be an expensive type of accident. While the category is not one of the leading categories in two States, the costs suggest that motor vehicle safety should receive some special attention from safety specialists.

Comparisons of the 10 percent most expensive cases with all cases for the categories "nature," "body part," and "source" in the three States indicated similar relationships, as shown in the following tabulation for Arkansas (details for all States are shown in tables 2, 3, and 4):

Category	*Ranking of most costly*	*Ranking of all cases*
Part of body:		
Back	1	1
Leg	2	5
Arm (including hand)	3	3
Trunk (excluding back)	4	6
Fingers	6	2
Multiple parts	5	7
Ankle, foot, or toes	7	4

Source of injury:		
Working surface	1	1
Metal item, not elsewhere classified	2	2
Boxes, containers	3	3
Vehicles	4	7
Machines	5	4
Miscellaneous	7	5
Nature of injury:		
Sprains and strains	1	1
Fracture	2	2
Hernia	3	5
Cut, laceration	4	3
Contusion, bruise	5	4

The rankings for the costliest and for all cases were similar in Wisconsin and in North Carolina. In North Carolina, 4 of 5 categories overlapped for the nature of injury. In Wisconsin, 3 of the top 5 overlapped. For "part of body," 4 of 5 overlapped in North Carolina, while the top five categories were the same in both groups of cases in Wisconsin. When the groups were examined by the source of injury, the top five categories were the same in North Carolina, and 4 of the top 5 matched in Wisconsin. Thus, while the frequency rankings varied by State, and, to some extent, by cost within States, they did not vary significantly.

Industrial distribution. The ultimate level of this analysis would be at the establishment level. However, because the Supplementary Data System does not identify cases by individual establishments, analysis was made at the intermediate level, industry.

Table 5 displays the distribution of accidents by type for the construction industry, for both the top 10 percent of its cases and its total cases. In Arkansas, "fall from elevation," "overexertion," "struck by," "caught in, under, or between," and "bodily reaction" and "motor vehicle accidents" led the subset of costly cases. Five of these were in the leading six of all cases.

In North Carolina, among the costliest cases, the top five categories were "fall from elevation," "struck by," "caught in, under, or between," "overexertion," and "contact with electric current." Four of these were in the leading five of the total. In Wisconsin, 4 of the costliest leading 5 also appeared in the leading five of the total.

Generally, data for the construction industry showed the same patterns as those for all industries: there were but a few differences in the categorical distribution of the expensive compared to the total cases.

Rankings by cost

Tables 1 through 5 show that, for each State, expensive cases were distributed among categories in about the same way as total cases. This suggests that the severity of a case (in terms of cost) in a given category is quite random. If this is true, then the proportion of cases in a given category should be similar to the proportion of costs in that category: a category with 20 percent of the cases ought to have about 20 percent of the costs. In contrast, the expensive case perspective implies that there are a few categories, with a few easily targetable cases, which make up a large proportion of the cost: for example, a category with 2 percent of the cases would account for 20 percent of the costs.

Table 6 presents the percentage of costs contrasted with the percentage of cases among accident types for each State. In Arkansas and North Carolina, the five top categories are identical in both the cost and case columns; in Wisconsin, 4 of 5 are the same. Similar results were obtained in comparing cost and case propor-

Table 6. Distribution and rank of incidence and costs of work-related injury cases, in Arkansas, North Carolina, and Wisconsin, by type of accident, 1976[1]

Accident type	Arkansas				North Carolina				Wisconsin			
	Costliest cases[2]		All cases[3]		Costliest cases[2]		All cases[3]		Costliest cases[2]		All cases[3]	
	Percent of cases	Rank	Percent of cases	Rank	Percent of cases	Rank	Percent of cases	Rank	Percent of cases	Rank	Percent of cases	Rank
Total	100.0	....	100.0	...	100.0	...	100.0	...	100.0	...	100.0	...
Struck against	2.8	9	4.8	7	4.9	7	7.7	6	7.2	7	10.6	3
Struck by	15.0	2	18.2	2	20.3	1	22.5	1	17.5	2	21.2	2
Fall from elevation	9.7	5	7.4	5	14.5	3	10.4	5	10.2	4/5	7.1	7
Fall on the same level	10.5	4	10.1	4	9.7	5	12.0	4	10.2	4/5	9.3	4
Caught in, under, or between	13.2	3	15.1	3	15.7	2	13.8	3	10.5	3	8.9	5
Rubbed or abraded	.5	13	1.6	11	.1	14	.2	13	1.3	12	1.7	11
Bodily reaction	5.2	7	6.4	6	3.4	8	5.1	7	8.2	6	8.0	6
Overexertion	29.6	1	26.7	1	14.0	4	18.1	2	20.6	1	23.5	1
Contact with electric current	.9	11	.4	13	2.3	11	.6	11	.8	13	.2	13
Contact with temperature extremes	1.7	10	2.8	9	3.0	9	3.0	9	2.4	10	2.9	8
Contact with radiations, caustic, toxic, and noxious substances	.7	12	1.5	12	2.5	10	2.0	10	1.5	11	1.5	12
Public transportation accidents	.2	14	.0	14	.3	13	.1	14	.2	14	.8	14
Motor vehicle accidents	6.8	6	3.1	8	8.3	6	4.1	8	5.6	8	2.6	9
Unclassified or not determined	3.1	8	1.9	10	1.0	12	.5	12	3.9	9	2.4	10

[1] See table 1, footnote 1.
[2] See table 1, footnote 3.

NOTE: Column percentage may not add to totals because of rounding.

tions for the other three characteristics.[8]

The patterns are much the same as shown in earlier tables; there were few differences, with a slight variance in rankings. Generally, the distributions of cases and costs among the categories were similar, suggesting that the cost of a case in a given category is largely a matter of chance.

THERE WERE SLIGHT VARIATIONS in the leading categories, although differences did emerge among the most expensive and least expensive cases. Also, even when the leading categories were identical, their ranking in the group of expensive cases varied. And, certain categories tended to result in costlier cases: for example, the data indicate that safety specialists should give some special attention to falls from elevations and to motor vehicle accidents. However, the basic similarities of the targets selected by the two approaches were more striking than the differences. Thus, use of the expensive case and general approaches to targeting safety programs will result in about the same accident prevention priorities. □

The cost of safety incentives

The pain and suffering of a serious disability represent a substantial portion of the costs of an injury. It would be desirable for the legal system to assign liability for such losses so that the full cost of injuries is borne by the party in the best position to prevent the accident. The dilemma, however, is that if the awards routinely made in a workers' compensation system were to be so generous as to include pain and suffering there would be a strong incentive for employees to act with less than an optimal amount of care. . . .

There is some evidence that even the more generous States within the current system may fail to encourage an appropriate amount of careful employee behavior. Only a system that provides the opportunity for detailed examination of the circumstances and consequences of the injury could avoid such a distortion of incentives; but again, this would be very costly.

—JAMES ROBERT CHELIUS

Workplace Safety and Health: The Role of Workers' Compensation (Washington, American Enterprise Institute for Public Policy Research, 1978), p. 62.

FOOTNOTES

[1] Daniel N. Price, *Workers' Compensation Program in the 1970's*, Social Security Bulletin, May 1979, pp. 3–24.

[2] The terms "injuries" and "accidents" also refer to "illnesses" and "exposures."

[3] Marvin W. Pearson, "The Challenge of a Changing Safety Priority," presentation at the 39th Industrial Forestry Seminar, Yale School of Forestry and Environmental Studies, May 1974.

[4] For this article, we are using costs as a shorthand measure of injury severity. The reader should be aware, however, that this approach has shortcomings. For example, a worker's compensation award for the death of a worker who has no dependents may amount to no more than funeral costs.

[5] Norman Root and David McCaffrey, "Providing more information on work injury and illness," *Monthly Labor Review*, April 1978, pp. 16–21.

[6] These categories are from the American National Standards Institute's (ANSI) *Method of Recording Basic Facts Relating to the Nature and Occurrence of Work Injuries*, ANSI Z16.2, 1962. According to the ANSI Z16.2 coding system, "nature of injury" identifies the injury by its principal physical characteristics. "Part of Body Affected" identifies the part of the person's body directly affected by the injury previously identified. "Source of Injury" identifies the object, substance, or bodily motion that directly produced or inflicted the previously identified injury. The "Accident Type" classification identifies the event that directly resulted in the injury; that is, it describes how the source of injury contacted the body.

[7] Changes in coding structures and training are used in the Supplementary Data System to reduce the number of cases classified as "not elsewhere classified" or "unidentifiable."

[8] A similar pattern was found for 1977 Arkansas data. See *Costs and Characteristics of Occupational Injuries and Illnesses in Arkansas, 1977* (Arkansas Department of Labor, August 1979).

Scheduled wage increases and escalator provisions in 1980

For the third straight year,
deferred increases will average
5.1 percent, and will be received
by 4.9 million workers;
5.5 million workers will be covered by
contracts with cost-of-living clauses

EDWARD WASILEWSKI

This year, at least 4.9 million workers in the private nonfarm sector are scheduled to receive wage increases under major collective bargaining agreements negotiated in earlier years. As in 1978 and 1979, the deferred increases will average 5.1 percent. In addition, approximately 5.5 million workers are under major agreements (covering 1,000 workers or more)[1] which have escalator clauses, many with multiple reviews in 1980.[2]

Of the 9.4 million workers in major collective bargaining units, the data exclude some 1.1 million workers whose contracts expired late in 1979 but had not been renegotiated or, if replaced, the terms were not available.[3]

Cost-of-living provisions

If the inflation rate continues to rise as it did during the first 9 months of 1979, cost-of-living escalator (COLA) reviews are likely to have a large impact on the total wage change effective in 1980. Fifty-nine percent of all workers are covered by major contracts that have clauses which provide for the periodic automatic adjustment of wage rates based on the movement of the Consumer Price Index. The number of workers having escalator clauses dropped to 5.5 million from 5.6 million a year ago.[4] The slight decline was because of employment shrinkage in some bargaining units retaining their clauses, rather than from the termination of a significant number of clauses. The following are the number of workers (in millions) under cost-of-living reviews on January 1, 1971–80:

Year	*Workers*	*Year*	*Workers*
1971	3.0	1976	6.0
1972	4.3	1977	6.0
1973	4.1	1978	5.8
1974	4.0	1979	5.6
1975	5.3	1980	5.5

While only 40 percent of all major contracts have cost-of-living clauses, escalator provisions tend to be included most often in the contracts that cover the greatest number of workers. Large blocks of workers are covered under national contracts with large companies; for example, the Auto Workers with General Motors Corporation (460,000 workers); the Steelworkers and the nine companies that comprise the Steel Industry Coordinating Committee (280,000 workers); the Teamsters and Trucking Employers, Inc. (300,000 workers); and the Communications Workers and the American Telephone and Telegraph Co. (500,000 workers). (See table 1 for the industry breakdown.)

The Auto Workers represent the largest number of workers (1,093,000) under major agreements with escalator protection. They are followed by these unions:

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Table 1. Prevalence of escalator clauses in major collective bargaining agreements, November 1979

[Workers in thousands]

Industry	2-digit standard industrial classification (SIC)	All contracts		Contracts with escalator clauses		Percent of workers covered by escalator clauses
		Workers covered	Number of contracts	Workers covered	Number of contracts	
Total		9,428	2,046	5,547	816	58.8
Metal mining	10	56	14	55	13	97.6
Anthracite mining	11	2	1	2	1	100.0
Bituminous coal and lignite mining	12	160	1	....	...	0.0
Building construction general contractors	15	660	184	17	7	2.5
Construction other than building construction	16	480	119	60	9	12.6
Construction — special trade contractors	17	462	205	73	24	15.8
Food and kindred products	20	334	108	120	42	35.8
Tobacco manufactures	21	29	8	28	7	96.2
Textile mill products	22	54	19	14	3	25.8
Apparel and other textile products	23	497	55	186	11	37.5
Lumber and wood products	24	58	20	1	1	2.0
Furniture and fixtures	25	32	19	13	9	4.1
Paper and allied products	26	102	70	....	....	0.0
Printing and publishing	27	65	37	19	10	28.8
Chemical and allied products	28	93	48	29	14	31.2
Petroleum refining and related industries	29	40	21	....	....	0.0
Rubber and plastic products	30	84	16	74	11	88.5
Leather and leather products	31	52	18	1	1	1.9
Stone, clay, and glass products	32	95	37	32	15	33.8
Primary metal industries	33	558	120	535	106	95.8
Fabricated metal products	34	115	56	86	38	76.8
Machinery, except electrical	35	290	97	266	82	91.2
Electrical equipment	36	456	102	416	80	91.4
Transportation equipment	37	1,170	115	1,100	95	94.0
Instruments and related products	38	32	16	13	7	39.8
Miscellaneous manufacturing industries	39	21	12	4	2	18.0
Railroad transportation	40	437	20	437	20	100.0
Local and urban transit	41	16	4	15	3	93.8
Motor freight transportation	42	522	28	513	23	98.2
Water transportation	44	99	17	36	7	36.3
Transportation by air	45	163	43	118	25	72.4
Communications	48	762	46	727	33	95.4
Electric, gas, and sanitary services	49	206	76	45	12	21.8
Wholesale trade	50 & 51	87	34	44	14	50.9
Retail trade — general merchandise	53	89	23	30	6	33.8
Food stores	54	537	104	380	64	70.6
Automotive dealers and service stations	55	19	11	2	1	0.8
Apparel and accessory stores	56	10	5	1	1	11.2
Eating and drinking places	58	73	24	....	....	0.0
Miscellaneous retail stores	59	18	7	8	3	43.5
Finance, insurance, and real estate	60–65	87	15	32	6	36.7
Services	70–89	296	71	13	9	4.4

NOTE: Because of rounding, sums of individual items may not equal totals, and percentages may not reflect shown ratios.

Dashes indicate absence of cost-of-living coverage.

Communications Workers (616,000), Teamsters (583,000), Steelworkers (579,000), Food and Commercial Workers (417,000) and Machinists (250,000). All other unions have fewer than 200,000 workers under major agreements with COLA provisions.

Adjustment formulas. The rate of inflation is only one of several factors that determines the amount of any increase or decrease under the provisions of an escalator clause. Another is the presence of a "ceiling," or maximum limit on an increase. Of the 5.5 million workers under cost-of-living clauses as of November 1979, 1.2 million were under contracts with such limits. An additional 635,000 were guaranteed some minimum adjustment, regardless of the movement of the CPI.[5]

As of November 1979, the most popular formula used to calculate cost-of-living adjustments was a 1-cent hourly wage change for each 0.3-point movement in the CPI—covering a total of slightly more than 2.2 million workers, up from 2.1 million as of November 1978. The next most popular formula, covering 820,000 operating and manufacturing employees in the Bell Telephone System, calls for adjustments of 50 cents a week plus 0.6 percent of each employee's weekly rate for each 1-percent movement in the CPI. About 512,000 workers have a formula that calls for a 1-cent wage change for each 0.4-point change in the CPI.

The number of workers whose escalator adjustments are based on a 1-cent wage change for each 0.3- or 0.4-percent CPI change is down to 149,000 from 370,000 last year. This drop can be attributed to recent General Electric Co. and Westinghouse Electric Corp. settlements, which provided for escalator adjustments of 1 cent an hour for each 0.2-percent movement in the CPI, instead of the previous 1 cent for each 0.3-percent movement.

The formulas become somewhat more diverse and complex when they are liberalized in steps during the course of the contract, are linked to a deferred wage increase, or have monies diverted from cash payments to offset fringe benefit costs. In the 1979 rubber industry contracts, for instance, the escalator formula changes from 1 cent for each 0.3-point change in the CPI to 1 cent for each 0.26-point change in the second contract year; in the 1979 auto industry contracts the same change takes place, but not until the third year of the contract. Some contracts in the construction industry tie the cost-of-living increase with deferred increases by giving percent-for-percent increases based on any rise in the CPI above the percent amount of any deferred increase scheduled for the year. One example of a diversion of money is in the aerospace industry, where some contracts provide that 1 cent will be withheld from each quarterly adjustment to help defray the cost of improvements in early retirement provisions. Another example is in the automobile industry, where agreements provide for the diversion of a total of 14 cents an hour from escalator adjustments to help defray the cost of the settlements. The diversion will be 1 cent from each of the first eight quarterly adjustments and 2 cents from each of the last three adjustments.

In the first 9 months of 1979, all workers receiving COLA increases under major agreements recovered an average 56 percent of the rise in consumer prices. The proportion actually recovered under individual bargaining agreements depends on the type of COLA formula, the timing of COLA reviews, and a possible "cap" on the amount of COLA increase.

Review timing and indexes. The timing of reviews has an impact on the size of individual changes under an escalator clause. As table 2 shows, approximately 50 percent of the workers covered by 1980 COLA reviews are under formulas providing quarterly reviews, 35 percent have semiannual reviews, and 13 percent annual reviews. Of course, the frequency of review in any year is also affected if the particular agreement expires during the year.

The year 1967 is the most common CPI base year for escalator formulas and is specified in contracts for over 3.7 million workers. The 1957–59 base is second most common, occurring in 87 contracts covering nearly 900,000 workers. A very small group, some 6,400 workers, still uses the 1947–49 = 100 base.

The national all-cities index continues to be the most prevalent trigger in escalator provisions: Nearly 80 percent of the clauses designate that index. One unusual clause is in the automobile industry, where a composite index is used that is derived from the official U.S. and Canadian indexes. This is done because the contracts cover workers in both countries. Specific city indexes are used in the remaining clauses.

Deferred increases

The 5.1-percent average deferred wage increase scheduled for 1980 amounts to an hourly rise of 45.0 cents. (See table 3.) Of the 4.9 million workers affected, 1.7 million will receive an average increase of 5.5 percent in 1980 as a result of 1978 negotiations. About 2.9 million workers whose new contracts were settled in the first 10 months of 1979 will receive an average increase of 5.0 percent. The average 1980 deferred increase for nearly 216,000 workers whose agreements were negotiated in 1977 is 4.2 percent. For 7,000 workers whose agreements were negotiated prior to that year, the average is also 4.2 percent.

Table 2. Timing of 1980 cost-of-living reviews in major contracts, by year of contract expiration and frequency of review

[Workers in thousands]

Type of contract, by expiration and frequency of escalator review	First quarter		Second quarter		Third quarter		Fourth quarter		Full year[1]	
	Number of contracts	Workers covered	Number of contracts	Workers covered	Number of contracts	Workers covered	Number of contracts	Workers covered	Number of contracts	Workers covered
All contracts										
Total	372	2,534	331	2,475	210	1,860	153	1,760	521	3,591
Quarterly	288	1,777	241	1,642	143	1,207	97	1,057	291	1,781
Semiannual	60	601	48	659	49	585	43	638	108	1,260
Annual	24	156	42	173	18	68	13	65	99	472
Other[2]	....	.....	....	.....	....	....	....	....	23	77
Contracts expiring in 1980[3]										
Total	226	809	182	628	58	174	6	11	248	884
Quarterly	199	732	151	595	53	161	6	11	199	732
Semiannual	13	23	5	21	2	7	....	....	18	45
Annual	14	54	6	12	3	6	....	....	23	72
Other[2]	....	.....	....	.....	....	....	....	....	8	36
Contracts expiring in later years										
Total	146	1,724	169	1,846	152	1,686	147	1,750	273	2,707
Quarterly	89	1,046	90	1,047	90	1,046	91	1,047	92	1,049
Semiannual	47	578	43	638	47	578	43	638	90	1,216
Annual	10	101	36	162	15	62	13	65	76	400
Other[2]	....	.....	....	.....	....	....	....	....	15	42

[1] Contracts that have at least one review in the year.

[2] Includes monthly, combinations of annual and quarterly, combinations of annual and semiannual, other, and reviews dependent upon levels of the Consumer Price Index.

[3] Includes only those reviews through the termination of the present agreements, it does not assume the continuation of existing reviews after contract expiration dates.

NOTE: Because of rounding, sums of individual items may not equal totals. Dashes indicate that there is no coverage for a particular review in the quarter.

Table 3. Workers receiving deferred wage increases in 1980, by major industry group and size of increase

[Workers in thousands]

Average hourly increases	Number of contracts	All private non-agricultural industries	Manufacturing					Nonmanufacturing					
			Total[1]	Food and kindred products	Apparel	Paper and allied products	Metal working	Total[2]	Contract construction	Transportation	Communications, gas, and electric utilities	Warehousing, wholesale and retail trade	Services
Total	865	4,865	2,175	222	360	37	1,326	2,691	834	1,010	60	406	146
CENTS PER HOUR													
Under 15 cents	25	75	49	2	3	1	30	26	3	...	...	20	2
15 and under 20	44	260	204	4	1	...	193	56	2	...	4	11	40
20 and under 25	70	298	241	45	9	...	173	57	...	1	17	23	15
25 and under 30	78	931	783	20	16	2	722	148	16	4	...	69	20
30 and under 35	65	278	175	6	90	...	47	104	19	17	...	24	40
35 and under 40	68	779	161	6	42	2	43	619	11	567	...	23	17
40 and under 45	73	484	186	72	67	...	32	298	57	170	2	39	5
45 and under 50	39	253	104	7	70	1	14	149	12	120	3	11	4
50 and under 60	128	496	142	19	60	14	27	354	120	50	19	161	2
60 and under 70	68	247	68	25	...	6	16	179	113	39	12	15	...
70 and under 80	60	337	36	1	3	4	25	301	123	5	...	11	1
80 and under 90	45	130	17	8	...	6	...	113	102	8	1	...	...
90 and over	102	297	9	6	...	...	3	288	256	30	2	...	...
Mean increase	...	45.0	32.7	41.2	40.8	59.6	27.6	54.9	80.0	43.7	46.8	40.0	28.8
With escalators	...	34.1	26.8	23.7	28.7	...	26.0	42.6	78.0	41.6	22.3	42.9	38.6
Without escalators	...	59.2	45.2	48.7	43.8	59.6	48.3	66.1	80.1	113.2	58.6	37.1	28.3
Median increase	...	37.5	27.1	40.0	44.0	56.2	27.1	48.2	75.0	37.8	51.2	42.0	28.7
PERCENT[3]													
Under 3 percent	98	1,142	1,073	52	5	1	996	68	26	1	8	30	3
3 and under 4	104	812	183	11	1	...	152	628	76	449	13	50	37
4 and under 5	90	590	106	2	...	...	42	484	102	308	...	30	8
5 and under 6	96	487	155	84	11	...	19	333	97	134	...	62	34
6 and under 7	155	613	162	13	83	3	15	451	164	50	15	153	44
7 and under 8	127	496	112	14	13	5	58	384	110	41	14	47	11
8 and under 9	109	474	303	18	232	20	20	172	110	26	...	28	7
9 and under 10	38	101	51	25	2	4	17	51	43	...	1	4	1
10 and under 11	20	38	6	1	...	5	...	32	24	1	7	...	...
11 and over	28	112	24	1	14	...	9	88	82	1	2	2	...
Mean increase	...	5.1	4.5	5.6	7.7	8.0	3.2	5.6	6.9	4.3	6.1	5.7	5.4
With escalators	...	3.8	3.3	3.0	6.5	...	2.9	4.5	6.0	4.2	6.3	5.5	5.8
Without escalators	...	6.8	7.2	6.7	7.9	8.0	7.1	6.7	7.0	8.4	7.7	6.0	5.4
Median increase	...	4.7	3.0	5.8	8.0	8.0	2.8	5.1	6.6	4.1	6.4	6.1	5.9

[1] Includes workers in the following industry groups for which separate data are not shown: Tobacco (1,000); textiles (11,000); lumber (4,000); furniture (12,000); printing (30,000); chemicals (31,000); petroleum refining (6,000); rubber (65,000); leather (30,000); stone, clay, and glass products (19,000); instruments (4,000); and miscellaneous manufacturing (16,000).

[2] Includes 164,000 workers in mining and 70,000 in finance, insurance and real estate for which separate data are not shown.

[3] Percent of straight-time average hourly earnings.

NOTE: Workers are distributed according to the average adjustment for all workers in each bargaining unit considered. Deferred wage increases include guaranteed minimum adjustments under cost-of-living escalator clauses. The number of workers affected in each industry is based on data available in early November 1979 and, thus, may understate the number of workers receiving deferred wage increases. Only bargaining units in the private, nonagricultural economy covering 1,000 workers or more are considered in this table. Because of rounding, sums of individual items may not equal totals. Dashes indicate there are no workers having wage increases that fall within that stated range.

Approximately 213,000 workers will receive a deferred increase in 1980 before their contracts expire later in the year. Nearly 260,000 workers, whose contracts were negotiated prior to 1980 have neither a deferred wage increase nor a cost-of-living review scheduled for 1980. Another 34,000 with post-1980 expirations will have an escalator review but no deferred increase in 1980.

As table 3 shows, out of a total 2.2 million workers receiving deferred wage increases in 1980 in the manufacturing sector, the largest single block of workers (1.3 million) is in the metalworking industries. The average gain in these industries—3.2 percent—is smaller than in 1979. In the nonmanufacturing sector, over 800,000 construction industry workers will receive an average gain of 6.9 percent, about the same as in 1979.[6] The nonmanufacturing sector as a whole continues to have a higher average deferred increase than the manufacturing industries. This is true whether the increase is considered in percentage or cents per hour terms: nonmanufacturing averages 5.6 percent and 54.9 cents, and manufacturing averages 4.5 percent and 32.7 cents. A possible explanation is that escalator clauses are more prevalent in manufacturing industries (70 percent of workers) than in nonmanufacturing industries (50 percent).

Workers in the paper industry will have the largest percent deferred wage gains of any group, an average of 8.0 percent. Construction workers will receive the largest hourly raise, 80.0 cents. Workers in the transportation industries, a group that accounts for a substantial portion of all those receiving deferred increases in 1980, will receive an average 4.3 percent or 43.7 cents. Workers in transportation equipment manufacturing will receive an average wage-rate increase of about 3 percent.

Table 4 shows when in 1980 workers will receive deferred wage increases. The heavy concentration of increases in July largely reflects changes scheduled for 432,000 workers in the railroad industry, and the September concentration is primarily made up of increases scheduled for 650,000 Auto Workers at General Motors Corp. and Ford Motor Co.

For contracts covering 5,000 workers or more, the 1980 average increase in the cost of both deferred wages and benefits is 5.4 percent. (See table 5.) This is an increase from the 1979 average of 4.7 percent and the 1978 average of 5.3 percent.

An important influence on the negotiation of deferred increases implemented over the term of a contract is the possibility of any additional wage gains under escalator provisions. The likelihood of wage changes based on the inflation rate tends to hold down the amount of the guaranteed deferred increases. This tendency is evident in 1980, as in previous years, in an average 6.8 percent deferred wage rate increase for contracts without a cost-of-living clause versus only a 3.8 percent gain in contracts with such provisions.

Table 4. Workers receiving deferred increases in 1980 in bargaining units covering 1,000 workers or more, by month

[Workers in thousands]

Effective month	Principal industries affected	Workers covered
Total[1]		4,865
January	Construction; transportation	380
February	Food stores	117
March	Mining; cans; Chrysler	456
April	Construction; rubber; trucking	696
May	Construction	468
June	Construction; apparel; General Electric	828
July	Construction; Westinghouse; railroads	948
August	....	176
September	Meatpacking; General Motors and Ford	864
October	Farm equipment	135
November	....	86
December	....	62

[1] This total is smaller than the sum of individual items because 350,000 workers will receive more then one increase. This total is based on data available as of Nov. 1, 1979 and, thus, may understate the number of workers receiving deferred increases for the entire year.

Table 5. Workers receiving deferred wage and benefit increases in 1980 in bargaining units covering 5,000 workers or more, by size of increase

[Workers in thousands]

Percentage increase	Workers covered
All settlements providing deferred changes[1]	3,124
Under 3 percent	82
3 and under 4	451
4 and under 5	1,225
5 and under 6	355
6 and under 7	383
7 and under 8	254
8 and under 9	249
9 and under 10	76
10 and under 11	42
11 percent and over	6
Mean increase (percent)	5.4
Median increase (percent)	4.6

[1] This total excludes workers covered by contracts expiring in 1980 who receive a deferred benefit change only.

NOTE: Only bargaining units in the private, nonagricultural economy are considered in this table. Because of rounding, sums of individual items may not equal totals.

The total of 4.9 million workers scheduled for deferred wage increases in 1980 is fairly close to the number of workers who received such increases in 1979, but substantially lower than the number who received deferred increases in 1978.[7] This difference in coverage is attributable to the cyclical nature of collective bargaining negotiations. Eighty percent of the workers in major bargaining units are under 3-year contracts; therefore, a pattern has emerged in which two years of heavy bargaining are followed by a third year with substantially fewer expirations and wage reopenings. In the pattern's lighter bargaining years, such as 1978 and 1981, a maximum number of deferred wage changes is put into effect. ☐

——*FOOTNOTES*——

[1] They include multiplant or multifirm agreements covering 1,000 workers or more, even though individual units may be smaller. About 1 in 10 members of the civilian labor force is covered by a major bargaining agreement.

[2] For an analysis of the bargaining schedule for 1980, see Mary A. Andrews and Winston Tillery, "Heavy bargaining again in 1980," *Monthly Labor Review*, December 1979, pp. 20–28.

[3] Information was not available for 60 agreements that expired between November 1, 1979, and December 31, 1979, covering 221,000 workers; 243 agreements that expired earlier in the year but for which negotiations were continuing or terms of the new agreement were not yet available, covering 892,000 workers; and 12 agreements with no specified expiration date, covering 42,000 workers.

[4] The 5.5 million workers in major contracts include those under expired contracts containing such clauses, in which new agreements had not been negotiated at the time this article was prepared. This discussion excludes workers whose contracts provide for possible reopeners based on increases in the Consumer Price Index. Virtually all of these workers are represented by the Ladies Garment Workers Union.

[5] The guaranteed minimum portion of a cost-of-living increase is treated as a scheduled wage increase and is included in the tabulations for deferred increases in 1980. Some 431,000 workers are covered by clauses that have both minimum and maximum limits.

[6] About 304,000 of these are construction workers who will receive deferred increases under settlements in which the parties agreed to a total wage and benefit package, with the ultimate allocation between wages and benefits to be determined by the union. Because the final division was not known at the time this article was prepared, the entire amount has been treated as a wage increase and may be expected to change as the data become available.

[7] For an analysis of the 1979 data, see Beth A. Levin, "Scheduled wage increases and escalator provisions in 1979," *Monthly Labor Review*, January 1979, pp. 20–25.

Labor and the Supreme Court: significant decisions of 1978–79

The Court approved voluntary efforts to eliminate the effects of discrimination, rejected NLRB attempts at balancing conflicting interests in the workplace, and amplified public employers' constitutional rights to set hiring policies and work restrictions

GREGORY J. MOUNTS

Significant labor cases decided by the Supreme Court during its 1978–79 term were highlighted by discrimination issues, but the broad range of the remaining topics prevented the emergence of a dominant theme or direction. Some decisions forged new statutory interpretations that protected existing policies threatened by new claims of individual or institutional rights.[1] At other times, the Court elevated individual rights to block existing policies.[2] Another important group of cases further reduced constitutional restrictions on the employment practices of governments.[3]

In the year's most celebrated case, the Court endorsed the right of employers and unions to jointly eliminate a work force's racial imbalance through voluntary affirmative action programs.[4] The Court's permissive interpretation of Title VII of the 1964 Civil Rights Act in this case was a marked change from the more restrictive readings of the law it has made in recent years.[5] The Court also expanded individuals' rights to file discrimination suits under both the 1964 law and the Constitution,[6] but it found that, where it applied, Title VII was the sole remedy for proven acts of job discrimination.[7]

The Court rejected the position of the National Labor Relations Board in three of four cases involving traditional labor law issues—a considerable shift from the clean sweep the Board achieved a year earlier. In a pair of cases, the Court ruled that the Board had given too much weight to the interests of unions in soliciting new members among hospital employees and in obtaining information from an employer.[8] The interests of hospital patients for a quiet environment and those of workers for the privacy of psychological test information place limits on union activities, the Court concluded. The Court also restricted the Board's claimed jurisdiction over religious schools,[9] but it agreed that in-plant food prices and food services are mandatory subjects of bargaining.[10]

Public employment cases decided by the Court last term suggest that there are few constitutional restrictions on the hiring decisions of public employers. Excluding aliens from public teaching positions,[11] barring persons involved in methadone programs from transit system jobs,[12] and preferring veterans over all other job applicants (despite the acknowledged disparate impact upon women)[13] are all permissible public employment practices, the Court ruled. Another ruling extended public employers' constitutional authority to impose mandatory retirement on certain groups of workers.[14] The Constitution was held to protect workers whenever and wherever they voice their views to their employer;[15] but the Court also made clear that workers have no constitutional right to compel their employers to respond to their remarks or even listen to what they have to say.[16]

In other cases, the Court ruled that the status of cer-

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tain pension benefits prevented any significant enforcement of workers' pre-1974 rights to benefits;[17] that future Federal pension benefits cannot be divided under State community property laws;[18] and that the Social Security Act cannot constitutionally deny benefits to unemployed mothers when it permits benefits for unemployed fathers,[19] but can constitutionally deny benefits to the mother of a wage earner's illegitimate children, providing those benefits only to the worker's spouse or former spouses who care for their children.[20]

Employment discrimination

Discrimination cases decided by the Supreme Court in recent years, including the 1978 *Bakke* decision,[21] offered no clue as to how the Court would rule on the issue of voluntary affirmative action programs in employment. The Court's approval of such plans under Title VII of the 1964 Civil Rights Act rejected the argument of 'reverse' discrimination and should identify *Weber*[22] as perhaps the single most important interpretation of the job bias law for a long time to come.

The Court specifically ruled in *Weber* that Congress did not intend to forbid all private, race-conscious affirmative action programs; the law does not *require* preferential treatment of minorities, but neither does it prohibit such treatment. Thus, the Court concluded that private parties could voluntarily agree to correct racial imbalances resulting from "traditionally segregated job categories." This holding rested on the recognition that a racially imbalanced workforce can be the result of general societal discrimination, and it allows employers to correct such imbalances without incurring any liability for discriminatory practices that may have dictated their hiring decisions. One important aspect of this approach is that it permits the correction of racial imbalances created before 1964 and, therefore, outside the possible reach of the law's prohibitions. Another result is that a guilty employer need not admit guilt to correct the effects of past violations.

There were several significant qualifications laid out by the Court concerning what kind of voluntary affirmative action programs are permissible. Specifically, the Court required that such preferential plans be temporary, that incumbent employees not be displaced, and that the advancement of white employees not be "unduly impeded." However, the Court's only comment about the contours of these criteria was that the plan in *Weber* fell within them. Thus, questions about how long a plan may operate, when it "unduly" impedes the advancement of whites, and which "traditionally segregated job categories" it may address will likely be the subjects of future court challenges. Some preliminary answers may be found within the framework of court-imposed preference schemes; Equal Employment Opportunity Commission guidelines may also provide some answers to these difficult questions.

Untouched by *Weber* is the separate issue of whether courts may impose racial quotas or goals to remedy proven violations of Federal civil rights laws. *Los Angeles v. Davis*,[23] decided just prior to *Weber*, involved this issue, but the Court found that the underlying question of alleged discrimination had become moot. Because the imposed quotas had eliminated the discriminatory effect of earlier hiring practices and because those practices were unlikely to be repeated, the Court refused to consider whether the judicial imposition of quotas was permissible under these or any other circumstances. Interestingly, two pairs of dissenting justices who would have ruled on the merits of the case indicated that the lower court had probably gone too far in imposing the quotas; it is unlikely that the five-justice majority would have been unanimous on the same issue.

In another Title VII case last term, the Court issued a brief *per curiam* opinion on the nature of an employer's burden in rebutting a *prima facie* case of discrimination. Earlier Supreme Court cases specified that an employer must "prove an absence of discriminatory intent" in such circumstances.[24] However, in the same cases, the Court also identified the requirement as the need to "articulate some legitimate nondiscriminatory reason" for the apparent violation. *Sweeney* pointedly required only the latter, possibly less demanding, standard to be used in such cases.

In its 1978 *Furnco* decision,[25] the Court indicated for the first time that an employer could use statistics on the racial composition of its work force to help defend an alleged discriminatory hiring practice. *Sweeney*'s clarification of an employer's burden in such a defense may therefore be a necessary element in a Court formula allowing employers greater leeway in hiring decisions.

In three separate cases, the Court considered important questions about how individuals may seek in Federal courts to redress alleged acts of discrimination. *Novotny*[26] established that Title VII provides the sole statutory protection against employment discrimination for all private workers, extending an earlier ruling that had the same result for Federal workers.[27] The Court rejected a claim that an alleged victim of job bias could seek relief under the Civil Rights Act of 1871, reasoning that to allow such a bypass of Title VII would defeat the important administrative framework for resolving such claims established by that law.

In two other cases, however, the Court broadened the opportunities for individuals to bring discrimination suits in Federal courts. In *Cannon*,[28] the Court interpreted Title IX of the 1964 Civil Rights Act to provide a private right of action for alleged acts of sex discrimination by educational institutions that receive Federal funds. In *Passman*,[29] the Court found similar private rights to redress alleged acts of job discrimination under the Constitution. Although Congress exempted its members when it outlawed discrimination in employment, the Court extended the reasoning of earlier cases[30] and found that congressional employees may sue their employers directly under the due process clause of the Fifth Amendment. In cases like *Passman,* where the defendant is no longer a member of Congress, the Court also ruled that money damages would be an appropriate remedy instead of reinstatement. However, the question of whether the constitutional protection of congressmen's "speech and debate" shields them from such liability remains to be sorted out by the lower court. The Court's ruling in *Passman* would also seem to apply to all Federal judicial branch employees, who are similarly unprotected by Title VII.

Traditional labor law

Of the four Supreme Court cases involving the National Labor Relations Board during the 1978–79 term, the Court rejected the Board's position in three. Two of these three involved the Board's policymaking and remedial authority under the National Labor Relations Act to balance competing interests in the workplace. In both, the Court substituted its judgment for that of the specialized labor agency. In the third, the Court denied the Board jurisdiction over church-operated schools, based on a new interpretation of the act.

In *Detroit Edison,*[31] the Court ruled, contrary to the Board's view, that the privacy rights of employees who were denied promotion consideration based on psychological tests outweighed the interests of their union in obtaining the test materials for use in a grievance against the employer. Although the relevance of the test information to the union's needs was not an issue in the case,[32] the fact that other competing interests may outweigh those of a union in such cases was a signficant modification of the High Court's earlier rulings in this area.[33] The Court suggested that the employer's willingness to supply the test materials only with the consent of the employees satisfied its statutory obligations under the NLRA. The fact that employers may now cite their employees' substantial and overriding interests in not releasing some information may result in more tests of unions' informational rights under Section 8(a)(5) of the act.

The Board's basic prescription for balancing the organizing interests of unions with the interests of employers and patients in medical care institutions was seriously questioned by the Court in *Baptist Hospital.*[34] The decision reaffirmed a 1978 case invalidating a hospital's no-solicitation rule in first floor eating or concession areas not frequented by patients.[35] However, the Court refused to endorse the Board's view that such rules were also invalid when applied to hospital corridors above the first floor and in sitting rooms adjacent to patient rooms as well. The Board had wanted to limit no-solicitation rules to "immediate patient care areas," which it defined as treatment and operating rooms and patient rooms. But the Court made clear that the narrowness of the Board's interpretation was completely unsatisfactory for the special circumstances of health care environments.

The Court has generally taken a limited role in reviewing Board policies. But in *Baptist Hospital,* the Court cited the inadequacy of the Board's policy formulation in this area—and essentially required the Board to perform a more sophisticated factual analysis of the potential effects of its decisions. The questions that the Board must confront in this area are complex, and, as suggested by the Court, may not lend themselves to line drawing. Rather, each case may have to be examined on its specific merits, using a more analytical framework.

In *Catholic Bishop of Chicago,*[36] the Court interpreted the NLRA as not covering lay teachers in parochial schools. The act is silent on the issue, but the Court refused to permit representational activity in church-operated schools, stating that it would invariably raise First Amendment questions on the separation of church and state. The decision replaces the Board's previous standard for claiming jurisdiction in this area. In the past, it had asserted jurisdiction over schools that were "merely religiously associated"—those offering some secular subjects. Now, however, the Board is barred from claiming jurisdiction over all "church-operated" schools. As was the case in *Catholic Bishop,* church-operated schools may offer both religious and secular subjects.

Ford Motor Co.[37] was the single case last term in which the Court agreed—unanimously—with the Board's position. The Board has long held that in-plant food prices and services are mandatory subjects of bargaining, but Federal appeals courts had never enforced such a Board bargaining order until recently. The High Court expanded the 7th Circuit's approval of the specific facts of this case into a general rule applicable to all employers with existing food services, noting that the Board was authorized to define the "terms and conditions of employment" subject to mandatory bargaining under the act.

Some aspects of the Court's opinion appear to require employers with existing food services to consider major changes at the bargaining table. For example, the Court compared food services with other employee benefits contracted for by the employer, where the terms of such services can be altered through subsidies. In addition, an employer may also be required to change suppliers as a means of exercising "leverage" over food prices and services.

A union's duty to fairly represent the grievances of its members is based on judicial interpretation of the national labor laws. When workers have won suits against their unions for violations of this implied responsibility, some lower courts have allowed punitive damages—in excess of the amount of injury sustained—when the union or its officers acted in a particularly inappropriate manner.[38] Last term, however, the Supreme Court ruled in *IBEW v. Foust*[39] that under no circumstances could a union be held liable for such excess damages in fair-representation cases.

The Court recognized that a union's decisions in handling grievances often involve judgments that reflect its collective responsibility. The threat of substantial monetary penalties under such circumstances, the Court concluded, could "disrupt responsible decisionmaking essential to peaceful labor relations." Although *Foust* was based on implied rights under the Railway Labor Act, the Court made clear that its ruling should extend to the NLRA. However, some question remains as to whether it goes even further.

Punitive damages have been imposed under the Landrum-Griffin Act when a union violated its statutory obligations to its members. The law specifically provides "such relief as may be appropriate" for violations of those rights. Although the majority in *Foust* wrote that its decision involved only judicially created remedies for judicially implied rights, four justices who concurred in the result felt that the Court's rationale concerning the financial threat to unions could also act to bar punitive damages under Landrum-Griffin.

Although it is well established that Federal labor laws prevail over State laws where they conflict, it has been less clear what State regulations are permissible in areas left unregulated by Federal law. Last term, the Court found that the National Labor Relations Act did not preempt a New York law providing unemployment benefits to strikers.[40] The NLRA is silent on the issue, and the result appeared to conflict with a pair of earlier rulings barring State actions not specifically preempted by the act because they would have altered the economic balance of power between labor and management.[41] The Court acknowledged that this balance was disturbed by the New York law, but a majority ruled that the legislative history of the NLRA in conjunction with the nearly concurrent history of the Social Security Act left the States free to shape their own unemployment compensation statutes.

John Paul Stevens, who was joined by only two other justices, wrote the main opinion for the split majority, offering a potential cutting edge for deciding similar preemption cases. He suggested that where a State law (as in this case) was designed to assist all workers in the State rather than to interfere in labor disputes, it should be preempted only if Congress clearly intended to forbid the challenged activity. The limited support for this approach among other members of the Court means that these kinds of preemption issues will continue to be decided on a case-by-case basis.

Public employment

Several Supreme Court decisions broadened the constitutional authority of public employers to deny jobs to certain groups, while permitting them to prefer other groups of jobseekers for public employment.

Ambach[42] marked the second time in 2 years that the Court has broadened the scope of permissible State restrictions on the employment of aliens. In 1978, *Foley*[43] upheld a citizenship requirement for State police officers because of their important governmental responsibilities. This decision paved the way for a similar requirement for public schoolteachers a year later, when the Court upheld a New York law barring aliens who have not applied for citizenship. *Ambach* permitted States to limit alien participation "when exercising the functions of government," a somewhat broader area than the "important nonelective . . . officers" covered by *Foley*. In both cases, the Court ruled that State laws imposing such qualifications on public employment must be "rationally related" to some legitimate interest to pass the constitutional test —a less restrictive measure than the "strict scrutiny" standard that had long been used to test classifications based on alienage. Also in its 1978–79 term, the Court let stand a Federal appeals court ruling that upheld the constitutionality of Executive Order 11935 barring aliens from Federal civil service positions.[44]

Another restriction on public employment held constitutional by the Court last term was the exclusion of persons involved in methadone programs from jobs with a city transit authority.[45] The excluded workers claimed that the line drawn by the transit authority grouped a disproportionately high percentage of minority workers and violated Title VII as well as the Constitution. Based on statistical evidence, however, the Court found no Title VII violation; it also ruled that the Fourteenth Amendment's equal protection clause does not prevent a public employer from drawing such a line to exclude persons from employment for the legitimate interests of safety and efficiency in operating public transportation. However, the Rehabilitation Act of 1973 (enacted after this case began) may prohibit such discrimination in federally funded programs.

A third public employment practice held constitutional by the Court last term was a State's authority to grant absolute hiring preference to veterans. In *Feeney*,[46] the Court recognized that such laws have a tremendous disparate effect on women, but upheld the classification in Massachusetts because the State's lawmakers had not granted veterans preference for the *purpose* of discriminating against women. This standard for measuring whether a governmental classification is discriminatory under the Constitution was first established in the Court's 1976 *Washington v. Davis* decision.[47] But in that case, a test that had a discriminatory effect was approved partly because it was found predictive of subsequent success in a job training program. Thus, the tool of discrimination in *Davis* was upheld on two grounds: it did not purposefully discriminate and it was job related.

In this respect, *Feeney* appears to expand the dimensions of *Davis* by permitting States to establish selection criteria—veteran status—not related to job performance, as long as any disparate effect on an identifiable group of workers was not a purposeful act. But some have suggested that the Court's treatment of veterans recognizes their important contribution to the Nation's well being, and that certain exceptions involving their status may not be easily adapted in other cases.

In a pair of cases decided during its 1978–79 term, the Court also added to the wide range of restrictions that public employers may constitutionally impose upon their employees.[48] In 1976, the Court found no equal protection violation in a State law requiring mandatory retirement at age 50 for uniformed State police.[49] Such a restriction was found to be rationally related to the State's legitimate interest in maintaining the physical condition of its police. Last term, the Court used essentially the same rationale in upholding a Federal law requiring mandatory retirement of Foreign Service Officers at age 60.[50] The age restriction was rationally related to the Government's legitimate interest of maintaining the "professional competence" of this important group of public servants, the Court ruled.

In *Martin*,[51] the Court also found no equal protection violation for a school board to enforce a continuing education requirement for its employees by not renewing their contracts. Before the legislature made annual salary increases mandatory, the board had denied raises to noncomplying teachers. The greater penalty of contract nonrenewal, the Court ruled, was rationally related to the board's legitimate objective of enforcing the education requirement.

The theme that appears to unite most of last term's public employment decisions is the substantial constitutional freedom the Court has approved for public employers to make hiring decisions and impose restrictions based on legitimate objectives. This freedom should, perhaps, be viewed as balanced by the expression of the electorate in the political process. Organized groups of citizens can often exercise some influence over the employment decisions of public agencies.

First Amendment issues

Even though Court decisions involving public employment in 1979 appeared to emphasize employers' broad freedoms under the Constitution, the Court also extended Constitutional protections afforded public employees. In *Givhan*,[52] the Court ruled that the First Amendment protects a public employee from discharge or other discipline for expressing critical remarks in a private conversation with a superior. Earlier rulings in *Pickering* and *Mt. Healthy*[53] recognized this free speech protection for public employees' comments to the public about their employers. In extending this rationale to private conversations, the Court also imposed its *Mt. Healthy* test for a worker's reinstatement: a discharged employee must be reinstated if the employer fails to show that the worker would have been terminated "but for" the protected speech.

Thus, the Court has found that the Constitution guarantees workers the right individually or collectively to voice their views to their employer; but the Court also made clear in a pair of cases last term that the First Amendment does not afford workers the right to compel either public or private employers to engage in a dialogue or even listen to their comments.

In *Babbitt*,[54] Arizona's agricultural labor relations statute was challenged for allegedly curtailing workers' First Amendment freedom of association by requiring representation elections not coincident with seasonal employment peaks and by restricting those employees eligible to vote. The Court ruled, however, that Arizona was under no constitutional obligation to provide a law that required employers to negotiate with worker representatives. Its enactment of such a law with a poorly written provision for representation elections does not raise any constitutional problems, the Court concluded. Several other provisions of the law were also challenged on constitutional grounds. On those, the Court ruled that provisions limiting consumer publicity and imposing criminal penalties must first be interpreted by State courts before any constitutional claims could be considered; provisions concerning union access to workers on farms and the arbitration of disputes also should not be ruled on, the Court said, because of insufficient experience in their operation.

In *Smith*,[55] the Court resolved a conflict between circuit courts of appeals by ruling that the First Amendment's neutral effect on private employers' responsibility to listen to their employees applies to public employers as well. The First Amendment is not a substitute for a labor relations statute, the Court reasoned; it does not impose any affirmative obligation on the government to respond to its employees' legally elected bargaining agent. The Court indicated that the same action by a private employer might constitute an unfair labor practice. But for public employers not under statutory constraints as well as for private employers not covered by Federal labor laws, as in *Babbitt*, representational efforts by unions may only be successful based on voluntary recognition.

Pensions and other benefits

Two pension questions were resolved by the Court during 1978–79. In *Daniel,*[56] the Court refused to include compulsory, noncontributory pensions as investments under the securities laws. A worker made ineligible for benefits under such a plan because of a break in employer contributions had sought relief under the antifraud provisions of the securities statutes. He had hoped to charge the union with fraud for not making known that any break in contributions invalidated his benefits. Although the Employee Retirement Income Security Act of 1974 offers greater protection of workers' pension benefits, it provides no coverage to those who retired prior to 1974, as in *Daniel.*

The Court's ruling, however, was limited to those plans where the employer alone makes contributions. The Court may be more likely to consider plans where employees have made some monetary contribution as a form of investment under the securities laws.

In a case involving Federal pension benefits, the Court ruled that expected payments to the retired worker cannot be divided based on State community property laws. *Hisquierdo* [57] reversed a California Supreme Court ruling splitting the expected benefits of a retired railroad employee with his former spouse. The High Court interpreted the language of the Railroad Retirement Act to require that benefits be distributed only to the retired worker and that no benefits be "anticipated." This latter provision was apparently meant to protect beneficiaries from creditors, but was constructed in broad enough terms to apply to all those—including a spouse—who may seek to claim a worker's earned benefits.

Benefits available under the Social Security Act were the subject of a pair of decisions by the Court during 1978–79. In *Califano v. Westcott,*[58] the Court ruled that a program providing benefits to unemployed fathers with dependent children but not to unemployed mothers violated the Fifth Amendment's due process clause. Instead of cutting off all benefits to the unemployed fathers of some 300,000 children, the Court chose to require that unemployed mothers receive payments for their dependent children. In *Califano v. Boles,*[59] the Court ruled that a program providing mothers' insurance benefits was not unconstitutional for denying benefits to mothers of illegitimate children which had been earned by their fathers. The Court found that restricting a worker's benefits to legal dependents defined by a marriage contract was rationally related to the legitimate interests of the state. Any impact on illegitimate children as a class, the Court said, was speculative and incidental to the operation of the law.

In another case involving the Social Security Act, the Court limited the ability of individuals to file suits in Federal court challenging provisions of the law. In *Chapman,*[60] the Court ruled that Federal court jurisdiction under Sec. 1983 of the 1871 Civil Rights Act is limited to rights secured by the Constitution or by Federal laws providing for equal rights or civil rights. Because the jurisdictional statute creates no substantive rights itself and because the Social Security Act does not provide the rights specified, claims that State welfare regulations conflict with the Federal law cannot be brought in Federal courts under the 1871 law.

Other Federal laws

The Supreme Court resolved an important procedural question of the Age Discrimination in Employment Act last term which had created a conflict among the circuit courts of appeals. In *Oscar Mayer v. Evans,*[61] the Court ruled that alleged victims of discrimination under the act must first resort to State administrative agencies, where available, before filing a claim at the Federal level. Such Federal claims can only be filed after 60 days following the commencement of State proceedings, the Court ruled. The Court also resolved the issue—for the sake of expediency—of what rights a claimant has if State jurisdictional requirements (such as a time limit) cannot be met. In such a case, the Court ruled, an individual's Federal rights remain intact, but the individual must first make the potentially futile act of filing a State claim.

In its first interpretation of some of the requirements of the Rehabilitation Act of 1973, the Court ruled that the law does not require institutions receiving Federal funds to accept as a student (nor presumably as an employee) a person whose handicap prevents him or her from meeting the requirements of a particular program (occupation).[62] Such an institution is also not required to provide "extensive modifications" that would make the student's (worker's) participation physically possible. The Court's ruling was an extremely narrow interpretation of the law's requirement that "no otherwise qualified handicapped individual" can be excluded "solely by reason of his handicap" from participation in any program receiving Federal funds. The Court appeared to focus on the financial and administrative burdens of institutions in meeting the needs of handicapped persons. Thus, in situations where such burdens are less significant, institutions may be required to make greater accommodations.

Another case of great significance for both business and labor in 1979 involved a challenge to the President's authority to deny Government contracts to companies that do not comply with voluntary wage and price guidelines. The Supreme Court refused to review a Federal appeals court ruling that Presidential authority for such action rested in the Federal Property and Administrative Services Act of 1949.[63] The act authorizes the

President to secure "economy" and "efficiency" in Federal procurement, and the court reasoned that this language, coupled with the intent of Congress in enacting the law, permitted the President to maintain a restrictive procurement policy that could hold down current and future costs. The appeals court also noted that no one has a right to a Government contract and that those wishing to do business with the Government must do so on its terms. This reasoning would also appear to support the Government's practice of denying contracts to those companies not in compliance with Federal requirements barring employment discrimination.

In 1979, a question involving the political influence and employee leave policies of public employers arose under the Voting Rights Act of 1965. A county school board in Alabama required employees who also were candidates for political office to take unpaid leave of absence regardless of whether they campaigned during work hours. In *White,*[64] the first black in many years to run for State office from the county challenged the board's leave policy.

Extending the reasoning of earlier cases,[65] the Court found that the board qualified as a political subdivision under the act because it had the power to impose disabling qualifications on citizens' right to vote for the candidate of their choice. Based on this classification, the Court ruled that the board's leave policy was a "standard, practice, or procedure with respect to voting" subject to preclearance by the Department of Justice for any discriminatory impact. The Court may have broadened its definition of a political subdivision in order to fulfill the congressional purpose of eliminating the possibilities for subtle forms of voting discrimination in areas with a history of restrictive practices. □

FOOTNOTES

[1] *Steelworkers v. Weber,* 47 U.S.L.W. 4851 (U.S., June 27, 1979, Justices Lewis Powell and John Paul Stevens took no part in the consideration or decision of the case), see *Monthly Labor Review,* August, 1979, pp. 56–57; and *NLRB v. Catholic Bishop of Chicago,* 47 U.S.L.W. 4283 (U.S., Mar. 21, 1979), see *Monthly Labor Review,* May 1979, pp. 52–53.

[2] *Detroit Edison Co. v. NLRB,* 47 U.S.L.W. 4233 (U.S., Mar. 5, 1979), see *Monthly Labor Review,* June 1979, pp. 44; and *NLRB v. Baptist Hospital,* 47 U.S.L.W. 4789 (U.S., June 20, 1979), see *Monthly Labor Review,* November 1979, pp. 54.

[3] *Ambach v. Norwick,* 47 U.S.L.W. 4387 (U.S., Apr. 17, 1979), see *Monthly Labor Review,* July 1979, pp. 40–41; *New York City Transit Authority v. Beazer,* 47 U.S.L.W. 4291 (U.S., Mar. 21, 1979), see *Monthly Labor Review,* May 1979, pp. 53–54; *Personnel Administrator of Massachusetts v. Feeney,* 47 U.S.L.W. 4650 (U.S., June 5, 1979), see *Monthly Labor Review,* August 1979, pp. 57–58; *Vance v. Bradley,* 47 U.S.L.W. 4176 (U.S., Feb. 22, 1979), see *Monthly Labor Review,* May 1979, p. 53; and *Harrah Ind. Sch. Dist. v. Martin,* 1979 DAILY LAB. REP. 39, D-1 (U.S., Feb. 26, 1979, *per curiam*), see *Monthly Labor Review,* May 1979, p. 54.

[4] *Steelworkers v. Weber,* 47 U.S.L.W. 4851 (U.S., June 27, 1979), see *Monthly Labor Review,* August 1979, pp. 56–57.

[5] *General Electric Co. v. Gilbert,* 45 U.S.L.W. 4031 (U.S., Dec. 7, 1976), see *Monthly Labor Review,* March 1977, pp. 73–74, and January 1978, pp. 12–17; *Teamsters v. United States,* 45 U.S.L.W. 4506 (U.S., May 31, 1977), see *Monthly Labor Review,* August 1977, pp. 48–49, and January 1978, pp. 12–17; *Trans World Airlines v. Hardison,* 45 U.S.L.W. 4672 (U.S., June 16, 1977), see *Monthly Labor Review,* September 1977, pp. 39–40, and January 1978, pp. 12–17.

[6] *Cannon v. University of Chicago,* 47 U.S.L.W. 4549 (U.S., May 14, 1979); and *Davis v. Passman,* 47 U.S.L.W. 4643 (U.S., June 5, 1979), see *Monthly Labor Review,* August 1979, p. 58.

[7] *Novotny v. Great American Savings and Loan Assn.,* 47 U.S.L.W. 4681 (U.S., June 11, 1979), see *Monthly Labor Review,* November 1979, pp. 55–56.

[8] *NLRB v. Baptist Hospital,* 47 U.S.L.W. 4789 (U.S., June 20, 1979), see *Monthly Labor Review,* November 1979, pp. 54; and *Detroit Edison Co. v. NLRB,* 47 U.S.L.W. 4233 (U.S., Mar. 5, 1979), see *Monthly Labor Review,* June 1979, p. 44.

[9] *NLRB v. Catholic Bishop of Chicago,* 47 U.S.L.W. 4283 (U.S., Mar. 21, 1979), see *Monthly Labor Review,* May 1979, pp. 52–53.

[10] *Ford Motor Co. v. NLRB,* 47 U.S.L.W. 4498 (U.S., May 14, 1979), see *Monthly Labor Review,* September 1979, p. 58.

[11] *Ambach v. Norwich,* 47 U.S.L.W. 4387 (U.S., Apr. 17, 1979), see *Monthly Labor Review,* July 1979, pp. 40–41.

[12] *New York Transit Authority v. Beazer,* 47 U.S.L.W. 4291 (U.S., Mar. 1, 1979), see *Monthly Labor Review,* May 1979, pp. 53–54.

[13] *Personnel Administrator of Massachusetts v. Feeney,* 47 U.S.L.W. 4650 (U.S., June 5, 1979), see *Monthly Labor Review,* August 1979, pp. 57–58.

[14] *Vance v. Bradley,* 47 U.S.L.W. 4176 (U.S., Feb. 22, 1979), see *Monthly Labor Review,* May 1979, p. 53.

[15] *Givhan v. Western Line Consolidated Sch. Dist.,* 47 U.S.L.W. 4102 (U.S., Jan. 9, 1979), see *Monthly Labor Review,* April 1979, pp. 60–61.

[16] *Babbitt v. United Farm Workers National Union,* 47 U.S.L.W. 4659 (U.S., June 5, 1979), see *Monthly Labor Review,* November 1979, pp. 54–55; and *Smith v. Arkansas State Highwcy Employees, Local 1315,* 1979 DAILY LAB. REP. 84, E-1 (U.S., Apr. 30, 1979, *per curiam*), see *Monthly Labor Review,* July 1979, p. 41.

[17] *Teamsters v. Daniel,* 47 U.S.L.W. 4135 (U.S., Jan. 16, 1979), see *Monthly Labor Review,* March 1979, pp. 62–63.

[18] *Hisquierdo v. Hisquierdo,* 47 U.S.L.W. 4141 (U.S., Jan. 22, 1979), see *Monthly Labor Review,* April 1979, p. 60.

[19] *Califano v. Westcott,* 47 U.S.L.W. 4817 (U.S., June 25, 1979), see *Monthly Labor Review,* October 1979, p. 69.

[20] *Califano v. Boles,* 47 U.S.L.W. 4874 (U.S., June 27, 1979), see *Monthly Labor Review,* October 1979, p. 70.

[21] *Regents of the University of California v. Bakke,* 438 U.S. 265 (1978), see *Monthly Labor Review,* July 1978, p. 46, and January 1979, pp. 51–57.

[22] *Steelworkers v. Weber,* 47 U.S.L.W. 4851 (U.S., June 27, 1979), see *Monthly Labor Review,* August 1979, pp. 56–57.

[23] 47 U.S.L.W. 4317 (U.S., Mar. 27, 1979), see *Monthly Labor Review,* June 1979, p. 43.

[24] *Keene St. College v. Sweeney,* 1978 DAILY LAB. REP. 219, D-1 (U.S., Nov. 13, 1978), see *Monthly Labor Review,* March 1979, pp. 61–62.

[25] *Furnco Construction Co. v. Waters,* 46 U.S.L.W. 4966 (U.S., June 29, 1978), see *Monthly Labor Review,* January 1979, pp. 51–57.

[26] *Novotny v. Great American Savings and Loan Assn.,* 47 U.S.L.W. 4681 (U.S., June 11, 1979), see *Monthly Labor Review,* November 1979, pp. 55–56.

[27] *Brown v. GSA,* 425 U.S. 820 (1976), see *Monthly Labor Review,*

August 1976, pp. 42–43, and January 1977, pp. 36–41.

[28] *Cannon v. University of Chicago,* 47 U.S.L.W. 4549 (U.S., May 14, 1979).

[29] *Davis v. Passman,* 47 U.S.L.W. 4643 (U.S., June 5, 1979), see *Monthly Labor Review,* August 1979, p. 58.

[30] *Bivens v. Six Unknown Named Agents of the Federal Bureau of Narcotics,* 403 U.S. 388 (1971), finding a private right to sue under the Fourth Amendment, was the basis for similar findings by lower courts for at least six other Amendments; see *Monthly Labor Review,* August 1979, p. 58.

[31] *Detroit Edison Co. v. NLRB,* 47 U.S.L.W. 4233 (U.S., Mar. 5, 1979), see *Monthly Labor Review,* June 1979, p. 44.

[32] In earlier proceedings before the Board, the employer did not contest the issue of whether the test materials were relevant to the union in filing its grievance; therefore, the Court dealt only with whether the Board's remedy—requiring the employer to turn over the materials—was correct.

[33] *NLRB v. Acme Industrial Co.,* 385 U.S. 482 (1967), had established that a union was entitled to a broad range of information, based on the probability that it was relevant and useful in carrying out the union's statutory duties; see *Monthly Labor Review,* March 1967, pp. 53–54.

[34] *NLRB v. Baptist Hospital,* 47 U.S.L.W. 4789 (U.S., June 20, 1979), see *Monthly Labor Review,* November 1979, p. 54.

[35] *Beth Israel v. NLRB,* 437 U.S. 483 (1978), see *Monthly Labor Review,* November 1978, p. 40, and January 1979, p. 51–57.

[36] *NLRB v. Catholic Bishop of Chicago,* 47 U.S.L.W. 4283 (U.S., Mar. 21, 1979), see *Monthly Labor Review,* May 1979, pp. 52–53.

[37] *Ford Motor Co. v. NLRB,* 47 U.S.L.W. 4498 (U.S., May 14, 1979), see *Monthly Labor Review,* September 1979, p. 58.

[38] *Harrison v. United Transportation Union,* 530 F.2d 558 (4th Cir., 1975), cert. denied, 425 U.S. 958 (1976); and *Butler v. Local Union 823, Intn'l Brotherhood of Teamsters,* 514 F.2d 442 (1975), cert. denied, 423 U.S. 924 (1975).

[39] 47 U.S.L.W. 4600 (U.S., May 29, 1979), see *Monthly Labor Review,* September 1979, p. 59.

[40] *New York Telephone Co. v. New York Dept. of Labor,* 47 U.S.L.W. 4303 (U.S., Mar. 21, 1979), see *Monthly Labor Review,* May 1979, p. 52.

[41] *Teamsters v. Morton,* 377 U.S. 252 (1964); and *Lodge 76 v. Wisconsin Employment Relations Commission,* 427 U.S. 132 (1976), see *Monthly Labor Review,* January 1977, pp. 36–41.

[42] *Ambach v. Norwick,* 47 U.S.L.W. 4387 (U.S., Apr. 17, 1979), see *Monthly Labor Review,* July 1979, pp. 40–41.

[43] *Foley v. Connelie,* 435 U.S. 291 (1978), see *Monthly Labor Review,* June 1978, p. 53, and January 1979, pp. 51–57.

[44] *Vergara v. Chariman, Merit Systems Protection Board,* 47 U.S.L.W. 3680 (U.S., Apr. 17, 1979, Review Denied), see *Monthly Labor Review,* July 1979, p. 41.

[45] *New York City Transit Authority v. Beazer,* 47 U.S.L.W. 4291 (U.S., Mar. 1, 1979), see *Monthly Labor Review,* May 1979, pp. 53–54.

[46] *Personnel Administrator of Massachusetts v. Feeney,* 47 U.S.L.W. 4650 (U.S., June 5, 1979), see *Monthly Labor Review,* August 1979, pp. 57–58.

[47] 426 U.S. 229 (1976), see *Monthly Labor Review,* August 1976, pp. 41–42.

[48] In earlier cases, the Court has ruled that States are free under the Constitution to set pay scales and overtime compensation for their employees, *National League of Citites v. Usery,* 44 U.S.L.W. 4974 (1976), see *Monthly Labor Review,* September 1976, pp. 50–51; the Court has also upheld a regulation limiting the hair length of police (*Kelly v. Johnson,* 425 U.S. 238 (1976), see *Monthly Labor Review,* June 1976, pp. 53–54) and an ordinance requiring city employees to live within city limits (*McCarthy v. Philadelphia Civil Service Comm'n,* 44 U.S.L.W. 3530 (1976), see *Monthly Labor Review,* June 1976, p. 54).

[49] *Massachusetts Board of Retirement v. Murgia,* 44 U.S.L.W. 5077 (1976), see *Monthly Labor Review,* October 1976, p. 44, and January 1977, pp. 36–41.

[50] *Vance v. Bradley,* 47 U.S.L.W. 4176 (U.S., Feb. 22, 1979), see *Monthly Labor Review,* May 1979, p. 53.

[51] *Harrah Ind. Sch. Dist. v. Martin,* 1979 Daily Lab. Rep. 39, D-1 (U.S., Feb. 26, 1979, *per curiam*), see *Monthly Labor Review,* May 1979, p. 54.

[52] *Givhan v. Western Line Consolidated Sch. Dist.,* 47 U.S.L.W. 4102 (U.S., Jan. 9, 1979), see *Monthly Labor Review,* April 1979, pp. 60–61.

[53] *Pickering v. Board of Ed.,* 391 U.S. 563 (1968); *Mt. Healthy Sch. Dist. v. Doyle,* 429 U.S. 274 (1977), see *Monthly Labor Review,* March 1977, pp. 75–76, and January 1978, pp. 12–17.

[54] *Babbitt v. United Farm Workers National Union,* 47 U.S.L.W. 4659 (U.S., June 5, 1979), see *Monthly Labor Review,* November 1979, pp. 60–61.

[55] *Smith v. Arkansas State Highway Employees, Local 1315,* 1979 Daily Lab. Rep. 84, E-1 (U.S., Apr. 30, 1979, *per curiam*) see *Monthly Labor Review,* July 1979, p. 41.

[56] *Teamsters v. Daniel,* 47 U.S.L.W. 4135 (U.S., Jan. 1979), see *Monthly Labor Review,* March 1979, pp. 62–63.

[57] *Hisquierdo v. Hisquierdo,* 47 U.S.L.W. 4141 (U.S., June 25, 1979), see *Monthly Labor Review,* April 1979, p. 60.

[58] 47 U.S.L.W. 4817 (U.S., June 25, 1979), see *Monthly Labor Review,* October 1979, p. 69.

[59] 47 U.S.L.W. 4874 (U.S., June 27, 1979), see *Monthly Labor Review,* October 1979, p. 70.

[60] *Chapman v. Texas Dept. of Human Resources,* 47 U.S.L.W. 4528 (U.S., May 14, 1979), see *Monthly Labor Review,* November 1979, pp. 55–56.

[61] 47 U.S.L.W. 4569 (U.S., May 21, 1979), see *Monthly Labor Review,* September 1979, p. 59.

[62] Southeastern Community College v. Davis, 47 U.S.L.W. 4689 (U.S., June 11, 1979), see *Monthly Labor Review,* October 1979, p. 70.

[63] *AFL-CIO v. Kahn,* 47 U.S.L.W. 3838 (U.S., July 2, 1979, Review Denied), see *Monthly Labor Review,* August 1979, p. 57.

[64] *Dougherty County Board of Education v. White,* 47 U.S.L.W. 4001 (U.S., Nov. 28, 1978), see *Monthly Labor Review,* April 1979, p. 61.

[65] *Allen v. State Board of Elections,* 393 U.S. 544 (1969); and *United States v. Board of Commissioners Sheffield, Alabama,* 435 U.S. 110 (1978).

State labor legislation enacted in 1979

During a heavy legislative year, States banned most types of employment discrimination, eased child labor and mandatory retirement requirements, called for flexible work hours, and provided for other improvements in working conditions

RICHARD R. NELSON

In 1979, a large volume of State labor legislation was enacted, involving minimum wage rates, flexible work hours, child labor restrictions, mandatory retirement requirements, and employee privacy.[1]

The subject of minimum wage once again received much attention. Rates were increased by legislation or wage order in nine jurisdictions this year—Arkansas, District of Columbia, Minnesota, New Jersey, New Mexico, North Carolina, North Dakota, Oregon and Rhode Island—and in 15 States and Guam by prior law, wage order, or administrative action. Sixteen jurisdictions now have a minimum rate for some or all occupations equal to or greater than the $2.90-an-hour Federal standard. In addition, provision was made in the laws of 23 jurisdictions for an automatic rate increase in 1980, though not necessarily to the Federal $3.10 rate. In more than half of the jurisdictions, the minimum wage established for tipped employees was at least equal to that payable under the Fair Labor Standards Act.

In North Carolina, the minimum wage, maximum hours, child labor, and wage payment laws were consolidated into a single wage and hour act. Among its provisions were an increase in the minimum wage rate, a requirement for payment of overtime after 45 hours (previously 50 hours), and extension of minimum wage coverage to public employees. Coverage of the minimum wage law also was extended in other States, including to school district employees in Arkansas and to all public employees in Maine.

Prevailing wage legislation came under attack in several States. While most attempts to repeal or weaken existing laws failed, the law in Florida was repealed and the Alabama law will be repealed at the close of the 1980 session, unless it is continued by legislative action. In Colorado, State highway construction is no longer subject to the law, and dollar thresholds governing coverage were increased in Connecticut, New Mexico, and Wyoming.

Wage garnishment or assignment was another area of legislative interest, with laws enacted in 11 States. Most of the laws involved either the amount of earnings that may be garnished, or court-ordered assignment of wages for delinquent child support payments. As a result of the January 1 increase in the Federal minimum wage rate, the amount of employee earnings protected from wage garnishment automatically increased under both State and Federal law which link the limit on garnishment to the Fair Labor Standards Act.

Resolutions in Alaska and California and laws in Colorado and Illinois called for the establishment of flexible working hours or flexible positions in State government. Under another California law, State employees in agencies that plan to reduce personnel by at

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least 1 percent or more now may voluntarily reduce their worktime (and corresponding compensation) to preserve jobs through a redistribution of work.

Child labor legislation continued the trend towards easing employment restrictions. Most common this year were provisions permitting employment in places where alcoholic beverages are sold, as long as the jobs do not directly involve serving drinks. Restrictions concerning night work and maximum hours were eliminated for 16- and 17-year-old minors in North Carolina and Virginia. In Maryland, the labor commissioner was authorized to grant individual exceptions to the hours and nightwork restrictions of minors under age 16, if such exceptions do not endanger their health and welfare or interfere with their schooling.

Compulsory retirement based solely upon age, a subject examined in recent years at both the Federal and State level was addressed by legislation in 23 jurisdictions. Mandatory retirement of most State employees was eliminated in Iowa and Tennessee; it was extended to include private employment in Maine; and was abolished for both private and public sector employees in New Hampshire. Several other States raised the mandatory retirement age from 65 to 70 for various categories of workers—most frequently public employees. In some instances, employees are permitted to continue working beyond the established mandatory retirement age with periodic employer approval and upon submission of proof of fitness.

A majority of the States enacted legislation addressing one or more forms of employment discrimination. Most notable were new comprehensive human rights laws in North Dakota prohibiting employment discrimination by both public and private sector employers and in South Carolina, replacing a law formerly applicable to public sector employees only. In Nebraska, the State was prohibited from discriminating on the basis of religion, sex, disability, marital status, or national origin, as well as race and color as before. Other laws prohibited employment discrimination on the basis of a physical or mental handicap and some established affirmative action programs and policies to eliminate sex and age discrimination. Refusal to reinstate a worker disabled on the job to his or her former position or other suitable employment was made an unlawful emloyment practice in Oregon, and in Iowa, a proposed equal rights amendment to the State constitution was adopted, subject to approval in the November 1980 general election.

Help for displaced homemakers continued to attract considerable legislative attention. During 1979, an additional eight States—Arkansas, Nevada, New Hampshire, New Jersey, North Carolina, North Dakota, South Dakota and Washington—passed laws to provide for employment services and other aids to help homemakers displaced because of dissolution of marriage or other loss of family income. In addition, Maryland continued its displaced homemaker program and in Oregon, coverage was extended to include certain persons on public assistance or underemployed. Indiana established opportunities industrialization centers to provide job training and other services for all economically disadvantaged, unemployed, and underemployed persons.

"Right-to-work" measures were proposed but defeated in 13 jurisdictions. Ten of the measures were attempts to enact legislation where none currently exists and three were attempts to supplement existing statutes with a constitutional amendment.

Among other labor standards areas receiving attention in 1979, a law prohibiting the employment or referral of illegal aliens was enacted in Louisiana, and prohibitions on the use of lie detector or stress evaluation tests as conditions of employment were enacted for the first time or amended in five jurisdictions. Additional laws restricted employers' access to employees' criminal records, guaranteed employees the right to review their personnel files, protected employees against retaliation because of required jury service, and regulated the transportation and handling of nuclear and other hazardous wastes. A new provision in Maine required employers to furnish employees with information on the identities and hazards of chemicals in the workplace.

No additional States ratified the proposed Equal Rights Amendment to the U.S. Constitution. Approval by three additional States is necessary by June 30, 1982, for adoption. Resolutions in Arizona and Utah opposed the 3-year time extension granted in 1978.

The following is a summary by jurisdiction of labor legislation during 1979.

Alabama

Wages. The prevailing wage law automatically will be repealed at the end of the 1980 legislative session unless continued by the legislature.

Other laws. The director of the State department of public safety may collect "reasonable" fees from employers for searching criminal records of employees or applicants for employment in a nuclear powered electric-generating facility licensed by the U.S. Nuclear Regulatory Commission.

Alaska

Wages. By prior law (which sets the minimum wage at 50 cents above the Federal rate), the State rate rose to $3.40 an hour in 1979 and will increase each year, reaching $3.85 on January 1, 1981.

Hours. A concurrent resolution requested the Governor to pursue a policy of granting State employees the option of flexible working hours if such hours show promise of providing better and more efficient service.

Occupational safety and health. The labor department is directed to perform elevator inspections in accordance with the

American National Standards Institute Inspector's Manual, establish inspection fees, and maintain records of inspections and fees collected.

Arizona

Wages. The section of the prevailing wage act establishing the method for rate determination (use of collectively-bargained rates) was declared unconstitutional by the State court of appeals as an unlawful delegation of legislative power to private persons over whom the legislature has no supervision. Earlier in the year, the Governor had vetoed a bill to repeal the law.

Equal employment opportunity. A concurrent resolution requested the attorney general to institute legal action challenging the legality of the extension of the deadline for ratification of the Equal Rights Amendment.

Other laws. Elected or appointed officials were prohibited from using their political influence or position to cause the firing, promotion, or demotion of any public employee or the hiring of or failure to hire an applicant for public employment.

Arkansas

Wages. The minimum wage rate will rise from $2.30 an hour to $2.55 on January 1, 1980, and to $2.70 on January 1, 1981. Tip allowances will increase to $1.25 an hour on January 1, 1980, and to $1.35 on January 1, 1981. Coverage of the minimum wage law was extended to employees of public schools and school districts.

Court-ordered assignment of wages for delinquent child support payments was authorized.

Equal employment opportunity. Age discrimination in State and local public employment against persons at least 40 years of age but under 70 is now prohibited, with certain exceptions. Employees over age 70 may continue in employment with annual written authorization from their employers.

The State policy of providing public employment for visually or otherwise handicapped persons, who are able to perform the job, on the same terms as nonhandicapped persons was amended to specifically include persons with hearing impairments.

Labor relations. A new law to assure the impartiality and integrity of the State mediation and conciliation service required that all information and materials prepared or received be held confidential and prohibited disclosure without prior written consent of both parties to the dispute.

By amendment to the teacher fair dismissal law, teachers now are protected against "arbitrary, capricious, and discriminatory" firings and may inspect their personnel files and comment on any material included in them. Formerly, teachers had only the right to know the reason for their firing and to have a hearing before the school board. Procedures now include the board's decision and appeal to the circuit court, if desired. Also, a distinction was made between the rights of probationary and nonprobationary teachers.

Occupational safety and health. A State Fire Prevention Commission was created with responsibilities including the development and maintenance of a Statewide fire prevention program and the coordination of activities with other State and Federal agencies involved in fire prevention.

Displaced homemakers. A displaced homemakers act required the local services department to establish a pilot multipurpose service center to develop job counseling, training, placement, and other services for homemakers displaced by dissolution of marriage, death of spouse, or other loss of family income. Whenever possible, staff positions will be filled by displaced homemakers.

Other laws. The legislature provided for the continuation of a number of boards, commissions, and agencies, including the labor department, formerly scheduled to terminate on June 30, 1979, under a sunset law.

California

Wages. A previous wage order provided for an increase in the minimum wage rate from $2.65 an hour to $2.90 on January 1, 1979.

A minimum wage provision, due to expire on January 1, 1980, set a subminimum weekly salary for student employees in organized camps at 85 percent of the minimum rate for a 40-hour week, regardless of the weekly hours worked.

Appeals of an order, decision, or award of the labor commissioner relating to wage recovery previously heard by the Superior Court, now may be heard by a municipal court as well.

Employers who pay wages in cash must keep adequate written records of all deductions and give a statement listing the deductions to each employee semimonthly or at the time of payment. An employer's records must be kept for 3 years and be available for inspection by the employee upon reasonable request. Employers in violation now are subject to civil penalties.

Hours. State employees in agencies planning a reduction in personnel of 1 percent or more may voluntarily reduce their worktime, with a corresponding reduction in compensation, so that employment opportunities can be preserved through redistribution of work.

A Senate resolution urged the Governor to consider the establishment of a 40-hour, 4-day workweek for State employees.

A law was reenacted authorizing the chief of the Division of Labor Standards Enforcement to exempt employers or employees from any mandatory days-off requirement if the chief determines a hardship will result. This exemption will expire January 1, 1981.

Agriculture. The Employee Housing Act, which includes the regulation of labor camps, was removed from the labor code and added, in amended form, to the health and safety code.

Operators of labor camps, including camps on dairy farms consisting only of permanent housing, now may request exemptions from the requirement of obtaining an annual permit to operate. The operators may not terminate or modify a tenancy agreement or intimidate, threaten, restrain, coerce, blacklist, or discharge employees or tenants because they exercise their rights in connection with employee housing.

Equal employment opportunity. Changes were made in the fair employment practices law to permit mandatory retirement of tenured professors after age 65 prior to July 1, 1982, and age 70 thereafter, and to permit mandatory retirement of employees in executive or high policymaking positions at age 65.

Physical handicap, medical condition, sex, and age were added to the list of discriminatory practices disputes which the Fair Employment Practices Division is authorized to assist communities in resolving. Previously, this help was limited to disputes involving race, religious creed, color, national origin, marital status, or ancestry.

Employers may not require employees or job applicants to obtain copies of their criminal record or supply any notification that such a record exists.

Labor relations. State managerial and confidential employees and employees of the Maritime Academy are expressly excluded from coverage under the State Employer-Employee Relations Act, and managerial and confidential employees now are prohibited from holding elective office in an employee organization.

Contracts between the State and the regional developmental disabilities centers, which provide services for the developmentally disabled, may not prohibit the center's employees from forming a labor organization, bargaining collectively, or engaging in other activities for mutual aid or protection.

Private employment agencies. Required employment agency surety bonds were increased from $1,000 to $3,000.

Occupational safety and health. The health and safety code was amended to codify changes made by the Governor's Reorganization Plan Number 1 of 1978, including abolishing the Division of Industrial Safety and creating a Division of Occupational Safety and Health within the Department of Industrial Relations.

Inspection warrants may be issued if employers refuse to permit places of employment to be inspected, and an order may be issued to preserve physical materials or the accident site as it was at the time of an accident.

Employers who successfully appeal occupational safety and health violation citations to the Occupational Safety and Health Appeals Board are permitted to seek costs, up to $5,000, where such citations were arbitrary or capricious.

Public employees must report the spill or otherwise accidental release of pesticides to the local health department.

Other laws. A worksite education and training program was established to provide funding to integrate classroom instruction with entry level and career training for youth and the economically disadvantaged.

Employees may no longer be required to assign rights to an invention to their employers if no equipment, supplies, facilities, or trade secret information of the employer was used and if the invention was developed on the employee's own time, does not relate to the employer's business or actual or anticipated research, or does not result from any work performed by the employee for the employer.

Colorado

Wages. Statutory provisions requiring the payment of prevailing wage rates on State highway construction were repealed.

Public works payment bond requirements for contractors were amended by enacting a $10,000 contract threshold amount where none existed before, and by replacing references to "cities and towns" with "municipalities."

The proportion of wages exempt from garnishment was changed from 70 percent for the head of a family or 35 percent for a single person, to conform with the Federal law limiting garnishment to either 25 percent of disposable weekly earnings or earnings exceeding 30 times the Federal minimum hourly wage, whichever is less.

Hours. County employers were given greater flexibility in scheduling their work force, by permitting them to establish workweek formulas providing for work in excess of 40 hours during consecutive 7-day calendar periods by averaging work hours over a longer period of time.

Child labor. Private vocational schools were added to and proprietary schools removed from the list of institutions authorized to provide student-learner programs and administer tests to determine minors' ability to perform the work for which they seek an exemption from the child labor laws.

Equal employment opportunity. The mandatory retirement age was raised to 70 years, from 65, for State employees but employees may continue to apply annually for a continuance in employment beyond the retirement age.

The termination date for the Civil Rights Commission and the Civil Rights Division, scheduled for July 1, 1979, under sunset legislation, was extended to July 1, 1985.

Other laws. Retaliation against State employees who disclose evidence of mismanagement and abuse within State government was prohibited.

Connecticut

Wages. By prior law, the hourly minimum wage increased to $2.91 on January 1, 1979, with further increases on January 1 of each year—to $3.12 in 1980 and $3.37 in 1981.

Public sector coverage under the minimum wage law was clarified by redefining "employer" to include the State and its political subdivisions. The law also was amended to permit agricultural employers of fewer than 8 workers during the preceding calendar year to pay workers under age 18 a subminimum rate of 70 percent of the basic minimum. For minors employed by other agricultural employers, the subminimum rate continues at 85 percent of the adult rate.

The prevailing wage threshold amount was increased from $5,000 to $50,000 for new construction and from $5,000 to $10,000 for remodeling, alteration, or repair.

Equal employment opportunity. The State Fair Employment Practices Act was amended to permit involuntary retirement at age 65 for executives and policymakers employed in such positions for 2 years before attaining age 65 and who are entitled to an immediate annual retirement income of at least $27,000. The act also was amended to prohibit discrimination because of present or past history of mental disorder.

A pregnant employee who gives written notice of her pregnancy to her employer may be transferred temporarily to a new position if either the employer or employee believes that injury could result from continued work in her regular job.

A pilot program will be established to recruit, support, and train women for skilled industrial jobs where labor shortages exist.

The Commission on Human Rights and Opportunities replaces the Department of Administrative Services as the agency that adopts regulations to assure affirmative action for equal employment opportunity in State agencies, and the program to promote employment of the handicapped was transferred from the commissioner of human resources to the labor commissioner.

Labor relations. The law governing teacher and administrator contract disputes was amended, replacing advisory arbitration with final and binding arbitration based on the last best offer of either party, with each disputed issue being resolved separately.

For a 3-year period, State contracts are not to be awarded to persons or firms found in violation of the National Labor

Relations Act on at least three occasions during the past 5 years.

If the State Labor Relations Board has not determined whether a prohibited practice is being committed by a municipal employer or employee organization within 30 days after the filing of a complaint alleging the violation, the Board may order the questioned activity stopped until the issue is decided.

Local or regional boards of education may enter into agreements with exclusive bargaining representatives to require that, as a condition of employment, teachers pay the representative an annual fee through payroll deduction to help defray the cost of collective bargaining, contract administration, and grievance adjustment.

Occupational safety and health. Responsibility for safety regulations on installation of oil burners was transferred from the labor commissioner to the commissioner of public safety.

Other laws. The labor department, in cooperation with municipalities, public and private agencies, and business and industry, will develop and implement work-training programs for the chronically unemployed. Any employable person receiving support from any town may be required to participate, and will receive compensation for the time spent in training.

Employers now are required to permit employees to inspect their personnel records and to allow inspection of medical records by a physician chosen or approved by the employee. Records may not be disclosed without the employee's consent, except by subpoena.

Employers in the machine tool and metal trades who conduct apprenticeship training programs will receive a tax credit for each apprentice hired above the average number hired in the past 5 years.

State departments are to purchase, for their own use, supplies and services produced or made available by State correctional industries.

Delaware

Equal employment opportunity. The upper limit for protection from age discrimination in private or public sector employment was raised from 65 to 70 years. The lower limit remains at age 40.

In addition to matters regarding race, color, creed, national origin, or ancestry, the State Human Relations Commission now may act as conciliator in matters regarding discrimination based on sex, physical handicap, age, or marital status.

Occupational safety and health. A Hazardous Materials Transportation Act of 1979 was adopted to regulate the transportation of hazardous materials in the State. A commission was created to administer and enforce the act, and to study the necessity of additional legislation.

Other laws. The law prohibiting employer use of lie detector tests as a condition of employment or continuation of employment was expanded to ban use of voice stress analyzers.

District of Columbia

Wages. A revised wage order became effective August 5, 1979, for manufacturing, wholesale trade, and printing and publishing occupations. Among other changes, the revision increased the minimum wage from $2.46 to $3.50 an hour and eliminated a differential for young workers, except full-time students who must be paid a rate equal to the Federal minimum wage rate and persons hired under the Youth Employment Act and the Comprehensive Employment and Training Act who must be paid at least $2.65 and $2.90 an hour, respectively.

Two 90-day emergency laws were enacted (the first expired August 21, 1979, and the second, November 20, 1979) to provide summer and other employment opportunities for youth.

Other laws. A law enacted late in 1978 prohibits the administration of lie detector tests to current or prospective employees. Violators may be subject to both criminal and civil penalties.

Florida

Wages. The State prevailing wage law was repealed.

Agriculture. The migrant labor program was transferred from the Department of Community Affairs to the Executive Office of the Governor.

A Farmworker Housing Assistance Act was enacted to provide for financial and technical assistance to public bodies and nonprofit groups who will provide for the sponsorship of farmworker housing in areas of the State where a clear need exists.

Labor relations. Changes were made in the procedures for filing and processing unfair labor practice complaints, and provision was made for the circuit courts to enforce the orders of the Public Employees Relations Commission.

An Office of Labor Relations was established in the State government with duties including representing the Governor in collective bargaining negotiations.

The position of part-time alternate member of the Public Employees Relations Commission was abolished and a provision that the three full-time members serve at the Governor's pleasure was removed. Public employee organizations are still required to register with the Commission prior to requesting recognition by a public employer for purposes of collective bargaining, but now must also register prior to requesting certification as an exclusive bargaining agent.

Occupational safety and health. A "loss prevention program" was established requiring each State department, except the legislature, to have a safety coordinator trained by the insurance department in all areas of safety. Previously, each department had a coordinator that dealt with fire safety only. The coordinators, along with representatives from the Divisions of State Fire Marshall and Risk Management, will make up the Interagency Advisory Council on Loss Prevention.

Other laws. The criteria for apprentice occupations were revised, and include a requirement that the occupation must involve manual, mechanical, or technical skills and knowledge which require a minimum of 2,000 hours of on-the-job training.

All State agencies, in the purchase of goods and services during the next 2 years, are to require that the bidders' wage and price behavior is in compliance with standards established by the President's Council on Wage and Price Stability.

The State Manpower Planning Act was renamed the State Employment and Training Act and its administration was transferred from the Department of Community Affairs to the labor department.

An employer may not threaten an employee with dismissal because of the nature or length of time served on jury duty. Previously, only actual dismissal was prohibited.

Georgia

Equal employment opportunity. The definition of age discrimination in the merit system and personnel law relating to State employees was amended to include only those between 40 and 70 years of age. Previously, no limits were included. In 1978, the fair employment practices law prohibited age discrimination against public employees between age 40 and 65.

A House resolution continued the study committee on services for the aged which was established to examine the needs of the elderly and the adequacy of existing programs. The committee is to report its findings and recommendations to the General Assembly by January 1, 1980.

Guam

Wages. The minimum wage rose to $2.90 an hour and will continue to increase each year to match Federal rates under a prior law which adopted the Fair Labor Standards Act rates by reference.

Equal employment opportunity. The prohibition on employment discrimination based on age will be limited to persons who are at least age 40. Previously, no age was specified.

Other laws. Summer youth employment programs were established involving both the public and private sectors. Funds were provided to the labor department's Senior Community Service Employment Division to provide meaningful employment to needy senior citizens.

Hawaii

Wages. By prior law, the minimum wage rate was raised from $2.65 to $2.90 an hour effective July 1, 1979, with future increases to $3.10 on July 1, 1980, and $3.35 on July 1, 1981.

Court-ordered wage assignments were authorized for delinquent child support payments, and employers are prohibited from disciplining employees whose wages are subject to this assignment.

A concurrent resolution urges Congress to review the average annual wage limitation for the State's public service employment participants under the Comprehensive Employment and Training Act, and to exempt such participants from the mandated average wage provisions.

Equal employment opportunity. It is now an unlawful employment practice for an employer to deny reemployment or other rights to an employee who returns from National Guard duty.

A Senate resolution encouraged employers to consider epileptics for employment.

Other laws. Several resolutions aimed at improving the employment situation in Hawaii were adopted. The U.S. Secretary of Labor was petitioned to raise the average annual wage limitation for the State's public service employment participants, to waive the time limitations on participation in CETA programs, and to release available discretionary funds for the continued full implementation of the CETA programs in Hawaii. The Commission on Manpower and Full Employment was requested to study the feasibility of the State creating part-time jobs for the elderly at the minimum wage or better, and the State Occupational Information Coordinating Committee was urged to utilize an advisory committee structure to permit increased participation of those interested in the development of a comprehensive occupational information system.

Idaho

Wages. Public bodies that require contractors to provide payment or performance bonds exceeding 50 percent of the total contract may not withhold more than 5 percent of the amount payable, pending acceptance of the project.

The civil service law was amended to exempt holidays from being considered as hours worked for overtime computation.

School attendance. A requirement that each county auditor publish an annual summary of the compulsory school attendance provisions was repealed.

Illinois

Wages. Students employed by the college or university they are attending and who are covered under the Federal Fair Labor Standards Act are now exempt from coverage under the State minimum wage law.

The labor department may assist in the collection of all wages due, instead of the previous limitation of $1,000 per employee. Permissible wage deductions were restricted to those required by law, for the employee's benefit, with the employee's freely given written consent, or for valid wage assignments or orders. Employers must pay terminated employees their earned vacation.

Benefits and refunds payable by pension or retirement funds, employee assets held by such funds, and required employee payments to such funds are no longer subject to garnishment.

Hours. The provision authorizing flexible hours positions in State employment was amended to define such positions as including part-time jobs of 20 hours or more a week, a job shared by two employees, or a job involving normal weekly hours but performed in fewer days than ordinarily required. Goals for the number of flexible hours positions are to be established in every department or agency and procedures were established for reevaluation when the goals are met.

Child labor. Hearings upon complaint of a violation or to revoke any certificate are to be conducted in accordance with the Administrative Procedure Act, after which the department may issue cease and desist orders, revoke certificates, and determine civil penalties.

Minors under age 16 may work where liquor is served as "busboys" and in the kitchen of private clubs or fraternal or veterans organizations. Also, they may work in skating rinks owned and operated by a school or unit of local government.

Agriculture. The requirement that farm labor contractors deposit a surety bond with the labor department as a condition of certification was made optional. A provision was continued permitting persons aggrieved by the misconduct of any certified farm labor contractor to sue for equitable relief.

Equal employment opportunity. Fair Employment Practices Act affirmative action requirements now specifically empower hearing officers to order reinstatement, hiring, backpay (for up to 2 years prior to filing of the complaint), costs, and reasonable attorney fees. A provision was also added permitting the award of attorney fees to the respondent if the complaint is found to be frivolous or unreasonable.

Labor relations. In cases of teacher reduction, dismissal must begin with those having the least continuous service with the school district, unless an alternative plan is established by collective bargaining. Affirmative action programs are exempt from this provision.

Private employment agencies. The labor department may prescribe information required in contracts between agencies and job applicants. Agency license applicants need no longer be U.S. citizens but must furnish proof of good moral character and business integrity and that they have never been party to a fraud, have no jail record, and do not belong to subversive organizations.

Employer-paid agencies are no longer restricted with respect to contacting prospective and existing job applicants (except those they have already placed) and do not have to identify themselves as agencies in advertisements, but must state that they are acting as a representative of an employer.

Occupational safety and health. The Department of Public Health was authorized to inspect and investigate the personnel of radiation installations, as well as the premises and operations as before, to study and evaluate past, current, and potential health hazards. Monthly inspection reports will be made to the U.S. Nuclear Regulatory Commission and will be available to the public.

Employers are now required to provide information concerning prevention of injury or disease by contact with poisonous materials or fumes to any employee whose work involves entering an underground sewer and to have safety information and equipment available at the work site. Violation is a business offense punishable by a fine of up to $5,000.

Other laws. After receiving reasonable notice of an employee's summons to jury duty, an employer must give the employee time off to serve. Also, it is unlawful for an employer to discharge or retaliate in any way against an employee who is absent from work to appear in court as a witness in a criminal proceeding pursuant to a subpoena. In neither case is the employer required to pay wages for the period of such absence.

The Commission on Labor Laws was continued to study labor and employment laws and decisions and their enforcement.

The Board of Vocational Rehabilitation was abolished and a Department of Rehabilitation Services was created with essentially the same powers and duties and an 11-member Rehabilitation Services Advisory Council was established to advise the director of the department.

Indiana

Wages. Employers required to make garnishment deductions from employee's wages are entitled to $8, or 2 percent of the total amount deducted, whichever is greater, to be paid equally by the creditor and the debtor.

Equal employment opportunity. The State age discrimination in employment act is no longer applicable to those covered by the Federal law, and the upper limit for State protection was raised from age 65 to 70. The mandatory retirement age for teachers was raised from age 66 to 71, with provision for work beyond that age with a doctor's certificate proving physical and mental ability.

The State Civil Rights Commission and local civil rights agencies were authorized to refer complaints to each other for further action.

Occupational safety and health. Numerous changes were made in the mining safety law, including extending safety requirements formerly applicable to gassy coal mines to all underground coal mines, establishing new ventilation and electrical equipment standards, providing for the certification of assistant mine foremen, and specifying new escape procedures.

Other laws. Opportunities industrialization centers were established to provide comprehensive job training and related services for economically disadvantaged, unemployed, and underemployed individuals.

The Office of Manpower Development became the Office of Occupational Development, and the Manpower Development Council became the Employment and Training Council.

Iowa

Equal employment opportunity. Mandatory retirement of State employees was eliminated; other public sector employees may work beyond age 70 with employer approval, except for police officers and firefighters, who must retire at age 65. State conservation officers age 21 to 65 may now be appointed; formerly the age limits were 22 to 31.

A proposed equal rights amendment to the State constitution was adopted, subject to approval in the November 1980 general election.

Kansas

Wages. Individuals employed by a unified school district are exempted from the minimum wage and overtime law if they spend more than one-half of their working hours in an executive, administrative, or professional capacity.

Overtime pay for public or private emergency medical service personnel will be based on hours after 258 in 28 days (the same as for police and firefighters), instead of after 46 hours a week. Also, hours worked by police and firefighters voluntarily substituting for one another on regular tours of duty are not to be counted in computing overtime pay.

A three-debt limit on protection from discharge because of wage garnishment was removed. Court-ordered support may now be enforced by garnishment.

Labor relations. When professional negotiations between a school board and professional employees' organization are at an impasse, the parties may jointly notify the Secretary of Human Resources so that impasse resolution procedures can begin. Previously, a district court was required to find that an impasse existed before resolution procedures could commence.

Kentucky

Wages. By prior law, the minimum wage rate was raised from $2 to $2.15 an hour on July 1, 1979.

Louisiana

Wages. A resolution requested that student workers at Louisiana State University be paid the Federal minimum wage or that the present student wage rate be increased by the same percentage as the Federal rate.

Equal employment opportunity. A resolution requested a study of employment discrimination in the State.

Labor relations. A concurrent resolution requested the establishment of a joint legislative committee to study public sector employer-employee relations, including collective bargaining and strikes.

Occupational safety and health. Plants and other industrial facilities which manufacture, store, or maintain toxic substances must prepare emergency plans for notifying proper public safety authorities in case of accident. Violators may be fined up to $25,000.

Undocumented workers. Knowingly employing or referring illegal aliens for employment was prohibited in all industries, except agriculture. A first violation (regardless of the number of aliens employed) carries a fine of up to $100; a second violation is punishable by a fine of up to $150 for each employed alien; and subsequent violations are punishable by fines of from $500 to $2,000 for each alien.

Other laws. The labor department, scheduled to terminate on July 1, 1980 under the State's sunset law, was continued to July 1, 1984.

A person serving as an official, officer, or employee of the State will be insured against financial loss arising from claims, demands, suits, or judgments for actions performed in the discharge of duties, provided damages did not result from a willful act or gross negligence, and he or she is entitled to be represented in any action by the attorney general.

An Office of Elderly Affairs and an Aging Advisory Board were established in the Governor's office each with powers and duties to promote the welfare of the elderly.

Maine

Wages. The minimum wage was increased to $2.90 an hour on January 1, 1979, under a prior law which mandated matching State increases to the Federal rate, up to a maximum $3 rate. A 1979 law increased the maximum limit for matching the Federal rate to $4 an hour.

Minimum wage coverage was extended to employees of the State, counties, municipalities, and school administrative units. These employees were exempted from overtime pay requirements.

Railroad corporations in the State are required to furnish all operating personnel working on trains individual wage statements with each payment, listing accrued total earnings and taxes to date and a separate listing of daily wages and how they were computed. Violation may result in a penalty of up to $100 for each offense.

Child labor. Children under age 14 are prohibited from working in agricultural employment involving direct contact with hazardous machinery or hazardous substances. Such work now comes within the limitations on hours and days of work as that for minors under age 16, and now requires work permits and recordkeeping. Other work in agriculture remains exempt.

School attendance. A child who has attained age 15 or has completed the ninth grade will be exempted from school attendance otherwise required to age 17, if he or she has permission from the parent or guardian and from local school officials, and has agreed, in writing, to meet at least annually with such persons until reaching age 17, to review the possibility of returning to day or evening school.

Equal employment opportunity. Beginning January 1, 1980, the prohibition against mandatory retirement at any age or upon completion of specified years of service (formerly, applying only to public employment) will be extended to private employment.

Sex discrimination under the State Human Rights Act was redefined to include pregnancy and medical conditions resulting from pregnancy.

A polygraph examiners law was enacted to regulate that business and to prohibit employers (except law enforcement agencies) from requiring a polygraph test as a condition of employment or of continued employment.

Labor relations. Unions engaged in collective bargaining with an employer may negotiate on behalf of retired and disabled former employees regarding pensions and retirement benefits.

Retaliation against an employee who has sought the assistance of or has cooperated with the State board of arbitration and conciliation is prohibited.

The law requiring employers to provide terminated employees with a written statement of the reason for termination was amended to provide for a 15-day time limit and a penalty of from $50 to $500 for violation.

Mediation services by members of the Public Employees Labor Relations Board, offered to parties free of charge, were limited to 3 days per case. The costs for factfinding will be added to other costs shared equally by the parties to the dispute.

Either party to negotiations involving State employees may publicize the written initial collective bargaining proposals 10 days after both parties have made their initial proposal.

The provisions of the municipal collective bargaining law limiting the period during which questions concerning representation can be raised will not apply to matters of unit clarification.

Occupational safety and health. An employee who believes he or she was discharged or discriminated against for reporting a safety violation may file a discrimination complaint with the labor director, who may bring civil action. Relief may include rehiring or reinstatement to the former position with backpay. Previously, discrimination was prohibited, but no course of action was specified.

A new provision requires employers to furnish employees with information on the identities and hazards of chemicals in the workplace through means such as education and training programs and substance data sheets.

The State fire marshal or fire inspectors may prohibit the use of any building not conforming to the laws, ordinances, or rules and regulations of the commissioner of public safety. Previously, such prohibition had to be based upon specific building conditions listed in the statute.

Other laws. Entries in personnel records of State, county, and municipal employees, including medical records, confidential personal references, credit and personal history, and references to performance evaluations or disciplinary action were guaranteed confidentiality by excluding these items from the definition of "public records." Also, a new law clarifies what personal information pertaining to school employees is to be open to public inspection and requires that employees be permitted to review their personnel files.

Employers must include in personnel files any nonprivileged medical records they have relating to employees. Failure to allow employees to review their personnel files could result in a fine against the employer.

Maryland

Wages. The minimum wage rose to $2.90 an hour and will continue to increase each year to match the Federal rate under a prior State law which adopted the FLSA rates by reference.

The amount of tips an employer may credit against the minimum wage was decreased from 50 to 45 percent with a further reduction to 40 percent scheduled for January 1, 1980.

Employers may not use tip credits unless the employee is informed and retains all tips received.

The State equal pay law was amended to remove the exclusion of employers covered by the Federal Equal Pay Act of 1963.

Child labor. Upon written parental permission, the labor commissioner may grant exceptions to the hours and nightwork restrictions for minors under age 16, if there will be no hazard to the health and welfare of the minor and it will not create any problems with fulfilling school requirements for graduation.

Equal employment opportunity. In consultation with the secretary of personnel, the director of aging is to establish a 3-year demonstration employment program for persons age 70 and over to determine the feasibility of finding employment for them in State agencies. A final report is to be submitted to the legislature in January 1982.

A joint resolution was approved urging an end to job and other discrimination against fat people and requesting that the State Commission on Human Relations study such discrimination and report to the General Assembly by January 1, 1980, with proposals to alleviate such discrimination.

Labor Relations. Employers are prohibited from discharging employees because of their participation in civil defense, civil air patrol, or volunteer rescue squads and fire department activities in response to emergencies declared by the Governor at the request of a local government.

Occupational safety and health. The labor commissioner is now authorized to order a review of hearings held under the occupational safety and health law. Previously, a review was required only upon appeal of an interested party.

Displaced homemakers. The displaced-homemaker program was extended from a pilot project to a permanent program. Additional centers, or extension of the programs of the current center to other areas of the State, are authorized if funds become available.

Massachusetts

Wages. The minimum wage rose to $2.90 an hour on January 1, 1979, and will increase to $3.10 on January 1, 1980, and $3.35 on January 1, 1981, under the provisions of a 1977 amendment.

Child labor. The minimum age for obtaining a license to sell alcoholic beverages or for purchasing such beverages was increased from 18 to 20. Persons 18 or over still may be employed to handle and sell alcoholic beverages, and minors under 18 may still be employed provided they do not directly handle, sell, mix, or serve alcoholic beverages.

Equal employment opportunity. Credit unions may not elect directors who have attained age 72, but directors 72 years and older currently holding office may be reelected.

Labor relations. All petitions alleging an impasse in negotiations involving municipal police and firefighter collective bargaining must be reviewed by the joint labor-management committee in the labor department before being accepted by the Board of Arbitration and Conciliation. The committee also may exercise jurisdiction over disputes and is empowered to conduct formal or informal conferences and take other steps, including mediation, to encourage resolution of the dispute.

Employers who fail to make payments to an employee health or welfare or pension or other such plan as required by the terms of an agreement, within 60 days after they become due, will be guilty of a misdemeanor and fined from $100 to $500 for each offense.

Binding "last-best-offer" arbitration procedures were established to help resolve impasses in collective bargaining negotiations between public employers and employee organizations representing uniformed State police or metropolitan district commission police below the rank of captain. These procedures expire June 13, 1982.

Successor clauses in collective bargaining agreements are to be binding and enforceable against successor employers for up to 3 years from the effective date of the agreement between the contracting employer and labor organization. Exempted are public employers, employers subject to either the National Labor Relations Act or the Railway Labor Act, and receivers or trustees in bankruptcy.

Other laws. Provisions were continued to July 1, 1981, allowing the labor commissioner to suspend the operation of certain labor laws, including those limiting or prohibiting the employment of minors over age 16, in case of industry emergency or hardship.

Michigan

Wages. By an amendment adopted in 1977, the minimum wage increased to $2.90 on January 1, 1979, with future increases to $3.10 on January 1, 1980, and $3.35 on January 1, 1981. These increases equal those under Federal law.

Additional employees now are subject to State overtime pay requirements, and optional methods of computing overtime pay were made available for police officers, firefighters, security personnel in correctional institutions, and resident employees of public hospitals.

Equal employment opportunity. Under the State Civil Rights Act, employers, employment agencies, and unions may not require employees or job applicants to take a polygraph examination, lie detector test, psychological stress evaluation, or similar tests. An earlier separate law forbidding employers to require employees to submit to polygraph and lie detector tests was retained.

The availability of a polygraph test may be announced if employees are informed that it is not a condition of employment. An employee's statement directly related to a job qualification or a violation of State law may be investigated through other means.

The recovery of attorney fees and lost benefits or privileges was added to backpay and reinstatement as possible remedies for public employees whose political activity protections are violated.

Other laws. The labor department will annually submit to the Governor a 5-year full employment plan, including projected levels of employment and unemployment, and recommendations for increasing job opportunities and effectiveness of training. The Governor will submit the plan to the legislature which must alter or reject the plan or it will be automatically implemented.

Upon request, the labor department in cooperation with the commerce department, will establish a program to assist in developing employee-owned corporations when an establishment is closing or transferring operations, resulting in a loss of jobs.

Minnesota

Wages. Minimum hourly wage rates were increased from $2.30 an hour effective January 1, 1980, with further increases to $3.10 on January 1, 1981, and $3.35 on January 1, 1982. Differential minimums for workers under age 18 also were raised.

Child labor. Authority of the labor commissioner to issue orders compelling compliance with the child labor laws was broadened to allow him to apply for restraining orders.

Equal employment opportunity. The effective date of a prohibition on mandatory retirement before age 70, for most private and public sector employees, was changed from June 1, 1980, to April 24, 1979. The later date will remain for employers of fewer than 20 employees.

Before scheduling a hearing on an alleged unfair discriminatory practice, the commissioner of human rights must determine that attempts to eliminate the unfair practice by conciliation have been or would be unsuccessful.

Vietnam-era veterans (those serving the Armed Forces between July 1, 1964 and December 31, 1976) will be included in the affirmative action program of the State civil service system until 1989.

Private employment agencies. Management consultants and management search firms were exempted from the employment agency regulatory law.

Other laws. The director of the division of voluntary apprenticeships will establish a plan for equal employment opportunity in apprenticeships, and now may grant reciprocal approval to properly registered, multistate apprenticeship programs in all industries except the construction industry, if such programs are in accordance with Federal regulations. Requirements for completion of apprenticeships were reduced from 4,000 hours or 2 years of reasonably continuous employment, to 2,000 hours or 1 year of employment.

Certain personnel data relating to public employees now are considered public information, including salary, benefits, job description, education and training, previous work experience, and disciplinary action.

Mississippi

Occupational safety and health. The State Board of Health may refuse to issue or may suspend, revoke or amend licenses to use or handle sources of radiation if the licensee or applicant has been refused a license, or has had one suspended, revoked, or restricted in another jurisdiction.

Other laws. The boards of supervisors of Hancock, Harrison, and Stone Counties, and their municipalities were authorized to enter into a mutual agreement to provide employment and training services.

Missouri

Private employment agencies. Agencies may no longer accept deposits on placement fees, and now are subject to class action suits for damages caused by their acts.

Other laws. The law was repealed which required that all factories and manufacturing establishments submit to the labor department an annual statistical report on employment, wages, and other specified information.

Montana

Wages. Premium overtime pay after 40 hours a week is no longer required by law in certain occupations. Among those exempted are taxicab drivers, employees subject to the maximum hours provisions set by the U.S. Secretary of Transportation, foster parents, and employees of small forestry and lumbering operations.

Public employees separated from service may be paid on the next regular payday, or 15 days from the date of separation, instead of within 3 days as required for private sector employees. If they are discharged for cause, all unpaid wages become due and payable immediately.

Hours. The provisions establishing a maximum 8-hour day for bus drivers or attendants and a minimum 12-hour rest between work shifts were amended to exempt employees of a city, town, county, or political subdivision.

Child labor. A joint legislative resolution requested that a committee study the State child labor laws in relation to the present work environment and Federal child labor laws, and report its findings and recommendations on proposed modernizing legislation to the next session of the legislature.

Equal employment opportunity. A new law permitted court enforcement of the labor commissioner's decision on maternity leave complaints.

Labor relations. Binding "last-best-offer" arbitration was provided for in firefighter disputes if an impasse occurs and mediation and factfinding have failed. Strikes are prohibited.

The public employee collective bargaining law was amended to exempt confidential employees from coverage and to restrict union representation of Board of Personnel Appeals employees to organizations which do not represent any other employees.

Private employment agencies. Musical booking agencies were exempted from the employment agency regulatory law.

Occupational safety and health. Inspection of passenger elevators and escalators in public places by maintenance and insurance company representatives certified by the Department of Administration may now be permitted, in lieu of inspection by State inspectors.

Other laws. The required period of on-the-job work experience for apprentices was reduced from 4,000 to 2,000 hours, and provision was made for granting apprentices full or partial credit for prior training or experience in the trade, on the recommendation of the employer or the joint apprenticeship committee and with the approval of the labor department.

Nebraska

Wages. Any teacher or administrator employed by a school district may authorize, in writing, deductions from wages for payments to a professional or labor organization.

Equal employment opportunity. The upper limit for protection from employment discrimination based on age was raised from 65 to 70 years (the lower limit remains at age 40), as was the mandatory retirement age of State employees. An administrative advisory committee for older Nebraskans was established to prepare a comprehensive Statewide plan for services to the aging.

The State, its governmental agencies and political subdivisions are now prohibited from employment discrimination on the basis of religion, sex, disability, marital status, or national origin, as well as race and color as before, and such agencies may now be sued under the Fair Employment Practices Act.

An affirmative action program was implemented and an affirmative action office established to insure equal opportunity in State employment.

Labor relations. The Court of Industrial Relations was renamed the Commission of Industrial Relations and was given new powers, including authority to order bargaining begun or resumed for all public employees including teachers, rather than only public utility employees, and to require mediation and factfinding. The commission was authorized, in cases of violations, to make findings and enter orders as necessary to provide adequate remedies and resolve the dispute.

Occupational safety and health. Public power and irrigation districts now must comply with State safety and health regulations.

Other laws. Discharging or penalizing an employee for serving on jury duty is prohibited and will be considered a misdemeanor.

Nevada

Wages. The minimum wage rate increased to $2.75 an hour on January 1, 1979.

A work-hour limit on public works contracts of 8 hours daily and 56 weekly, except in emergencies, was repealed.

Child labor. The prohibition of employment of minors in public dance halls was restricted to those in which alcoholic beverages are dispensed, and the limited definition of public dance halls as those where women or girls are employed or attend for profit was removed.

Labor relations. Employee organizations, recognized by a local government employer, will now be required to file an annual report with the Employee-Management Relations Board. The report will include information on the organization's constitution, officers, membership, and any collective bargaining agreements in effect.

Private employment agencies. Maximum applicant-paid placement fees were increased from 40 percent to 55 percent of the first month's wages.

Occupational safety and health. The State inspector of mines now will conduct as well as develop mine safety education programs and training and is authorized to accept funds from private and public sources for administration of the mine safety law. Mine operators are to notify the inspector of mines prior to the opening and closing of mines.

A joint resolution urged Congress to enact legislation to return to the States the right to regulate or participate in the regulation of safety and health in mines.

Displaced homemakers. A displaced homemakers act directed the State Board for Vocational Education to establish a center to provide services for displaced homemakers, including job counseling, training, and placement, as well as information on subjects such as financial management and health services. To the maximum extent possible, staff positions will be filled by displaced homemakers. Also, the board will study the feasibility of placing displaced homemakers in programs established or benefits provided under Federal and State unemployment compensation laws which extend eligibility to full-time homemakers.

Other laws. A Criminal History Records Act was passed, providing for the maintenance and dissemination of criminal records. An employer, upon request, is to be furnished records on a prospective employee which reflect convictions only or which pertain to an incident for which the prospective employee is currently within the system of criminal justice, including parole or probation.

The minimum hours of reasonably continuous employment required to complete an apprenticeship agreement was reduced from 4,000 hours to 2,000, and the requirement that apprentices be at least age 16 and preferably under 21 was removed.

Time spent as a member of the State legislature will not be considered a break in service for purposes of calculating employee benefits under private pension plans.

New Hampshire

Wages. The minimum wage rose to $2.90 an hour and will continue to increase each year to match Federal rates.

Permissible deductions from the minimum wage for food and lodging furnished to employees working in hotels, motels, and restaurants were increased.

The minimum wage law was amended to prohibit employers from hiring students at a subminimum wage rate or without compensation, to replace existing or laid off workers.

Child labor. Minors age 16 and 17 may now handle wine if working as grocery clerks, cashiers, or baggers. They now may also clean tables and lounge areas and move cases of alcoholic beverages in establishments serving such beverages, as long as they are not involved in serving drinks and an adult is in attendance.

Equal employment opportunity. Mandatory retirement was abolished for all public sector employees and for those in the private sector whose employers employ six workers or more.

Labor relations. The public employee labor relations law was amended to provide for three alternate members of the public employees labor relations board, and to increase from 30 to 45 days the time allowed both for holding hearings and making decisions on unfair labor practice charges. The issuance of a cease-and-desist order was made mandatory in cases of violation, and the board was given new authority to order payment of costs incurred by the injured party.

Displaced homemakers. A new law directed the labor commissioner to establish two pilot multipurpose centers to provide displaced homemakers with counseling, training, and job referral services to help them become gainfully employed.

Other laws. The minimum time for completion of an apprenticeship was reduced from 4,000 hours to 2,000.

The minimum contract amount on which public works contractors and subcontractors must furnish payment bonds was increased from $10,000 to $25,000.

Several State agencies are scheduled for sunset review and termination between July 1, 1981 and July 1, 1985, unless renewed by the legislature, including the labor department's divisions of administration and support, inspection, labor statistics, and workmen's compensation and the workmen's compensation commission.

New Jersey

Wages. The minimum wage rate was increased from $2.50 to $2.90 an hour on March 1, 1979, with a further increase to $3.10 on January 1, 1980. Full-time students may be employed by their college or university at not less than 85 percent of the minimum wage.

Child labor. Summer employment of minors between 16 and 18 years of age by a summer resident camp, conference, or retreat operated by a nonprofit or religious organization was exempted from the hours and nightwork restrictions of the child labor law, unless the work is primarily general maintenance or food service. Also they were exempted from posting and record-keeping requirements.

The ban on employment of minors where liquor is sold no longer applies to minors (between age 16 and 18) working in executive offices, maintenance departments, or pool or beach areas of hotels, motels, and guesthouses.

Displaced homemakers. A displaced homemakers act was passed requiring the Division on Women in the Department of Community Affairs to identify and maximize the use of existing displaced homemaker programs. The division is also to provide technical assistance and encouragement for the expansion of other multipurpose programs to provide displaced homemakers with job counseling, training and placement, and other services.

Other laws. Under a revision of the State penal code misdemeanor offense in other statutes which carries a penalty of 6 months imprisonment or less is reclassified as a disorderly persons offense. Violations of numerous laws, including child labor, minimum wage, prevailing wage, wage payment, industrial homework, and worker's compensation laws, are thereby reduced from crime class offenses to disorderly persons offenses. Among other consequences, these offenses now carry a statute of limitation of only 1 year, are lowered to the jurisdiction of magistrates' courts, and extradition authority is no longer available.

New Mexico

Wages. The minimum wage was increased from $2.30 an hour to $2.65 on July 1, 1979, with further increases to $2.90 on July 1, 1980, and to $3.35 on July 1, 1981. The farm rate will increase in four steps to $3.35 on July 1, 1982. All persons 18 years of age and under were exempted from the minimum wage law, except graduates of secondary, vocational, or training schools.

An increase from $2,000 to $20,000 was made in the threshold amount for coverage of public works contracts under the prevailing wage law.

The maximum amount of disposable earnings exempt from garnishment for child support was reduced to 50 percent; for all other types of garnishment, the exemption remained at the greater of 75 percent of disposable earnings or an amount each week equal to 40 times the Federal minimum hourly wage.

Equal employment opportunity. A State Agency on Aging was established which, among other duties, is to encourage training programs and opportunities for older workers and develop new job placement methods.

Private employment agencies. All regulation of private employment agencies ceased as of July 1, 1979, the result of previously adopted sunset legislation.

Occupational safety and health. Any civil penalty assessed the State or any political subdivision for a serious violation of the occupational health and safety act will be considered paid if the violation is corrected within the time permitted. Also, an employer now may be assessed a civil penalty of up to $1,000 for each violation of the law that is not of a serious nature.

Other laws. The Labor and Industrial Bureau in the Department of Human Services was abolished and an independent three-member Labor and Industrial Commission and an Office of Labor Commissioner established.

An employer who discharges or threatens to discharge an employee because of jury service will be guilty of a misdemeanor.

New York

Wages. By prior law, the minimum wage rate for nonagricultural workers was increased to $2.90 on January 1, 1979, with additional increases to $3.10 on January 1, 1980, and to $3.35 on January 1, 1981.

In resort hotels, tip credit allowances and maximum permissible deductions for meals and lodging were increased.

Child labor. Minors serving as members of a certified volunteer ambulance service now must be at least 15 years of age, have current Red Cross training, be under the supervision of an emergency medical technician, and be covered by workers' compensation.

Equal employment opportunity. Under the antidiscrimination law, the criterion for ascertaining disability for job purposes was redefined to cover a condition which does not prevent the person from performing the job in a reasonable manner, instead of a condition unrelated to ability to engage in activities involved in the job sought.

Labor relations. The provisions relating to mediation and arbitration for police and fire department contract disputes were extended to July 1, 1981, and the statute permitting an agency shop fee deduction from the wages of State employees was extended to September 1, 1981.

Occupational safety and health. An Office of Fire Prevention and Control was created in the Department of State to advise and assist in arson suppression, detection, investigation and prosecution, fire prevention and control, and other fire-service related problems. The office will be assisted by a fire safety advisory board in such functions as the evaluation and making of recommendations on Federal and State legislation and programs relating to fire safety service, policies, and programs.

Other laws. The education department was directed to make rules and regulations for school districts to supervise programs for minors required by the courts to perform public service work, assuring that certain labor standards are adhered to, including wages and other conditions of work, and workers' compensation coverage, and assuring that such minors are not used to replace regular employees.

A Long Island Job Development Authority was created to develop employment opportunities in Nassau and Suffolk Counties by assisting in the financing of business facilities likely to stimulate those opportunities, by advancing the development of eligible business enterprises, and by the annual formulation of an overall economic development plan for the bicounty region.

North Carolina

Wages. The former minimum wage, maximum hours, child labor, and wage payment laws were consolidated into a single wage and hour act. Major changes included an increase in the minimum wage rate from $2.50 to $2.75 an hour on July 1, 1979, with a future increase to $2.90 on July 1, 1980, extending minimum wage coverage to public employees, and requiring that overtime be paid after 45 hours a week instead of after 50 hours. The law also restricts what may be deducted from a worker's pay and makes violators of the minimum wage, overtime, and wage payment provisions liable for the unpaid wages plus up to an equal amount of exemplary damages.

The maximum amount of a parent's monthly disposable income subject to garnishment for court-ordered child support was increased from 25 to 40 percent.

Child labor. Several changes were made in the child labor provisions including adoption by reference of the federally banned hazardous occupations; elimination of work-hour restrictions for 16- and 17-year-olds; revision of the hour restrictions for 14- and 15-year-olds; and authorization for the labor commissioner to issue waivers in special circumstances and to impose civil penalties for violation of the law.

Pages working in the General Assembly or Governor's office were exempted from coverage under the minimum wage, overtime, child labor, and recordkeeping laws.

Agriculture. The Department of Human Resources was appropriated funds to pay for inpatient hospital care and related services for migrant farmworkers and their dependents while in the State.

Equal employment opportunity. The mandatory retirement age of public employees was raised from age 65 to 70, and the provision retained permitting continued employment beyond the retirement age on a year-to-year basis with employer approval.

The Wilmington city charter was amended to enable the city council to adopt ordinances prohibiting discrimination in employment and to establish an enforcement agency which will receive, initiate, and investigate complaints, and issue cease-and-desist orders for unlawful practices. New Hanover County was authorized to adopt ordinances prohibiting acts of employment discrimination based on race, color, national origin, gender, religion, handicap, or age.

Labor relations. Cities or counties may request that the Governor temporarily assign the State police to assist in local law enforcement if local police strike or engage in other job actions.

Private employment agencies. A new private employment agency law was enacted, replacing one that expired through sunset legislation. The new law includes establishment of an advisory council with authority to approve regulations promulgated by the labor commissioner.

Displaced homemakers. The Council on the Status of Women was authorized to establish a multipurpose center to provide counseling, training, education, and placement services to help displaced homemakers seeking employment. Whenever possible, the center will be staffed by displaced homemakers.

Other laws. The Governor now is to appoint a public member as chairperson of the Employment and Training Council, rather than serving as the chairperson himself. The council is to prepare an annual report to the Governor on its activities.

The number of hours of required on-the-job training in approved apprenticeship programs was reduced from 4,000 hours to 2,000.

Public utilities were permitted to obtain criminal records of applicants for or employees with jobs permitting or requiring access to nuclear power facilities or nuclear materials.

Vocational rehabilitation service functions for physically and mentally disabled persons were transferred from the State Board of Education to the Department of Human Resources, which is authorized to cooperate with the Federal Rehabilitation Services Administration in administering the Federal Rehabilitation Act.

North Dakota

Wages. Wage orders were revised to increase minimum rates for covered employee occupations, effective July 1, 1979. The new minimum for manufacturing is $2.95 an hour, and $2.60 an hour for public housekeeping with an additional increase to $2.80 on July 1, 1980. The new rates for mercantile employees and professional, technical, and clerical employees are $2.55 and $2.80 an hour, but will increase to $3.10 on January 1, 1980.

The $1,000 maximum was eliminated for the amount of any one wage claim which may be assigned to the labor commissioner for recovery by civil action.

Courts must now include in each judgment containing child support provisions an order directing the assignment of wages to meet the required payments. In the absence of a wage assignment, the courts are authorized to order employers to withhold wages for overdue child support. Employees are not to be discharged or disciplined because of such actions.

A concurrent resolution directs the legislative council to conduct a study of the feasibility and benefits of revising or repealing the State's wage garnishment law.

Equal employment opportunity. An equal employment opportunity law was enacted banning discrimination by employers of more than 15 employees on the basis of race, color, religion, sex, or national origin. The labor department is authorized to receive complaints and negotiate settlements within 60 days; district courts have jurisdiction over actions claiming violations.

Veterans previously granted preference in public employment if physically and mentally able to perform the duties of the position sought are now specifically required to meet the education and experience qualifications of the position as well.

Labor relations. A concurrent resolution requested that eligibility requirements of the Federal Food Stamp Act of 1964 be amended to prohibit striking employees from receiving government assistance.

Occupational safety and health. A new act gave the Industrial Commission authority to regulate the storage and disposal of nuclear and other wastes, including issuing permits and bringing civil action in the event of violation.

Provision was made for an annual fire inspection of all State institutions and buildings by the State fire marshal or by the fire department of the city or fire protection district in which the institution or building is located.

Displaced homemakers. A new law, effective until June 30, 1981, directed the Employment Security Bureau to establish a multipurpose service center and mobile unit to provide displaced homemakers with counseling, training, education, and placement services. Whenever possible, the centers will be staffed by displaced homemakers.

Other laws. The Sheltered Workshop Program became the Vocational Rehabilitation Facilities Program.

A resolution urges State agencies, departments, boards, and commissions to furnish the State employment service with information on their employment opportunities.

Ohio

Wages. Employers with less than $150,000 gross annual sales must pay a minimum wage of at least $1.50 per hour, compared to the $2.30 rate applicable to larger employers. Prior wage orders which set subminimum rates for certain industries with gross annual sales less than $95,000 were repealed.

A law enacted in late 1978 increased from $1,000 to $2,500 the amount of final wages an employer may pay to eligible survivors of a deceased employee without letters of testament.

Equal employment opportunity. Age discrimination is now prohibited under the Civil Rights Act for persons between 40 and 70. An earlier separate age discrimination law, enforceable through civil action by the aggrieved individual, was extended to include these ages, instead of 40 to 65.

Prohibitions on discrimination because of sex will now include pregnancy or illness arising from pregnancy or childbirth. Employers are not required to pay for health insurance benefits for abortions, except where the mother's life is endangered or where complications arise from an abortion.

Other laws. The required period of on-the-job work experience for apprentices was reduced from 4,000 hours to 2,000. A new law gives employees the right, upon written request, to obtain copies of all their medical records that are in the possession of their current or past employer. Violation of the law will be a misdemeanor.

Oklahoma

Private employment agencies. The private employment agency advisory council was terminated on July 1, 1979, the result of previously adopted sunset legislation.

Oregon

Wages. The minimum wage rate in the nonfarm sector was increased from $2.30 to $2.65 an hour on July 1, 1979, with additional increases to $2.90 on January 1, 1980, and $3.10 on January 1, 1981.

The Wage and Hour Commission is no longer authorized to set subminimum wage rates for minors under 18 years of age. Instead, it may set a rate at 75 percent of the regular rate for student-learners who are employed on a part-time basis pursuant to a bona fide vocational training program. The State Board of Education is to adopt certificate procedures for this new student-learner category.

Seasonal educational or organized camps with an annual gross income of less than $275,000 and nonprofit conference centers operated for educational, charitable, or religious purposes were exempted from the minimum wage law.

The labor commissioner now may seek collection of wage claims through administrative proceedings, in addition to taking court action. Wage claims were changed to specifically include damages or civil penalties due employees in connection with claims for unpaid wages.

A worker's weekly disposable wages which exceed 36 times the Federal minimum (previously 40 times) is now subject to garnishment, with the same maximum of 25 percent of disposable earnings remaining in effect.

The Support Enforcement Division of the Justice Department may now use contempt proceedings to enforce garnishments or orders for withholding of wages for support payments, whether or not a request has been made by the designated recipient.

State employees are permitted to authorize the direct deposit of their salary or wages and loan payments to designated banks, savings and loan associations, or credit unions.

Child labor. State law now permits minors 16 and 17 years of age to work as assistants on chartered fishing or pleasure boats, and those age 14 and 15 to work at the dock areas. Minors under age 18 may work on commercial fishing vessels without an employment permit, when employed and supervised by a relative.

Agriculture. Each application for a license to operate as a farm labor contractor now must contain a written sworn declaration appointing the labor commissioner as the contractor's agent to accept a service of summons when the contractor is not available to accept service. The labor commissioner was given new authority to assess civil penalties, and workers were guaranteed a right of action against a contractor who violates the law.

Equal employment opportunity. The provision making it an unlawful employment practice for an employer to discriminate on the basis of physical or mental handicap was expanded to apply to labor organizations and employment agencies. Handicap was redefined as an impairment which substantially limits one or more major life activities.

Refusal of an employer to reinstate a disabled worker to his former position or to available and suitable employment if disabled on the job now will be considered an unlawful employment practice.

Labor relations. The Employment Relations Board may award attorney fees to the prevailing party in a hearing to determine if a public employer engaged in unfair labor practices.

Economic or financial inconvenience to the public or public employer normally incident to a strike by public employees is no longer a basis for the granting of an injunction.

Group health insurance policies now must contain provisions permitting employees to continue their coverage by paying both employer and employee contributions during a strike or lockout.

It was made an unlawful employment practice for an employer to require an employee to pay for a medical examination or health certificate as a condition of continued employment, unless the examination is required by a collective bargaining agreement or by statute or ordinance or payment is made by a health benefit plan financed entirely by the employer.

Private employment agencies. Management consultants or executive recruiters may not make placements in positions paying less than $30,000 per year, instead of the previous $20,000, to qualify for exemption from the employment agency law.

Occupational safety and health. The Department of Energy was made primarily responsible for establishing rules for health protection and for the evacuation of people and communities affected by radiation in the event of an accident or castastrophe involving a nuclear power plant or installation.

Displaced homemakers. The displaced homemaker law extended coverage to persons who are on public assistance because of dependent children in the home (especially in cases where aid will terminate within a year because of the youngest child reaching age 18) and to persons underemployed and experiencing difficulty in getting better jobs. Job placement and job development were added to existing services.

Other laws. Courses of study for apprentices and trainees were expanded to include all trades and crafts. These courses may be implemented without approval of the State Apprenticeship and Training Council and State Apprenticeship Committee, if the industry provides the facilities, and the instructors meet industry skill and training requirements.

The number of reasonably continuous hours of employment required to complete apprenticeship training was reduced from 4,000 hours to 2,000, and provision was made for the reciprocal approval of multistate apprenticeship programs and standards of employers and unions in industries other than building and construction.

Workers who incur damages as a result of being induced to change their place of employment through false advertising or false pretenses now are entitled to recover all damages, or $500, whichever is greater, instead of actual damages alone.

It is now unlawful, under the fair employment practices act, for an employer to require an employee or prospective employee to take a polygraph examination or psychological stress test. The State has a separate law prohibiting the use of lie detector tests as a condition of employment or continued employment.

Pennsylvania

Wages. As provided for in a prior law, the minimum wage rate was increased from $2.65 to $2.90 an hour on January 1, 1979, with future increases to $3.10 on January 1, 1980, and $3.35 on January 1, 1981. The increases are identical to those under the Federal law. As of January 1, 1979, entitlement to overtime pay for hotel, motel, and restaurant employees began after 40 hours a week rather than the previous 44. The maximum tip credit will be reduced from 45 to 40 percent of the minimum rate on January 1, 1980.

Equal employment opportunity. By an amendment adopted in late 1978, it is not an unlawful employment practice for a religious corporation or association, because of its religious beliefs or practices, to refuse to hire or employ on the basis of sex.

Other laws. A Criminal History Information Act was enacted late in 1978 providing for the protection of individual right to privacy and establishing regulations concerning the dissemination of criminal history record information. Individuals or their legal representatives may review, challenge, correct, and appeal the accuracy and completeness of the information. The State may refuse to license and employers may refuse to hire persons who have been convicted of a felony or of a misdemeanor which relates to the trade or occupation for which a license is sought or which relates to the applicant's suitability for employment.

Another law, enacted late in 1978, gave employees the right to inspect their personnel files, upon written request, and to insert counter statements in the event of an alleged error. Employers are to make these records available during regular business hours, but may require the employees to use their free time for inspection.

Rhode Island

Wages. The minimum wage rate was increased from $2.30 an hour to $2.65 on July 1, 1979, with additional increases to $2.90 on July 1, 1980, $3.10 on July 1, 1981, and $3.35 on July 1, 1982. Youth and student rates were also increased.

Employees of organized camps, which do not operate for more than 7 months a year, who are not employed on an annual full-time basis are now exempt from the minimum wage law.

Court-ordered wage garnishment for the payment of delinquent child support was authorized, and firing employees or discriminating against job applicants as a result of such court-ordered payments was prohibited.

Equal employment opportunity. The fair employment practices act was amended to prohibit age discrimination against persons between age 40 and 70. The State has a separate age discrimination law protecting the 45 to 65 age group.

Labor relations. A State police arbitration law was enacted providing for binding arbitration of all contract disputes, including those involving wages, and reaffirming the public policy that full-time members of the State police force have all the rights of organized workers, except the right to strike or engage in a work stoppage or slowdown.

An employer's failure to implement an arbitrator's award will be an unfair labor practice unless a court issues a stay of the award.

Industrial homework. The distribution of goods for processing to any person in any industry where it has been proven that homework is not susceptible to effective regulation, is now prohibited, unless the person receiving the goods has been issued a contractor's permit by the labor department. The processing of goods owned by another is prohibited without such a permit, and no contract shop may operate in a home.

Occupational safety and health. Various changes were made in provisions dealing with electrical, boiler, and fire safety codes, and the health and safety law on explosives was revised.

Other laws. The required period of on-the-job experience for apprentices was reduced from 4,000 to 2,000 hours, and a statement was included providing for conformance of the apprenticeship program with State law, including equal employment opportunity standards and regulations.

To aid and promote the development of the domestic steel industry, all public work contracts must include a provision that domestic steel will be used unless its cost exceeds by 15 percent any other steel products obtainable.

South Carolina

Agriculture. The migrant farmworkers commission is to develop an accurate statewide census of migrant and seasonal farmworkers and to determine the cost of supportive programs associated with such workers. The migrant labor division of the labor department was designated the administration agency of the commission.

Equal employment opportunity. The human affairs law, formerly applicable to public employees only, was extended to private sector employers of 15 or more workers, labor organizations, employment agencies, and joint apprenticeship committees and was revised to become a comprehensive antidiscrimination law prohibiting employment discrimination on the basis of race, religion, color, sex, age (between 40 and 70), or national origin. Violation will be an unlawful employment practice. The commission on human affairs was given enforcement authority, including authority to order hiring, reinstatement, and backpay.

The mandatory retirement age for teachers was increased from 65 to 70, with an extension to 72 possible upon approval of annual requests.

Occupational safety and health. The labor commissioner was empowered to seek administrative search warrants from the circuit court when authorized inspectors make proper requests to inspect certain premises or property for occupational safety or health purposes and are denied access.

South Dakota

Child labor. The alcoholic beverage control law was amended to prohibit persons under 21 years of age from selling, serving, or dispensing alcoholic beverages in "off-sale" liquor establishments.

Equal employment opportunity. The mandatory retirement age was raised from 65 to 70 years for public employees, except law enforcement officers and firemen for whom the retirement age remains at 55.

A legislative study will be made of handicapped persons' access to employment, programs, and services. A plan outlining changes which can be made by State and local governments will be presented to the next legislature.

Private employment agencies. A requirement that all registrations for employment or help be shown on the monthly report submitted to the labor department was removed from the law.

Occupational safety and health. The Secretary of the Department of Transportation was authorized to adopt rules and regulations providing for the safe transportation of radioactive materials on the State's roads and highways and to provide appropriate emergency procedures in the event of any accident.

Displaced homemakers. The secretary of the labor department was authorized to establish a pilot multipurpose service center to provide job counseling and placement, health, financial, educational, and legal services to displaced homemakers. Whenever possible, staff positions will be filled by displaced homemakers.

Tennessee

Wages. Deductions will be required from the pay of "employed releasees" from prison toward the cost of their supervision and rehabilitation, and for contributions to the criminal injuries compensation fund.

Equal employment opportunity. The mandatory retirement age of 70 was eliminated from the retirement system for State employees, except for police officers, firefighters, wildlife officers, and State university employees.

A procedure was established permitting persons alleging discrimination in employment on the basis of a handicap to file complaints with the State human development commission.

Employment discrimination against a blind person because of the use of a guide dog is now prohibited.

A joint resolution was adopted urging county legislative bodies to establish human development commissions and to adopt ordinances prohibiting discrimination on the basis of race, creed, color, religion, sex, or national origin.

Labor relations. Labor negotiating sessions between employee unions and public employers must be open to the public.

Occupational safety and health. A mine rescue corps was created under the direction and control of the labor department, replacing the previous system of owner or union-selected rescue units subsidized by the State.

Other laws. Procedures were established for the issuance of administrative warrants authorizing labor department employees to make inspections and seize evidence.

Violation of the law requiring the deposit of pension and retirement funds in a separate trust account was made a felony punishable by imprisonment of 1 to 3 years, a fine of up to $10,000, or both.

A joint resolution requested the establishment of a special legislative committee to study the problem of teenage unemployment, focusing on minors 16 to 20 years of age.

All employable persons receiving assistance under the Aid to Families with Dependent Children program now must accept jobs or training through the public employment service, or lose the public assistance.

Texas

Child labor. Students or apprentices enrolled in public school vocational education programs were exempted from the child labor law.

Private employment agencies. The private employment agency law administered by the labor department was repealed and a new law enacted which limits the labor department's authority to the issuance of operating licenses. Parties aggrieved by the activites of agencies must now institute court action to obtain relief.

School districts were prohibited from listing job vacancies with private employment agencies, paying them a fee, and employing applicants referred by such agencies.

The labor agency law which applies primarily to the recruitment of agricultural workers was amended to authorize the labor commissioner to suspend as well as revoke the licenses of labor agents. Each worker recruited must now be furnished with information on the terms and conditions of employment.

Other laws. The home addresses and telephone numbers of peace officers were listed among the items specifically excluded from records available to the public under the State open records act.

Utah

Wages. An increase in the minimum wage to $2.45 an hour, authorized by a 1978 administrative action, took effect on January 1, 1979 for the retail trade, public housekeeping, restaurant, and laundry, cleaning, dyeing and pressing industries in

Salt Lake, Weber, Utah and Davis counties and in all cities with a population of 5,000 or more. Further increases to $2.60 and $2.75 are scheduled for January 1, 1980, and January 1, 1981. The minimum for other areas was raised to $2.20 an hour with further increases scheduled on the above dates to $2.35 and $2.50

Equal employment opportunity. The antidiscrimination act was amended to include coverage for physically and mentally handicapped persons, and to remove the 65-year upper age limit on age discrimination protection. State officers and employees will now be governed by the antidiscrimination or unfair employment practices provisions of the act. The Antidiscrimination Division of the Industrial Commission will investigate any alleged violation and report its findings to the newly created Personnel Review Board.

The legislature approved an amendment to the State constitution, to be voted on at the next general election, which would remove the prohibition against women working underground in mines and would permit work release and similar programs for prisoners.

A joint resolution opposed granting an extension of the time limit for ratification of the proposed Federal Equal Rights Amendment or any other amendment to the U.S. Constitution.

Occupational safety and health. A Hazardous Wastes Committee was established in the Division of Health to issue regulations for managing and controlling the transportation, storage, treatment and disposition of hazardous waste, and to carry out inspections, hold hearings, and secure compliance.

Vermont

Wages. By prior law, the minimum wage rate was raised to $2.90 an hour on January 1, 1979, with future increases to $3.10 on January 1, 1980, and $3.35 on January 1, 1981.

The Federal wage garnishment exemptions of 75 percent of disposable weekly earnings or 30 times the Federal minimum wage, whichever is greater, were adopted. Discharge of employees as a result of wage garnishment was prohibited.

Equal employment opportunity. The responsibilities and functions of the Governor's Committee on Employment of the handicapped were transferred to the nonprofit organization, Handicapped Opportunities and Programs in Employment, to create Statewide interest and cooperation in promoting rehabilitation and employment of the handicapped.

Virginia

Wages. Students enrolled in work-study or equivalent programs administered by any secondary school, college, or trade school now may be paid monthly, rather than biweekly as usually required.

Child labor. Restrictions concerning night work, maximum hours, and employment certificates were eliminated for 16- and 17-year-old minors. Other changes gave the labor commissioner specific authority to declare occupations hazardous, and remove the exemption for any minor employed in the gathering or processing of seafood. Minors age 14 to 16 now may work in parking lots, as swimming pool lifeguards, as gatekeepers, or in concessions at any public hotel or motel pool. Minors under age 16 employed by their parents in nonhazardous occupations were exempted from the child labor law, and badges are no longer required for street trade employment.

The alcoholic beverage control law was amended to permit establishments which serve alcoholic beverages to employ persons under 18 years of age to bus tables and seat customers in areas where meals are purchased.

Equal employment opportunity. A 16-member equal employment opportunity committee was created to monitor the State's practices in providing equal opportunity to all public employees and job applicants.

The commission for the visually handicapped was directed to cooperate with the Federal Government in administering laws which provide vocational education and other services necessary for the rehabilitation of blind or visually handicapped persons.

Labor relations. If a utility, its employees, or the union fail to give the required 30 days' notice of a proposed termination or modification of a collective bargaining contract or work stoppage, the other party may file for an injunction against such action. The court may impose a fine of up to $100 against each person and up to $1,000 against a union for each day the action continues.

Private employment agencies. Payment of per diem and expenses to members of the employment agency advisory board was authorized.

Occupational safety and health. Several changes were made in the occupational safety and health law, including prohibiting retaliation against employees who have filed complaints, testified or otherwise exercised their rights under the act; revising the provisions on issuing and appealing citations and the imposition of penalties; and permitting the labor commissioner to delegate authority concerning occupational health to the State health commissioner.

The labor commissioner was given authority to make occupational safety and health inspections of any workplace with the consent of the owner or under an inspection warrant. Also, the law providing for court-ordered inspection warrants relating to toxic substances was amended to specifically provide for entry to the premises and for testing or collection of samples for testing during the inspection.

Several revisions were made in sections of the health law pertaining to migrant labor camps. Specific sanitary and safety requirements were deleted and are now left to regulations adopted by the board of health and the safety and health codes commission. These requirements may be no more stringent than those actually enforced by the U.S. Department of Labor pursuant to Federal law.

By January 1, 1980, the office of emergency services was to monitor the transportation within the State of those hazardous radioactive materials that could pose a significant potential danger in the event of accidental spillage or release.

Other laws. Prior to starting work on construction contracts of more than $500,000 let by the State or any water, sewer, or sanitation authority, bidders must submit written assurances that they operate an apprenticeship program registered with the State apprenticeship council or are exploring the feasibility of establishing and registering such a program.

Permits issued by the U.S. Department of Labor will no longer constitute proof of eligibility for employment of aliens in the State. U.S. Department of Justice permits will continue to be acceptable and employment of an alien worker who cannot provide this document is illegal.

Washington

Agriculture. A migrant labor housing project in Yakima County, scheduled to end December 1, 1978, was continued until June 30, 1981.

Equal employment opportunity. The mandatory retirement age was raised from 65 to 70 for all public employees, except police officers and firefighters, and compulsory retirement at age 70 may be waived by an individual's employer.

Private employment agencies. The State's sunset law was amended to remove the employment agency advisory board from the list of agencies scheduled for termination on June 30, 1979.

Displaced homemakers. A 2-year pilot project was established under which the council for postsecondary education is to contract for multipurpose service centers and programs to provide training opportunities, counseling, job placement, and other services for displaced homemakers. Staff positions at the centers are to be filled by displaced homemakers, where possible.

Other laws. Hours of training required under apprenticeship agreements were reduced from 4,000 to 2,000 hours of reasonably continuous employment.

A sunset law abolished several regulatory agencies and boards on various future dates, including the labor department's contractor registration program scheduled for termination on June 30, 1983.

Employers may not require assignment of an employee's rights to an invention for which no equipment, supplies, facilities, or trade secrets of the employer were used and which was developed entirely on the employee's own time, unless the invention relates directly to the employer's business, actual or anticipated research, or results from work performed by the employee for the employer.

Wisconsin

Wages. By administrative action, taken in 1978, the nonfarm minimum hourly wage rate was increased from $2.55 to $2.80 on January 1, 1979, with further increases on January 1 to $3 in 1980, and $3.25 in 1981. The farm rates were increased from $2.35 to $2.60 an hour on January 1, 1979, with further increases to $2.80 and $3.05 scheduled for 1980 and 1981.

Wyoming

Wages. An increase from $5,000 to $25,000 was made in the dollar threshold of the prevailing wage law.

Hours. Nonemergency overtime beyond 8 hours and up to 16 hours a day now is permitted in underground mines by mutual agreement of the employee and employer. Employers may not take punitive action against employees who decline to agree.

Child labor. Minors under age 16 may now be employed as dishwashers, "busboys" or delivery persons in places where alcoholic liquors and malt beverages are sold.

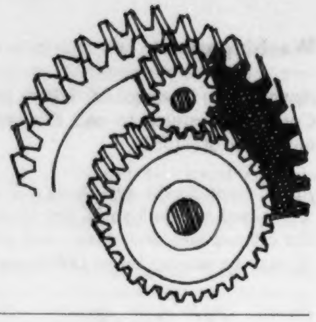
Equal employment opportunity. A discriminatory or unfair employment practice complaint now must be filed with the fair employment practice commission within 90 days of the alleged violation, and the commission was directed to issue cease-and-desist orders within 6 months of the hearing. Time limits previously were not included in the law.

Other laws. A sunset law terminated several regulatory agencies and boards, including the occupational safety and health commission, on July 1, 1981, unless continued or reestablished by the legislature.

———*FOOTNOTE*———

[1] Kentucky was the only State where the legislature did not meet in 1979. Session was held in West Virginia, but no significant labor legislation was enacted. Puerto Rico and the Virgin Islands were not included in the study.

Productivity Reports



Productivity increased in 1978 in most industries measured

ARTHUR S. HERMAN

Productivity in 1978, as measured by output per employee-hour, increased in about two thirds of the industries for which the Bureau of Labor Statistics regularly publishes data. However, productivity growth was lower and declines were greater for more than half of the industries, during 1978, as compared with 1977. This slowdown is consistent with the state of the nonfarm business sector of the economy, where productivity grew 0.5 percent in 1978 as compared with 1.6 percent in 1977. Table 1 shows productivity trends in industries measured by the Bureau and includes new measures for the fluid milk, folding paperboard boxes, and soaps and detergents industries.[1] It also includes, for the first time, a number of series that are components of previously published measures, and were developed by disaggregating the existing measures: canned fruits and vegetables; raw and refined cane sugar; beet sugar; brick and structural clay tile; ceramic wall and floor tile; household cooking equipment; household refrigerators and freezers; household laundry equipment; household appliances, not elsewhere classified; and primary copper.

Productivity changes in 1978, by industry

Manufacturing. The steel industry, one of the more important industries surveyed, recorded an above-average gain in productivity of 4.4 percent. Demand was up in a number of steel markets, including the construction, and machinery and equipment industries, resulting in a gain in output of 7.4 percent, while employee hours grew by 2.9 percent. The motor vehicles industry, on the other hand, posted a productivity decline of 1.6 percent as compared with a gain of 6.4 percent in 1977. Output in this industry was below the average gain of 2.7 percent, while employee hours grew 4.4 percent. Productivity was affected by a substantial shift to smaller cars resulting in production cutbacks and slower assembly line speeds in large-car plants, as well as by additional hiring and capacity strains in small-car plants.

Among other manufacturing industries, the largest gain was posted in the household cooking equipment industry, up 9.3 percent. Output grew 14.4 percent, buoyed by rapid sales gains for microwave ovens. Large gains were also posted for malt beverages, up 8.4 percent; household appliances, not elsewhere classified, up 7.0 percent; cigarettes, up 5.5 percent; and soft drinks, up 5.1 percent. Conversely, sharp declines were recorded by a number of industries, including primary copper, lead, and zinc (6.6 percent); household laundry equipment (5.4 percent); primary smelting and refining of copper (5.1 percent); sugar (4.2 percent); folding paperboard boxes (3.5 percent); and primary aluminum (3.1 percent).

Mining. Most of the mining industries experienced productivity increases. Coal mining recorded a large gain of 8.7 percent in 1978, in contrast to the declines recorded in almost every year over the past decade. This gain reflected a decline in output of 5.1 percent, and a sharp drop in production worker hours of 12.6 percent; the industry was affected by a major strike in 1978. Copper mining (recoverable metal) also posted a large increase, 8.3 percent. Output was down 0.5 percent in this industry while production worker hours declined further, 8.1 percent. In iron mining (usable ore) productivity grew by 4.7 percent as the industry recovered from a strike in 1977. Output in the iron ore industry showed a very large gain of 45.5 percent, with production worker hours up 38.8 percent. Nonmetallic minerals, however, had a slight decline in productivity of 0.3 percent.

Transportation. Productivity was up in most transportation industries, as their output grew because of general-

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ly favorable conditions in the overall economy. In the railroad industry, productivity was up by a record breaking 12.2 percent, as output grew 3.3 percent and employee hours fell 7.9 percent. Productivity in air transportation showed a high gain of 9.3 percent, based on an above average gain in output of 13.9 percent, and a gain in employment of 4.2 percent. Conversely, intercity trucking, posted a small productivity decline of 0.2 percent, with general freight showing a much greater decline of 1.4 percent.

Other industries. Telephone communications posted a productivity gain of 6.6 percent, hotels and motels was up 4.3 percent, gasoline service stations grew 4.0 percent, and laundry and cleaning services was up 1.0 percent. Declines were posted by eating and drinking places (4.2 percent), retail food stores (3.9 percent), new car dealers (2.0 percent), and gas and electric utilities (1.6 percent).

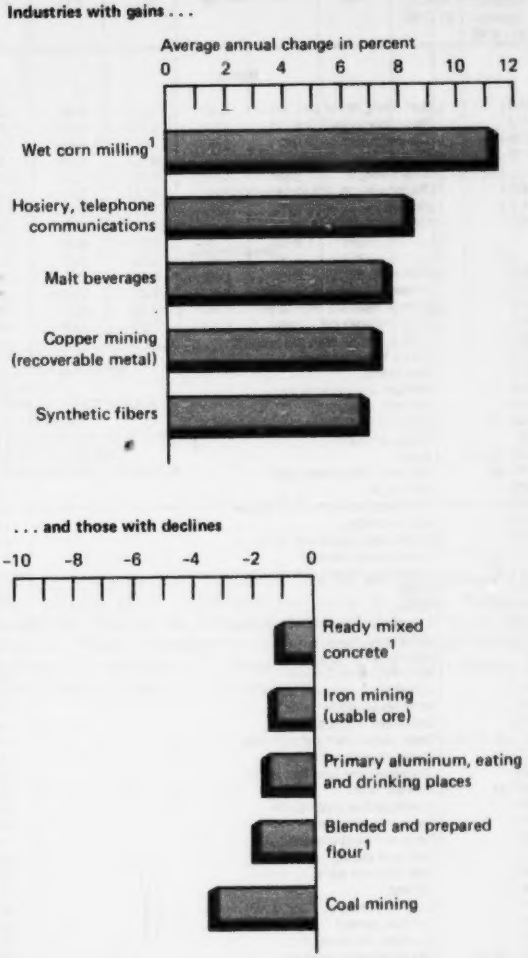
Trends 1973–78

All of the industries registered gains over the long term (generally 1947 or 1958 to 1978). During the most recent 5 year period, 1973–78, more than half of the industries recorded gains that were equal to or greater than the 1.3-percent rate of the nonfarm business sector of the economy. Chart 1 shows industries with significant productivity changes over the 1973–78 period.

Gains. In recent years the wet corn milling industry posted the highest productivity gain, 11.2 percent during 1973–77. (1978 data were not available.) Productivity in this industry was aided by a sharp rise in output, as markets for high fructose syrup, one of the industry's key products, expanded greatly. In addition, a number of new plants, utilizing the latest computerized controls, came into operation during this period. Other industries with high rates over the 1973–1978 period, included hosiery and telephone communications, which both grew at an 8.1 percent annual rate. Recent advances in hosiery knitting machine speeds, automated dyeing techniques, and new packaging equipment have contributed to the advance in output per employee-hour. In telephone communications the utilization of electronic switching for long-distance service has contributed to growth in productivity.

Another industry posting a high rate of productivity gain was malt beverages, which grew at a rate of 7.5 percent. Productivity benefited from the introduction of large automated breweries, and a decline in small, inefficient establishments. Other industries with high rates of gain included copper mining (recoverable metal), 7.0 percent; synthetic fibers, 6.4 percent; bottled and canned soft drinks, 6.2 percent; and prepared feeds for animals and fowl, 6.2 percent.

Chart 1. Selected industries with substantial gains and declines in productivity, 1973-78



[1] Rate of change is for 1973-77

Declines. Among the industries that experienced declining productivity rates over the 1973–78 period, the coal mining industry fell the most, down 3.5 percent per year on the average. Others included blended and prepared flour (1.9 percent); primary aluminum, and eating and drinking places (1.5 percent); iron mining usable ore (1.3 percent); ready mixed concrete (0.9 percent); steel, and motors and generators (0.7 percent); steel foundries, wood household furniture, and soaps and detergents (0.6 percent); retail food stores (0.2 percent); and folding paperboard boxes (0.1 percent).

Table 1. Indexes of output per employee hour[1] in selected industries, 1972–78, and percent changes 1977–78, 1973–78

[1967 = 100]

SIC Code[2]	Industry	1972	1973	1974	1975	1976	1977	1978[3]	Percent change 1977–78	Annual average percent change 1973–78
	Mining[4]									
1011	Iron mining, crude ore	124.4	130.6	124.0	129.7	130.6	126.0	134.4	6.6	0.6
1011	Iron mining, usable ore	118.8	123.6	114.2	118.6	116.8	110.5	115.7	4.7	−1.3
1021	Copper mining, crude ore	118.1	118.6	114.7	122.2	140.5	145.4	160.5	10.4	7.0
1021	Copper mining, recoverable metal	102.5	97.8	86.9	91.3	110.6	117.1	126.7	8.3	7.0
111, 121	Coal mining	84.2	85.8	84.1	72.7	71.4	69.5	75.5	8.7	−3.5
121	Bituminous coal and lignite mining	83.9	85.9	83.9	72.1	70.8	69.0	74.7	8.2	−3.6
14	Nonmetallic minerals	121.7	128.5	123.3	120.7	126.4	130.7	130.4	−.3	.8
142	Crushed and broken stone	128.2	141.6	136.6	139.6	140.2	148.5	151.6	2.0	1.6
	Manufacturing									
2026	Fluid milk	135.4	140.1	143.6	150.3	156.1	156.2	163.3	4.5	3.1
203	Preserved fruits and vegetables	114.8	125.6	123.0	124.9	132.7	130.4	(5)	(5)	[6]1.5
2033	Canned fruits and vegetables	117.3	130.3	128.1	126.0	138.9	136.1	(5)	(5)	[6]1.7
204	Grain mill products	116.9	116.1	124.4	125.5	131.0	143.7	(5)	(5)	[6]4.9
2041	Flour and other grain mill products	114.3	113.7	119.2	120.8	119.7	136.4	135.3	−.8	3.7
2043	Cereal breakfast foods	112.8	111.0	105.3	107.7	112.8	111.4	(5)	(5)	[6].8
2044	Rice milling	115.3	100.3	115.2	111.7	109.7	123.8	(5)	(5)	[6]3.8
2045	Blended and prepared flour	103.6	103.5	116.4	104.6	108.0	97.7	(5)	(5)	[6]−1.9
2046	Wet corn milling	138.9	123.3	150.6	152.7	168.7	198.4	(5)	(5)	[6]11.2
2047, 48	Prepared feeds for animals and fowls	115.9	118.5	127.1	129.5	136.9	154.3	(5)	(5)	[6]6.2
205	Bakery products	113.7	113.1	112.9	112.7	112.8	120.4	125.5	4.2	2.1
2061, 62, 63	Sugar	117.4	114.0	110.0	108.1	111.4	116.9	112.0	−4.2	.4
2061, 62	Raw and refined cane sugar	107.3	105.6	103.7	97.8	102.0	111.1	(5)	(5)	[6].9
2063	Beet sugar	134.5	127.2	119.7	124.3	128.6	126.2	(5)	(5)	[6].5
2065	Candy and confectionery products	128.7	137.3	149.0	136.0	126.9	144.7	143.8	−.6	.2
2082	Malt beverages	139.3	153.2	157.2	175.3	192.9	199.6	216.3	8.4	7.5
2086	Bottled and canned soft drinks	113.2	117.3	119.9	129.6	139.7	147.7	155.3	5.1	6.2
2111, 21, 31	Tobacco products-total	110.0	108.1	111.9	114.2	119.3	122.4	126.7	3.5	3.2
2111, 31	Cigarettes, chewing and smoking tobacco	106.1	104.9	106.5	110.3	114.1	117.5	123.9	5.5	3.4
2121	Cigars	120.1	116.8	128.6	126.5	137.1	139.8	140.2	.3	3.6
2251, 52	Hosiery	139.2	147.7	168.5	191.6	219.5	208.9	217.9	4.3	8.1
2421	Sawmills and planing mills, general	120.6	112.9	108.2	112.7	118.2	116.4	117.7	1.1	1.4
2435, 36	Veneer and plywood	129.3	126.7	127.4	142.2	142.4	144.2	142.0	−1.5	2.7
251	Household furniture	119.5	123.3	121.2	123.6	126.4	127.0	128.6	1.2	1.1
2511, 17	Wood household furniture	121.8	127.9	122.8	120.5	124.4	123.5	(5)	(5)	[6]−.6
2512	Upholstered household furniture	111.8	113.7	114.2	120.8	122.2	124.5	(5)	(5)	[6]2.5
2514	Metal household furniture	119.9	119.9	114.3	119.0	121.7	125.4	(5)	(5)	[6]1.5
2515	Mattresses and bedsprings	130.2	138.3	147.8	152.7	157.0	161.8	(5)	(5)	[6]3.8
2611, 21, 31, 61	Paper, paperboard and pulp mills	130.0	135.4	135.2	128.0	140.2	144.0	148.4	3.1	2.1
2651	Folding paperboard boxes	113.1	114.1	120.4	119.9	124.4	118.0	113.8	−3.5	−.1
2653	Corrugated and solid fiber boxes	121.6	130.2	137.7	142.2	148.0	144.2	150.2	4.2	2.6
2823, 24	Synthetic fibers	162.2	176.8	173.1	187.2	198.4	224.4	230.7	2.8	6.4
2834	Pharmaceutical preparations	134.9	132.1	141.3	145.4	155.4	151.3	156.1	3.2	3.2
2841	Soaps and detergents	120.0	127.5	132.7	123.3	127.0	126.2	(5)	(5)	[6]−.6
2851	Paints and allied products	119.5	112.1	123.7	129.1	133.2	137.0	137.2	.1	3.9
2911	Petroleum refining	120.5	132.4	121.4	123.7	128.3	136.2	132.8	−2.5	1.1
3011	Tires and inner tubes	118.2	116.7	116.3	115.7	127.6	129.6	130.5	.6	2.8
314	Footwear	103.1	102.0	100.3	104.8	105.5	104.5	103.6	−.9	.6
3221	Glass containers	107.7	112.9	121.6	120.9	121.2	124.0	128.2	3.4	2.0
3241	Hydraulic cement	123.7	129.7	119.0	110.6	120.7	131.6	130.6	−.7	1.2
325	Structural clay products	127.3	131.7	134.6	132.0	138.3	146.4	151.3	3.3	2.9
3251, 53, 59	Clay construction products	130.4	133.0	130.7	132.2	140.2	148.6	153.5	3.3	3.4
3251	Brick and structural clay tile	130.2	128.6	132.3	133.7	147.2	143.5	149.2	4.0	3.1
3253	Ceramic wall and floor tile	127.4	133.5	128.1	131.8	131.6	152.4	(5)	(5)	[6]3.0
3255	Clay refractories	116.4	125.6	143.9	127.6	130.3	137.1	142.0	3.6	1.4
3271, 72	Concrete products	113.7	115.9	116.4	113.3	116.3	120.9	(5)	(5)	[6].8
3273	Ready-mixed concrete	104.8	109.0	105.7	102.7	104.0	105.1	(5)	(5)	[6]−.9
331	Steel	112.7	123.5	123.5	107.6	114.5	115.6	120.7	4.4	−.7
3321	Gray iron foundries	118.9	124.2	128.0	126.7	125.6	129.8	130.4	.5	.8
3324, 25	Steel foundries	106.0	107.6	118.5	113.6	111.5	106.3	110.5	4.0	−.6
3331, 32, 33	Primary copper, lead and zinc	135.2	140.6	127.6	126.4	142.7	148.6	138.8	−6.6	1.5
3331,	Primary copper	124.5	129.6	116.1	118.7	136.3	143.7	136.4	−5.1	3.0
3334	Primary aluminum	112.2	111.1	122.8	105.8	110.8	109.5	106.1	−3.1	−1.5
3351	Copper rolling and drawing	112.2	117.7	106.3	94.7	105.4	120.7	118.8	−1.6	1.5
3353, 54, 55	Aluminum rolling and drawing	140.5	154.7	157.9	142.5	166.0	163.7	166.2	1.6	1.8
3411	Metal cans	108.0	109.2	113.3	116.0	124.8	131.0	135.1	3.2	4.6
3621	Motors and generators	109.9	115.4	114.8	106.7	109.9	114.0	(5)	(5)	[6]−.7
3631, 32, 33, 39	Major household appliances	133.0	135.1	134.9	140.7	145.2	150.4	154.6	2.8	3.0
3631	Household cooking equipment	128.9	134.9	138.4	152.8	156.1	153.3	167.4	9.3	4.1
3632	Household refrigerators and freezers	141.7	141.3	143.1	139.9	139.6	148.6	149.9	.8	1.2
3633	Household laundry equipment	123.9	131.5	126.0	138.5	145.9	146.1	138.2	−5.4	2.2
3639	Household appliances N.E.C.	134.2	126.7	125.9	132.9	140.3	154.9	165.7	7.0	5.9
3641	Electric lamps	106.2	104.0	104.5	113.3	119.7	116.3	119.6	2.8	3.1
3645, 46, 47, 48	Lighting fixtures	122.4	126.0	121.2	119.1	128.3	128.9	(5)	(5)	[6]1.0
3651	Radio and television receiving sets	132.2	128.7	124.4	125.7	137.3	136.3	(5)	(5)	[6]2.1
371	Motor vehicles and equipment	122.1	123.9	118.8	127.1	136.0	144.7	142.3	−1.6	3.9

Table 1. Indexes of output per employee hour[1] in selected industries, 1972–78, and percent changes, 1977–78, 1973–78—Continued

[1967 = 100]

SIC Code[2]	Industry	1972	1973	1974	1975	1976	1977	1978[3]	Percent change 1977–78	Annual average percent change 1973–78
	Other									
401 Class I	Railroads, revenue traffic	121.7	133.2	129.6	123.9	131.9	138.4	155.3	12.2	3.0
401 Class I	Railroads, car-miles	115.5	119.2	116.2	115.5	117.5	117.5	125.8	7.1	.9
4213 PT	Intercity trucking[7]	120.9	123.4	119.3	114.1	128.2	127.9	127.6	−.2	1.4
4213 PT	Intercity trucking (general freight)[7]	114.7	122.1	124.3	117.6	127.9	133.2	131.3	−1.4	1.9
4511	Air transportation[7]	128.7	131.3	132.0	134.6	145.7	153.6	167.9	9.3	5.1
4612, 13	Petroleum pipelines	142.9	150.4	146.6	147.4	148.6	154.0	(5)	(5)	[6].8
4811	Telephone communications	123.1	128.8	137.3	149.6	165.8	175.9	187.5	6.6	8.1
491, 92, 93	Gas and electric utilities	128.1	129.9	127.5	131.9	135.8	137.8	135.6	−1.6	1.4
54	Retail food stores[8]	112.5	107.3	104.3	105.0	107.7	107.8	103.5	−3.9	−.2
5511	Franchised car dealers	117.2	119.2	119.2	120.5	129.9	131.2	128.6	−2.0	2.3
5541	Gasoline service stations[8]	128.1	136.6	140.5	138.4	153.2	164.0	170.6	4.0	4.9
58	Eating and drinking places[8]	100.0	106.7	101.7	102.9	102.2	101.1	96.8	−4.2	−1.5
7011	Hotels and motels[8]	106.7	106.7	103.2	101.9	106.9	106.1	110.9	4.5	.8
721	Laundry and cleaning services[8]	104.0	104.0	103.9	103.0	104.5	108.0	109.0	1.0	1.1

[1] Although the output per employee-hour measures relate output to the hours of all employees engaged in each industry, they do not measure the specific contributions of labor, capital, or any other single factor of production. Rather, they reflect the joint effects of many influences, including new technology, capital investment, the level of output, capacity utilization, energy use, and managerial skills, as well as the skills and efforts of the work force. Some of these measures use a labor input series that is based on hours paid, and some use a labor input series that is based on plant hours.

[2] As defined in the 1972 Standard Industrial Classification Manual, published by the Office of Management and Budget.

[3] Preliminary.

[4] Mining data refer to output per production worker hour.

[5] Not available.

[6] Average annual rate of change is for 1973–77.

[7] Output per employee.

[8] Output per hour of all persons.

A full report, "Productivity Indexes for Selected Industries," 1979 Edition, Bulletin 2054, is being prepared and will be available from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

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[1] For a detailed report on these industries see the *Monthly Labor Review* articles: Elmer S. Persigehl and James D. York, "Substantial productivity gains in the fluid milk industry," July 1979, pp 22–27; Patricia S. Wilder, "Productivity in the soaps and detergent industry" (forthcoming); and James D. York, "Productivity in the folding paperboard boxes industry" (forthcoming).

Family Budgets

Family budget increases in 1978 were the largest in 4 years

The Bureau of Labor Statistics' hypothetical budgets for a family of four and a retired couple increased at faster rates between the autumns of 1977 and 1978 than in the previous 3 years. The increases, reflecting only price and personal income tax changes, ranged from 8.8 percent to 10.2 percent for the four-person family, and 7.7 percent to 8.5 percent for the retired couple.

Budget costs for an urban family of four averaged $11,546 a year at the lower level, $18,622 at the intermediate level, and $27,420 at the higher level. The costs for a retired couple, excluding taxes and deductions, averaged $5,514 at the lower level, $7,846 at the intermediate level, and $11,596 at the higher level.[1] For the four-person family, food costs and personal taxes increased by the greatest amount, while for the retired couple, food and medical care expenditures reflected the largest increases. (See table 1.)

Measuring hypothetical spending patterns

Significant changes were made in the method of updating family budgets for some local areas as a result of the Consumer Price Index Revision Program, which was completed in January 1978.

The family budgets represent the costs of three hypothetical lists of goods and services that were specified in the mid-1960's to portray three relative standards of living—lower, intermediate, and higher—for each of two precisely specified types of family. The four-person family consists of a 38-year-old husband employed full time, his nonworking wife, a boy of 13, and a girl of 8. The retired couple consists of a husband, age 65 or over, and his wife.

For each budget level, the families have average inventories of clothing, housefurnishings, major durables,

Table 1. Annual budgets for urban families of four and for retired couples, at three levels of living, autumn 1978, and percent changes, autumn 1977 to autumn 1978

Component	Lower				Intermediate				Higher			
	Four-person		Retired couple		Four-person		Retired couple		Four-person		Retired couple	
	Amount	Percent change, autumn 1977–78	Amount	Percent change, autumn 1977–78	Amount	Percent change, autumn 1977–78	Amount	Percent change, autumn 1977–78	Amount	Percent change, autumn 1977–78	Amount	Percent change, autumn 1977–78
Total budget	$11,546	10.2	$5,514	8.5	$18,622	8.8	$7,846	8.2	$27,420	8.8	$11,596	7.7
Total family consumption	9,391	8.5	5,277	8.5	14,001	7.4	7,374	8.2	19,225	7.1	10,721	7.6
Food	3,574	13.6	1,755	12.5	4,609	12.5	2,368	13.9	5,806	12.5	2,884	12.6
Housing	2,233	7.2	1,931	4.9	4,182	4.1	2,641	4.9	6,345	5.2	4,136	5.2
Transportation	856	9.5	390	9.8	1,572	9.9	751	9.8	2,033	9.8	1,386	9.6
Clothing	847	2.3	230	2.8	1,209	2.3	369	2.6	1,768	2.3	556	3.3
Personal care	301	6.7	156	6.8	403	6.9	229	7.0	573	6.5	330	7.0
Medical care[2]	1,065	8.7	286	12.2	1,070	8.6	286	12.1	1,118	8.7	724	12.0
Other family consumption[3]	515	5.5	330	5.3	956	6.2	500	5.5	1,578	6.5	762	6.1
Other items[4]	500	8.4	237	8.2	810	8.2	472	8.5	1,365	6.0	875	7.1
Taxes and deductions[5]	1,654	22.3	.....	....	3,811	15.4	.....	....	6,830	14.5	.....	....
Social security and disability	719	13.8	.....	....	1,073	11.7	.....	....	1,091	10.8	.....	....
Personal income taxes	935	29.9	.....	....	2,738	16.9	.....	....	5,739	16.2	.....	....

[1] On the assumption that the home was purchased 6 years ago, these costs reflect changes in principal payments and mortgage interest rates from 1971 to 1972, and changes in property taxes, insurance, fuel and utilities, and repairs and maintenance from 1977 to 1978.

[2] For retired couple, "medical care" includes a preliminary estimate for "out-of-pocket" costs for medicare.

[3] For both families, "other family consumption" includes average costs for reading, recreation, tobacco products, alcoholic beverages, and miscellaneous expenditures. Costs for education are also included for 4-person families.

[4] For 4-person families, "other items" includes allowances for gifts and contributions, life insurance and occupational expenses. For retired couples the categories includes allowance for gifts and contributions and, in the higher budget, life insurance.

[5] Beginning with the autumn 1973 updating of the budget for a retired couple, the total budget is defined as the sum of "total family consumption" and "other items." Therefore, income taxes are not included in the total budgets for retired couples.

NOTE: Because of rounding, sums of individual items may not equal totals.

and other articles. The budgets pertain only to urban families with these specified characteristics. No budgets are available for rural families. The budgets are not intended to represent a minimum level of adequate income or a subsistence level of living, nor do they indicate how families do or should spend their money.

Consumption costs. For the four-person family, consumption costs rose 8.5 percent in the lower budget, 7.4 percent in the intermediate budget, and 7.1 percent in the

Table 2. Indexes of comparative costs based on an intermediate budget for a 4-person family,[2] autumn 1978

[U.S. urban average cost = 100]

Area	Total budget	Cost of family consumption												Personal income taxes
		Total consumption	Food		Housing			Transportation [3]		Clothing	Personal care	Medical care [7]	Other family consumption [8]	
			Total	Food at home	Total [4]	Renter [5]	Homeowner [6]	Total	Automobile owners					
Urban United States	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Metropolitan areas [9]	102	102	101	101	102	104	103	100	102	100	102	103	104	104
[1]Nonmetropolitan areas [10]	91	92	94	98	90	83	84	98	93	98	92	87	98	93
Northeast:														
Boston, Mass	119	116	106	108	138	114	156	117	134	104	97	92	111	144
Buffalo, N.Y	98	103	101	102	104	103	106	108	102	120	93	83	104	116
[1]Hartford, Conn	104	108	107	106	110	110	114	110	105	104	129	93	113	87
[1]Lancaster, Pa	97	96	103	103	94	100	92	99	94	103	87	73	98	98
New York-Northeastern, N.J	116	112	112	110	127	114	140	93	104	94	103	105	110	145
Philadelphia, Pa-N.J	104	102	111	110	90	99	103	96	109	84	98	102	101	120
Pittsburgh, Pa	97	98	103	103	90	86	88	100	98	89	97	86	102	98
[1]Portland, Maine	103	105	105	107	107	109	109	105	99	121	86	95	102	92
[1]Nonmetropolitan areas [10]	100	100	100	103	107	98	115	103	98	100	84	90	84	101
North Central:														
[1]Cedar Rapids, Iowa	98	97	91	90	96	107	93	102	97	115	104	91	102	103
[1]Champaign-Urbana, Ill	102	104	98	99	106	129	103	102	97	124	108	97	101	98
Chicago, Ill.-Northwestern Ind	101	102	102	103	103	108	105	103	117	94	105	107	106	95
Cincinnati, Ohio-Ky.-Ind	99	99	102	103	95	83	98	100	95	112	89	93	101	94
Cleveland, Ohio	102	103	101	99	104	88	111	100	99	108	122	102	107	95
[1]Dayton, Ohio	94	95	97	99	89	81	86	96	91	104	91	93	106	82
Detroit, Mich	103	102	99	97	103	94	110	98	97	105	106	111	102	109
[1]Green Bay, Wis	99	95	90	91	98	95	95	97	92	103	105	85	104	120
[1]Indianapolis, Ind	98	99	95	95	97	93	99	109	103	108	93	98	108	87
Kansas City, Mo.-Kans	98	99	101	102	91	90	88	105	100	110	110	95	100	93
Milwaukee, Wis	108	102	96	94	108	99	113	101	96	113	106	95	105	139
Minneapolis-St. Paul, Minn	104	98	98	96	98	100	99	98	94	98	107	89	107	138
St. Louis, Mo.-Ill	96	97	103	104	90	83	87	105	104	93	102	89	101	99
[1]Wichita, Kans	95	97	95	96	91	103	85	102	97	109	104	100	105	84
[1]Nonmetropolitan areas [10]	93	94	94	98	92	99	88	97	92	103	96	84	87	90
South:														
Atlanta, Ga	91	92	96	96	82	77	76	95	90	103	102	92	100	79
[1]Austin, Tex	87	92	90	98	82	82	75	101	96	107	97	93	102	60
Baltimore, Md	100	97	96	94	95	114	84	96	95	102	102	102	101	118
[1]Baton Rouge, La	90	93	99	100	79	74	74	97	92	108	113	90	101	71
Dallas, Tex	90	94	94	91	86	95	81	102	97	92	101	111	100	64
[1]Durham, N.C	97	95	93	94	94	101	91	94	88	96	102	106	101	104
Houston, Tex	92	96	96	93	86	95	81	100	95	104	109	113	97	67
[1]Nashville, Tenn	89	94	92	93	89	93	85	96	94	116	91	94	96	63
[1]Orlando, Fla	88	92	99	98	86	99	80	96	91	104	89	104	104	61
Washington, D.C.-Md.-Va	108	105	102	102	111	111	112	103	101	90	109	104	111	139
[1]Nonmetropolitan areas [10]	88	88	92	96	81	70	71	97	92	93	90	85	93	70
West:														
[1]Bakersfield, Calif	92	94	95	95	84	101	76	107	102	88	94	121	97	74
Denver, Colo	100	98	98	99	84	86	90	101	98	125	90	95	104	101
Los Angeles-Long Beach, Calif	95	97	97	98	90	116	92	104	106	93	97	126	94	78
San Diego, Calif	95	97	93	98	92	103	90	105	98	92	97	118	100	78
San Francisco-Oakland, Calif	104	106	101	100	108	145	98	107	107	108	116	118	106	98
Seattle-Everett, Wash	100	109	100	99	106	125	96	106	97	111	116	111	108	81
Honolulu	124	117	122	125	124	132	124	107	102	104	112	108	111	121
[1]Nonmetropolitan areas [10]	93	92	93	98	89	91	81	98	91	103	99	92	95	93
Anchorage, Alaska	141	136	122	126	163	216	148	132	126	117	135	170	106	178

[1] For these urban areas, 1978 costs were estimated using CPI price changes for the appropriate region/population size class.

[2] The family consists of an employed husband, age 38, a wife not employed outside the home, an 8-year-old girl, and a 13-year-old boy.

[3] The average costs of automobile owners and nonowners in the intermediate budget were weighted by the following proportions of families: Boston, New York, Chicago, and Philadelphia, 80 percent for owners, 20 percent for nonowners; Baltimore, Cleveland, Detroit, Los Angeles, Pittsburgh, San Francisco, St. Louis, and Washington, D.C. with populations of 1.4 million or more in 1960, 95 percent for automobile owners and 5 percent for nonowners; all other areas, 100 percent for automobile owners.

[4] Housing includes shelter, house furnishings, and household operations.

[5] Renter costs include average contract rent plus the cost of required amounts of heating fuel, gas, electricity, water, specified equipment, and insurance on household contents.

[6] Homeowners costs include interest and principal payments plus taxes; insurance on house and contents; water, refuse disposal, heating fuel, gas, electricity and specified equipment; and home repairs and maintenance costs.

[7] In total medical care, the average costs of medical insurance were weighted by the following proportions: 30 percent for families paying full cost of insurance, 26 percent for families paying half cost, 44 percent for families covered by noncontributory insurance plans (paid by employer).

[8] Other family consumption includes average costs for reading, recreation, tobacco products, alcoholic beverages, education, and miscellaneous expenditures.

[9] As defined in 1960–61. For a detailed description of these and previous geographical boundaries, see the 1967 edition of *Standard Metropolitan Statistical Areas*, prepared by the Office of Management and Budget.

[10] Places with population of 2,500 to 50,000.

Table 3. Indexes of comparative costs based on an intermediate budget for a retired couple,[1] autumn 1978

[U.S. urban average costs = 100]

Area	Total budget[2]	Total consumption	Food: Total	Food: Food at home	Housing: Total[3]	Housing: Renter costs[4]	Housing: Homeowner costs[5]	Transportation[6]	Clothing	Personal care	Medical care	Other Family consumption[7]
Urban United States	100	100	100	100	100	100	100	100	100	100	100	100
Metropolitan Areas[8]	103	103	101	101	107	108	106	101	102	98	101	108
*Nonmetropolitan Areas[9]	90	90	96	98	80	77	83	97	95	106	98	77
Northeast:												
Boston, Mass	116	116	107	108	141	130	172	104	105	90	97	116
Buffalo, N.Y	109	109	102	103	113	108	120	117	121	91	94	107
*Hartford, Conn	111	111	107	106	116	123	115	116	104	125	97	116
*Lancaster, PA	98	98	102	104	97	90	98	107	103	84	93	96
New York - Northeastern, N.J	115	115	113	110	138	125	165	74	94	102	101	111
Philadelphia, Pa - N.J	104	104	112	110	108	106	114	88	83	91	99	105
Pittsburgh, Pa	102	102	104	103	100	90	102	111	92	90	98	106
*Portland, Maine	106	106	105	107	108	109	108	111	123	82	97	107
*Nonmetropolitan Areas[9]	98	98	102	104	97	102	116	106	102	100	98	77
North Central:												
*Cedar Rapids, Iowa	99	99	91	90	100	99	99	106	118	99	99	105
*Champaign - Urbana, Ill	104	104	99	100	106	119	98	107	127	105	99	109
Chicago, Ill - Northwestern Ind	99	99	101	103	97	107	87	92	97	97	101	110
Cincinnati, Ohio - Ky. - Ind	98	98	102	104	92	83	93	101	112	82	99	108
Cleveland, Ohio	104	104	101	99	106	108	108	108	109	116	97	112
*Dayton, Ohio	97	97	98	99	92	89	84	103	106	85	99	111
Detroit, Mich	102	102	97	97	102	105	101	109	108	98	101	110
*Green Bay, Wis	97	97	90	92	98	97	85	103	108	96	100	109
*Indianapolis, Ind	100	100	95	96	100	97	100	110	109	91	99	111
Kansas City, Mo. - Kans	100	100	101	102	94	82	91	109	111	105	102	107
Milwaukee, Wis	103	103	96	94	107	106	110	109	118	99	99	109
Minneapolis - St. Paul, Minn	101	101	97	97	103	108	98	105	101	101	96	113
St. Louis, Mo. - Ill	99	99	103	104	93	81	87	112	95	89	96	103
*Wichita, Kans	99	99	94	96	98	101	89	107	110	99	99	108
*Nonmetropolitan Areas[9]	92	92	97	99	85	91	90	94	105	112	97	78
South:												
Atlanta, Ga	91	91	97	96	78	75	60	100	102	97	99	108
*Austin, Tex	94	94	89	89	92	92	81	106	106	88	100	102
Baltimore, Md	98	98	96	96	96	104	75	107	101	103	100	104
*Baton Rouge, La	91	91	100	101	72	64	54	106	107	104	98	103
Dallas, Tex	95	95	93	91	89	94	79	110	91	96	104	102
*Durham, N.C	96	96	93	95	94	82	93	103	96	95	103	102
Houston, Tex	97	97	96	93	92	81	89	106	100	103	105	99
*Nashville, Tenn	94	94	92	93	89	88	78	104	116	87	98	104
*Orlando, Fla	93	93	88	88	88	93	73	106	103	86	100	107
Washington, D.C. - Md. - Va	107	107	102	102	112	112	109	114	93	118	104	115
*Nonmetropolitan Areas[9]	86	86	95	96	73	61	72	97	84	100	98	76
West:												
*Bakersfield, Calif	94	94	94	96	86	87	70	112	83	90	109	99
Denver, Colo	98	98	99	99	93	82	82	106	123	90	99	105
Los Angeles - Long Beach, Calif	97	97	97	95	90	121	62	117	92	94	108	99
San Diego, Calif	95	95	93	89	88	109	69	112	94	91	105	102
San Francisco - Oakland, Calif	106	106	101	101	103	125	81	123	107	118	108	110
Seattle - Everett, Wash	108	108	101	100	115	127	106	110	108	111	103	110
Honolulu	116	116	125	126	109	150	77	127	100	108	102	114
*Nonmetropolitan Areas[9]	91	91	95	96	82	86	82	95	106	118	100	80
Anchorage, Alaska	139	139	126	127	160	213	152	133	135	175	126	97

* For these urban areas, 1978 costs were estimated using CPI price changes for the appropriate region/population size class.

[1] The family consists of a retired husband and wife, age 65 years or over.

[2] Total budget costs do not include personal income taxes.

[3] Housing includes shelter, housefurnishings, and household operations.

[4] Renter costs include average contract rent plus the cost of required amounts of heating fuel, gas, electricity, water, specified equipment, and insurance on household contents.

[5] Homeowner costs include property taxes, insurance on house and contents, water, refuse disposal, heating fuel, gas, electricity, specified equipment, and home repair and maintenance costs.

[6] The average costs of automobile owners and nonowners in the intermediate budget were weighted by the following proportions of families: New York, 25 percent for owners, 75 percent for nonowners; Boston, Chicago, Philadelphia, 40 percent for owners, 60 percent for nonowners; all other metropolitan areas, 60 percent for owners; 40 percent for nonowners; nonmetropolitan areas, 68 percent for owners, 32 percent for nonowners.

[7] Includes average costs for reading, recreation, tobacco products, alcoholic beverages and miscellaneous expenditures.

[8] As defined in 1960-61. For a detailed description of current and previous geographical boundaries, see the 1967 edition of *Standard Metropolitan Statistical Areas*, prepared by the Office of management and Budget.

[9] Places with population of 2,500 to 50,000.

higher budget. For the retired couple, costs for consumption increased 8.5 percent in the lower budget, 8.2 percent in the intermediate budget, and 7.8 percent in the higher.

Medical care costs increased approximately 13 percent for the retired couple. The prior year's medical care costs for a retired couple were revised to reflect a large upward revision in preliminary out-of-pocket Medicare costs. (Copies of the 1977 revised data for the budget areas are available from any BLS regional office.)

Homeowner costs increased about 2 percent for both families due to reduction of property taxes in California, and small changes in principal and interest payments for the four-person family. The Bureau's methodology assumes that the retired couple has completed its mortgage payments. Changes in the retired couple's housing expenses reflect changes in the other homeowner costs.

Tax changes. Personal income taxes shown in the three budgets include estimated 1978 Federal, State, and local payments. Changes in the Federal tax code between 1977 and 1978 did not apply to the type of family assumed in the budgets. However, changes in tax codes affecting these budgets did occur in a number of States. The Federal income tax structure, as well as that of many States, calls for higher rates corresponding to higher incomes. The net result between the 2 years was that personal income taxes increased approximately 30 percent at the lower level, 17 percent at the intermediate level, and 15 percent at the higher level.

The increases contrast sharply to the 1977 income tax changes, when budget taxes decreased 12.7 percent for the lower level, but the intermediate and higher levels rose 4.7 and 9.1 percent from the prior year. As a net result of increases in budget costs, the 1977 Federal tax changes, and State and local tax changes between 1976 and 1978, the ratio of personal income taxes to total budget has remained 8 percent for the lower level families. The ratio for the intermediate increased from 13.8 to 14.7 percent, and for the higher, from 19.2 to 20.9 percent.

Differences among urban areas. Area indexes in table 2 and 3 for both families reflect differences not only in price levels but also in consumption patterns, climate, types of transportation facilities, and, in the four-person budget, in State and local income tax regulations.[2]

Method of updating budgets

The 1978 consumption budgets were estimated by applying price changes for individual areas between autumn 1977 and autumn 1978, as reported in the Consumer Price Index for Urban Wage Earners and Clerical Workers (CPI-W), to the appropriate autumn 1977 budget costs for each main class of goods and services. The budgets have been updated by the CPI-W since 1969 when the last direct pricing took place. This method of updating is approximate because the CPI-W reflected spending patterns and prices paid for commodities and services purchased by urban wage earners and clerical workers generally, without regard to their type of family and level of living, and because the updating is done at a relatively aggregated level.

Users should note that the procedures used in updating the budgets to 1978 differ from procedures used previously, because the area sample was changed in January 1978 when the CPI revision program was completed. As a result, individual area price changes between autumn 1977 and autumn 1978 were available for only 25 of the budget areas.

Some data on individual area price changes were available for the remaining 19 budget areas through April/May/June 1978 when the unrevised CPI-W was discontinued. These data, along with price change data for appropriate region and population size classes, were used to update the remaining 19 areas. Thus, these areas were updated with some price data that do not specifically pertain to them.

In line with past revisions of the program, the Bureau of Labor Statistics intends to comprehensively revise the family budget series. A committee of experts has been formed to conduct research and develop approaches to be used in this revision. The number of areas for which budgets will be published in the future will depend upon the resources available, and upon the revision methodology chosen. Users will be informed about the progress of this revision. □

FOOTNOTES

[1] For a general description of the 4-person budgets, see Jean Brackett, "New BLS budgets provide yardsticks for measuring living costs," *Monthly Labor Review*, April 1969, pp. 3–16. The source of data, methods of calculations, and quantities of goods and services for each budget level are described in BLS Bulletin 1570–5, *Three Standards of Living for an Urban Family of Four Persons* (spring 1967), and Bulletin 1570–6, *Three Budgets for a Retired Couple in Urban Areas of the United States* (1967–68). Copies of these publications may be obtained from the National Technical Information Service, U.S. Department of Commerce, Springfield, Virginia 22151, at a cost of $6 each for Bulletin 1570–5, accession number PB 227542/LK and Bulletin 1570–6, accession number PB 227521/AS.

For a general description of the retired couple's budgets, see Mary Hawes, "Measuring retired couple's living costs in urban areas," *Monthly Labor Review*, November 1969, pp. 3–16.

[2] Tables for the lower and higher budget levels, for both types of family, are available from any BLS regional office.

Research Summaries

Seasonal variations in employment and unemployment during 1951–75

MORRIS J. NEWMAN

Each June, thousands of young people enter the labor force, and the levels of employment and unemployment jump markedly from the May figures. In January, large numbers of retail store employees, hired to help out in the Christmas rush, leave employment, and the employment level drops. In the same month, many construction workers are laid off because it is too cold to work outdoors. These three events are examples of labor force seasonality—annual events that affect the levels and rates of employment and unemployment.

Much of the data published by the Bureau of Labor Statistics is "seasonally adjusted," that is, estimates of the approximate level of the seasonal variations that usually occur from one month to the next are identified and distributed over the course of a year. This adjustment allows analysts to focus on changes in the data that may have resulted from economic and other nonseasonal forces. Without such adjustments, short-term movements in labor force series due to changes in underlying economic conditions would be far more difficult to discern, because seasonal variations account for an overwhelming proportion of the month-to-month changes in labor force data. For example, usually more than 90 percent of the monthly variation in the level of unemployment results from seasonal conditions.[1]

Economists have frequently identified three major types of unemployment: *cyclical,* caused by business cycle downturns or recessions; *frictional,* the result of voluntary job changes, entrances into and exits from the labor force, and industrial movements; and *structural,* an imbalance caused when jobseekers lack the skills required for available jobs. Some argue that there is a fourth type—*seasonal* unemployment—while others see seasonality as an aspect of the other three types. Whatever the preference, seasonality is an important and often significant part of the unemployment picture. Thus, although most labor force data are adjusted to remove the effects of seasonality, seasonal variations should be studied. A worker who is laid off because of a cold winter is just as unemployed as a worker who is a victim of recession.[2]

This article provides an analysis of labor force "seasonality." Using monthly Current Population Survey data from 1951 to 1975, disaggregated by sex and age, the article describes the variations in patterns of seasonal factors of employment and unemployment among various population (age/sex) groups and examines the changes in these patterns which have occurred over the 25-year period.[3] These seasonal factors are used to adjust original monthly data to produce seasonally adjusted series of employment and unemployment. Seasonally adjusted data are constructed by dividing a given month's actual data by the seasonal factor for that month. For example, if actual employment is 10,000 persons and the seasonal factor is 0.95, the seasonally adjusted employment estimate would be 10,526 persons. Over the course of the year, seasonal factors average 1.0, with factors greater than 1.0 indicating months of seasonally induced high employment and factors less than 1.0 indicating seasonally induced employment lows.

This method is called "multiplicative" seasonal adjustment. An alternative is "additive" adjustment, where the adjustment factor represents the number of persons added or substracted from the original data to yield the seasonally adjusted level. In the above example, the additive factor would be +526. Additive adjustment is usually preferred for adjusting data for groups in which more or less set numbers of individuals move into, or out of, the labor force in response to seasonal conditions. For example, a relatively constant number of teenagers enter the labor force at the end of the school year.

The data presented in this article are "de facto" multiplicative factors: factors derived by dividing the actual level of a statistic by its seasonally adjusted level (whether derived through additive or multiplicative adjustment). This, in effect, recreates multiplicative factors and converts additive factors into a multiplicative form.[4]

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Teenagers: the school years

Teenagers exhibit stronger, and somewhat different, seasonal patterns than do adults. These differences are caused primarily by the effect of the school year on teenage employment availability. Further, lack of labor force experience means that young people are more likely to have jobs that are less stable seasonally, and they are therefore usually the first to be laid off because of seasonal slowdowns.

The timing of the school year was the dominant event influencing teenage unemployment seasonality during 1951–75. In each year, peak unemployment occurred in June, as the closing of schools for summer vacation enabled many teenagers to seek work. However, there was a shift in the timing of the seasonal low. Prior to 1967, the low occurred in October; beginning in 1967, the yearly low shifted to May, accompanied by a concurrent change in magnitude in the unemployment peak. These developments resulted directly from a definitional change in unemployment made in 1967.[5] Between 1967 and 1975, the seasonality of teenage unemployment declined, the peak June factor dropping from 1.7 to 1.3 and the May low increasing from 0.74 to 0.86. (The movement of factors toward 1.0 indicates declining seasonality.) Chart 1 shows the patterns of seasonal factors for 1951, 1967, and 1975.

Among male teens, employment seasonality was consistently dominated by a July peak and a January low. The July peak was caused by the employment surge during summer vacation. August, another vacation month, was consistently the second highest month of employment for male teens. Further, many of the jobs in which young people are employed, such as landscaping, housepainting, and other maintenance work, are most prevalent in the summer months. Conversely, the January employment low occurs when students return to school after the Christmas-New Year's break and employment levels are typically at a low ebb.

Employment seasonality for female teenagers, while influenced by the same school-related conditions as male teens, displayed a somewhat different pattern. Again the dominant peak seasonality occurred in July, with August the second highest month. However, after a sharp drop in September, employment increased somewhat in October and November, reaching a secondary peak in December, a likely result of retail store hiring for the Christmas buying season. A similar trend did not occur among male teenagers. As with their male counterparts, the winter months—except for December—were the time of lowest employment among these young women.

The seasonal patterns of teenage employment and unemployment were not mirror images, that is, months of peak employment seasonality were not necessarily months of trough unemployment seasonality. This results because some seasonal occurrences affect employment and unemployment levels in a similar way. For example, when school closes for summer vacation, many students have already found jobs, pushing up the employment level immediately. Others enter the labor force unemployed, but soon find work, pushing the employment level still higher in July and August. Further, because of this summer labor force surge, unemployment remains relatively high through July and August as some fail to find jobs and others experience short spells of unemployment between jobs.

Young adults: in transition

The years between age 20 and 25 are often a period of transition from school and adolescence to the world of work and adulthood.[6] Therefore, patterns of seasonality in young adult employment and unemployment are comparable in some instances to those of adults and in others to those of teenagers.

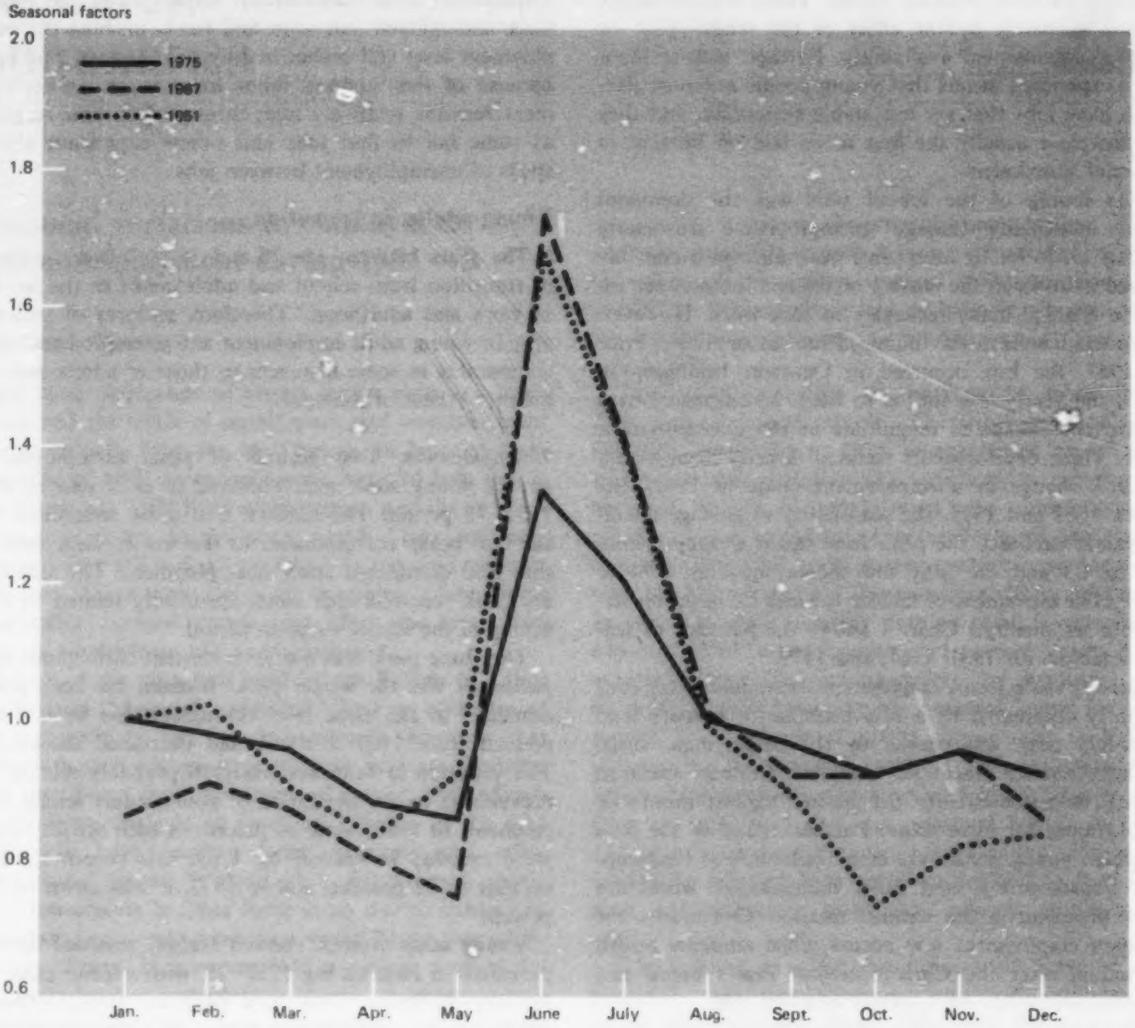
Unemployment. Two periods of peak unemployment among young adult men occurred in each year of the 1951–75 period. The highest, and most consistent, of the two peaks corresponded to the winter slack period that also dominated adult unemployment. The secondary peak recurred each June, apparently related to the timing of the school vacation period.

This June peak was not as consistent throughout the period as was the winter peak. Instead, the June peak remained at the same level throughout the 1950's, increased from 1960 to 1967, and decreased thereafter. The variation in June seasonality is probably related to movements in the likelihood of young adult school enrollment. In 1960, some 20 percent of men age 20 to 24 were enrolled in school; by 1969, this percentage increased to 32 percent, and in 1975, it was down to 26 percent.[7]

Young adult women showed highest seasonal unemployment in June during 1958–75, with a lower peak in January–February. This June peak for young women differed from that of young men in several respects. Women had June increases in unemployment seasonality from 1951 to 1967 and decreases thereafter. However, the change in the magnitude of these factors for young women was far more gradual than for young men. Among the women, the relationship between June unemployment seasonality and school enrollment is not as clear as it apparently is among men: despite their June unemployment peak, women in this age group were considerably *less* likely than men to have been enrolled in school throughout the period. Further, despite the *decrease* in June unemployment seasonality among women from 1967–75, the incidence of school enrollment among young women *increased* throughout the period, not tapering off as it had among young men from 1968 to 1975.[8]

These apparently anomalous seasonality movements

Chart 1. Seasonality of unemployment among teenagers, 1951, 1967, and 1975



in June among young adults probably resulted in part from different responses to winter-induced seasonality. Seasonality in the context of this analysis relates all the months in the year to each other. Therefore, if January–February high unemployment does not affect young women as much as it does young men, the remaining period of high unemployment (June) would be relatively more important among women.

Divergent occupational distributions between men and women in this age group may be central to their differential seasonal patterns of unemployment. Employed young men are much more heavily concentrated in occupations that have high winter unemployment than are women (61 versus 15 percent in 1975).[9]

Employment. Young adult men showed much stronger, yet more stable, employment seasonality than women. Peak employment for these men occurred in July or August. Lowest employment in each year occurred in the January–February period. The timing of the peaks and valleys was similar to that for teenagers, although the magnitude of the seasonal variation was far less. There were no strong changes in the magnitude of seasonality, nor were any secondary employment peaks or troughs apparent.

Young adult women had very different employment seasonality than men. First, the magnitude of the seasonal variation was much less, probably due to their relatively low school enrollment and high concentration in service and clerical occupations, which have stable seasonality. Second, there were two peak periods of employment: prior to 1973, the dominant months of high employment were from October to December, a likely result of the Christmas buying season; while, in 1961, a secondary employment peak developed in the month of August, probably because of school enrollment. As school enrollment grew among this population, from about 8 percent in 1961 to nearly 19 percent in 1975,[10] the August employment peak gained importance, surpassing the December peak in 1973.

Patterns of low employment among young adult women shifted considerably over the period studied. The winter months had the lowest seasonal employment from 1951 to 1967. The dominant low then shifted to September (when school starts) until 1971, when it moved to May (just before school ends). In 1974, low employment among these women returned to February.

Adult patterns: moderation

Adults exhibited patterns of seasonality distinctly different from youth in several respects. First, the timing of the school year had almost no effect on the employment or unemployment of adult men, although a major effect on women age 25 to 44 was apparent. Second, the magnitude of seasonality was much less among adults because of their longer seniority and their greater need in many cases for stable "breadwinning" jobs. There are also major differences between the seasonality of adult men and adult women.

Unemployment. Men age 25 and over had very stable unemployment seasonality, both in magnitude and timing, throughout the 1951–75 period. In each year, peak unemployment occurred in February, while low unemployment occurred in October or September. A slight decrease in the magnitude of seasonality occurred in 1967, probably resulting from the change in the definition of unemployment that occurred in that year. (See footnote 5.)

Unemployment seasonality of adult men in 10-year age groups over age 25 varied only slightly. Among women, however, there was an important variation between those age 35 to 44, who had unemployment seasonality patterns similar to those age 25 to 34, and women age 45 to 54, whose patterns were similar to those age 55 and over.

As with younger women, unemployment seasonality among those in each age group over 25 was less strong and more complex than that for men of the same ages. Each year during 1951–75, women age 35 to 44 had more than 1 month of both peak and low unemployment. From 1951 to 1966, unemployment was highest in the winter. However, there were 2 other months in which unemployment peaked as well. During 1951–66, a peak occurred in November. This peak abruptly disappeared in 1967; undoubtedly, the 1967 definitional change which made work availability a necessary precondition for unemployment, resulted in its demise.[11] The other peak period of unemployment was August–September.

The August–September peak grew steadily in importance from 1951 until 1967, when it became the period of highest unemployment for women age 35 to 44. This peak in unemployment was probably caused by the combination of September's opening of schools and the dramatic increases in labor force participation among married women with school-age children. The labor force participation rate of these women, 30.3 percent in April 1951, increased to 45.0 percent by March 1967 and 52.3 percent by March 1975.[12] It is quite likely that many left the workforce in the summer months when their children were at home and then returned in September when schools opened. This would also explain why the unemployment peak for them shifted from August to September in 1967, as it is likely that these women began searching in August for work to begin in September. (See footnote 5.) Unemployment among women age 35 to 44 was lowest in December, perhaps because of Christmas hiring, and in May, the month before school closes.

Women age 45 to 54 also had a September unemployment peak that emerged in 1967 but never became dominant over the prevailing January–February peak. The relative lack of strength of the September unemployment peak was probably because the children of women in this age group are older than those of younger women and do not need the degree of parental attention that younger children require. From 1951 to 1957, unemployment among these women was at its lowest in October, while, from 1958 to 1970, December was the low month. From 1971 to 1975, however, June was the month when their unemployment seasonality reached a low point.

Employment. Among men 25 or over, employment seasonality was very slight. In 1975, for example, peak seasonality for this group was 1.01 (October), and low seasonality was 0.99 (January–February). In comparison, men age 20 to 24 had peak seasonality of 1.07 and low of 0.95, while teenage males had a range of from 1.31 to 0.87. Peak seasonality among men 25 or over consistently occurred in September or October, while low seasonality occurred in January–February.

Employment seasonality among women age 25 or over was slightly greater than among men, in contrast to the situation for teenagers and those age 20 to 24, where women had less overall seasonality than men of the same ages. Peak employment seasonality occurred among women in October or November, with a lesser peak in May during 1951–66.

Although lowest employment for adult women initially occurred in January, the months with lowest employment were July and August from 1961 to 1975. This movement is probably related to the effects of the school year discussed earlier.

EMPLOYMENT AND UNEMPLOYMENT seasonality are dominated by the effects of winter and the timing of the school year. Young people have more seasonality than older workers, primarily because their availability for work is strongly tempered by the demands of school. During 1951–75, with the exception of employment seasonality among those over age 25, there was a greater magnitude between seasonal peaks and troughs among men than women. Women, however, were subject to more shifts in patterns of employment and unemployment seasonality than were men, both in the number of peaks and troughs in a given year and in the timing of the dominant seasonal highs and lows over the 25-year period. There was little evidence of any significant change in the magnitude of either employment or unemployment seasonality, with the exception of some decline among teenagers. □

FOOTNOTES

[1] Although seasonal adjustment of labor force data is necessary to isolate the effects on nonseasonal forces, seasonally adjusted data are subject to greater error than original data due to uncertainties in the seasonal adjustment process.

[2] See *The Economic Report of the President, February 1975*, for a discussion on the four types of unemployment.

[3] The January 1951 and December 1975 starting-ending dates for this analysis were chosen because they are, respectively, 3 years from January 1948, when monthly disaggregation of comparable CPS data by age and sex began, and 3 years from December 1978, when the data for this study were organized. The first and last 3 years of data are excluded because seasonal factors are computed from original series data on a weighted moving average basis, 3 years forward and 3 years back in time.

[4] See *The X-11 Variant of the Census Method II Seasonal Adjustment Program* (Washington, D.C., Bureau of Economic Analysis, November 1976, and U.S. Department of Commerce, National Technical Information Service, No. PB-261 432).

[5] Prior to 1967, persons were classified as unemployed if they had not worked during the survey reference week (the week containing the 12th day of the month) and had been actively seeking work. Since 1967, however, a 4-week search period was introduced (instead of an implied "last week"), and jobless persons also had to be *available* for work during the reference week to be classified unemployed. Therefore, many students who were seeking summer work in April, May, or June prior to the end of the school year were no longer measured as unemployed in those months. This caused unemployment to drop sharply in April and May and to a lesser extent in June, because many schools had not closed by the week of the 12th of June. Conversely, this definition change caused unemployment in the other 9 months of the year to rise relative to April, May, and June.

[6] See, Carol Leon, "Young adults: a transitional group with changing labor force patterns," *Monthly Labor Review*, May 1978, pp. 3–9.

[7] See *Employment and Training Report of the President 1978* (Washington, Employment and Training Administration, 1978), table B–6.

[8] Ibid.

[9] Occupations with consistently high winter unemployment seasonality include managers and administrators except farm, craft and kindred, operatives except transport, transport equipment operatives, and nonfarm laborers.

[10] See *Employment and Training*, table B–6.

[11] The end of the November unemployment peak did not result from a decline in the November seasonal factor (from 1.04 in 1966 to 1.05 in 1967). Rather, it was caused by 1966–67 declines in January (1.10 to 1.06), February (1.13 to 1.09), April (0.97 to 0.94), and December (0.88 to 0.85), which in turn resulted in increases in September (1.09 to 1.17) and October (0.98 to 1.07). Therefore, November became part of a steady decline from August–September highs to December's low seasonal unemployment.

[12] See tables B–2 and B–4 of *Employment and Training Report of the President 1978*. It should be noted that the labor force participation rates cited in the text of this article for women with children are for all women with children age 6 to 17. However, the participation rates for women age 35 to 44 who were married with spouse present were nearly identical to those for all women with children age 6 to 17, 30.5 percent in April 1951, 42.7 percent in March 1967, and 52.1 percent in March 1975. Further, among single women in this age group, participation actually declined slightly, from 81.7 percent in April 1951 to 78.1 percent in March 1975. Among those who were widowed, separated, or divorced, participation was essentially unchanged, 69.0 in April 1951 and 69.5 in March 1975.

Individual hourly earnings in men's apparel, 1978

Individual hourly earnings in men's shirts and separate trousers manufacturing ranged from $2.65 (the Federal minimum wage at that time) to $5 or more in May 1978. Bureau of Labor Statistics surveys show that, excluding the upper and lower fourths of the workers in the industries' earnings arrays, the range for the remaining middle half of the distribution was still relatively large—a spread of $1 an hour—for these low-paying industries. About four-fifths of the production and related workers employed in the shirts (85,000) and trousers (55,000) industries were under individual piece rate systems.

Substantial proportions of shirt and trousers workers were at or hovered near the Federal minimum wage—about one-fifth in spring 1978. Subsequently, the hourly pay levels for shirts ($3.28) and for trousers ($3.46) were about 60 percent below the all-manufacturing figures. Worker attachment to the Federal minimum wage for these industries in 1978, however, was only half that of 10 years earlier.[1] Sewing machine operators, a relatively low-paying occupational group, continue to be a majority of each industry's production work force.

Highlights of other survey findings followed patterns found in most American industries under study by the Bureau. As illustrated in table 1, workers in metropolitan areas averaged higher earnings than those in the smaller communities, worker's earnings in the larger mills outgained those in the smaller plants, and the average earnings of union workers exceeded the pay rates of employees in nonunion plants. Establishments operating under labor-management agreements employed nearly three-tenths of the shirt workers and slightly under four-tenths of the separate trousers work force. The Southeast was the principal region in both industries.

Approximately nine-tenths of the shirts and separate trousers production workers were provided paid holidays, paid vacations (after qualifying years of service), and life, hospitalization and surgical insurance plans. Also granted to at least six-tenths of both worker groups were accidental death and dismemberment plans, and major medical coverage. One-half of the shirt workers and about three-fifths in trouser factories were provided pension plans, most of which were financed entirely by the employer.

Table 1. Average straight-time hourly earnings[1] of production and related workers in men's and boy's shirts and separate trousers manufacturing establishments, May 1978

Characteristic	Men's and boy's shirts		Men's and boy's trousers	
	United States[2]	Southeast	United States[2]	Southeast
All production workers	$3.28	$3.20	$3.46	$3.40
Men	3.72	3.67	3.93	3.79
Women	3.24	3.15	3.41	3.35
Size of community:				
Metropolitan areas[3]	3.43	3.28	3.62	3.52
Nonmetropolitan areas	3.23	3.18	3.40	3.38
Size of establishment:				
Under 250 workers[4]	3.20	3.05	3.39	3.27
250 workers or more	3.37	3.31	3.51	3.55
Labor management contract coverage establishments with:				
Majority of workers covered	3.65	3.54	3.72	3.72
None or minority of workers covered	3.14	3.13	3.30	3.34
Selected occupations[5]				
Adjusters and repairers, sewing machine	4.98	4.99	4.96	4.82
Cutters, cloth, machine	4.36	4.22	4.58	4.57
Garment repairers	3.10	3.01	3.24	3.09
Inspectors, final	3.13	3.03	3.48	3.51
Janitors	2.97	2.91	3.03	2.98
Markers	4.10	3.86	3.90	3.87
Pressers, finish, machine	3.66	3.38	3.81	3.68
Sewing machine operators	3.23	3.14	3.41	3.36
Shipping clerks	3.70	3.66	3.73	3.64
Spreaders	3.49	3.40	3.90	4.00
Thread trimmers	3.35	2.95	3.46	3.51
Work distributors	3.06	2.96	3.27	3.22

[1] Excludes premium pay for overtime and for work on weekends, holidays, and late shifts.

[2] Includes data for regions in addition to those shown separately. The comprehensive bulletin provides data for regions in addition to Southeast.

Survey coverage nationwide in separate trousers industry reflected only 88 percent of the workers in firms classified in the industry because of few large firms did not furnish data and could not be adequately represented by others visited.

[3] Standard Metropolitan Statistical Areas as defined by the U.S. Office of Management and Budget through February 1974.

[4] The minimum size plant within scope of the survey was 20 workers in shirts nonmanufacturing and 50 workers for separate trousers.

[5] The comprehensive bulletin on the surveys provides data for occupations in addition to those presented below.

The comprehensive report on both surveys (*Industry Wage Survey: Men's Shirts and Separate Trousers, May 1978, Bulletin 2035*), as well as a national and regional summary for each industry, and separate releases for 13 areas of concentration for shirt manufacturing and 8 localities for men's separate trousers, may be obtained from the Bureau or its regional offices.

——— *FOOTNOTE* ———

[1] Carl Barsky, "Shirt industry loosens ties to minimum wage," *Monthly Labor Review*, September 1975, pp. 48–50.

Cost-of-living indexes for Americans living abroad

The U.S. Department of State has prepared new indexes of living costs abroad for Americans in Buenos Aires, Hong Kong, New Delhi, and Stockholm. The new indexes are 4 percent higher for Buenos Aires, essentially unchanged for Stockholm, and 4 and 7 percent lower than the previous indexes for New Delhi and Hong Kong. (See table 1.) The periods between survey dates were 4 months for Buenos Aires, 13–14 months for Hong Kong and Stockholm, and 22 months for New Delhi.

The new indexes for Buenos Aires and New Delhi were computed using new expenditure weights derived from the 1972–73 Bureau of Labor Statistics Consumer Expenditure Survey data for Washington, D.C. The new weights are being used to compute all indexes based on retail price surveys dated July 1979 and later. For Buenos Aires and New Delhi, the new weights do not make a significant difference in the local index levels. For Americans in Buenos Aires, average prices were up 20 percent more than in Washington, D.C., between surveys, but the peso depreciated 16 percent against the dollar and offset most of the relative price rise. For Americans in New Delhi, however, average prices in the new survey were up 10 percent less than in Washington, D.C., but the rupee appreciated 6 percent relative to the dollar.

For Americans in Stockholm also, a 5-percent appreciation of the krona against the dollar offset a decline in relative prices in national currency. The 8-percent depreciation of the H.K. dollar relative to the U.S. dollar accounts for the decline in the local index for Hong Kong, as prices paid by Americans rose at the same rate as in Washington, D.C.

Because currency exchange rates are subject to sudden shifts, it is advisable to check the prevailing rates whenever using the indexes of living costs abroad. The indexes for these and all other reporting cities are

Table 1. Indexes of living costs abroad, excluding housing and education, November 1979

[Washington, D.C. = 100]

Country and city	Survey date	Monetary unit	Rate of exchange per US $1	Local index
Argentina: Buenos Aires	July 1979	Peso	1317	133
Australia: Canberra	Apr. 1979	Dollar	0.8751	121
Belgium: Brussels	Mar. 1979	Franc	30.0	158
Brazil: Sao Paulo	Apr. 1979	Cruzeiro	23.0	115
Canada: Ottawa	Dec. 1978	Dollar	1.17	99
France: Paris	Mar. 1979	Franc	4.32	166
Germany: Frankfurt	Mar. 1979	Mark	1.87	164
Hong Kong: Hong Kong	May 1979	Dollar	5.08	112
India: New Delhi	July 1979	Rupee	8.11	93
Italy: Rome	Oct. 1978	Lira	840	114
Japan: Tokyo	Mar. 1979	Yen	212	183
Mexico: Mexico, D.F.	Feb. 1977	Peso	22.0	78
Netherlands: The Hague	Feb. 1979	Guilder	2.06	154
Philippines: Manila	Jan. 1979	Peso	7.38	89
South Africa: Johannesburg	Dec. 1977	Rand	0.8697	91
Spain: Madrid	Dec. 1978	Peseta	69.0	120
Sweden: Stockholm	June 1979	Krona	4.24	173
Switzerland: Geneva	May 1979	Franc	1.65	184
United Kingdom: London	Jan. 1979	Pound	0.4831	123
Venezuela: Caracas	Aug. 1978	Bolivar	4.28	140

SOURCE: U.S. Department of State, Allowances Staff.

published in quarterly reports entitled U.S. Department of State Indexes of Living Costs Abroad and Quarters Allowances, available on request from the Office of Publications, Bureau of Labor Statistics. ☐

Printers' wage increases lowest in 4 years

Union wage rate increases for the printing trades spanning July 1976–77 were the smallest since 1972–73, according to a Bureau of Labor Statistics survey of unions in large cities.[1] The average advance for printing trade members was 6.6 percent, compared with 6.9 percent in mid-1975–76. (See table 1.)

Between July 1976 and July 1977, wage rates increased by 7.0 percent in book and job shops, 6.2 percent in newspaper plants, and 6.6 percent in lithography shops. Wage rates increased for nearly all of the union membership covered by the survey: 92 percent of union workers in book and job shops received increases, 80 percent of those in newspaper plants, and 99 percent in lithography shops.

The average wage rate for union workers was $8.46 an hour on July 1, 1977. By industry, averages were $7.91 for book and job shops; $8.74 for newspaper plants ($8.48 for day shifts and $9.01 for night shifts); and $9.26 for commercial lithography shops. Occupational averages in book and job shops ranged from $5.42 for bindery workers to $9.69 for photoengravers. Average daywork rates in newspaper plants ranged from $8.24 for mailers to $9.22 for photoengravers. In commercial lithography shops, the lowest average was for press assistants and feeders ($8.23), and the highest for lithographic artists ($9.76), which was also the highest day-shift average for the survey as a whole.

Table 1. Union wage rates for printing trades, annual percent changes and indexes, July 1967 to July 1977

[1967 = 100]

Year	Percent change	Index
1967	4.1	100.0
1968	5.0	105.0
1969	6.6	111.9
1970	8.3	121.1
1971	10.2	133.6
1972	8.0	144.2
1973	6.3	153.3
1974	8.1	165.7
1975	8.5	179.8
1976	6.9	192.2
1977	6.6	204.9

Regionally, the printing trades pay spread was 33 percent, with the Middle Atlantic States having the highest wage levels and the Southeast and Southwest, the lowest. Although less important than location, city population size also seemed to be related to wage levels. For example, wage rates in cities of at least one million inhabitants averaged $9.27—11 percent more than those in cities of 500,000 to 1 million ($8.32); 15 percent more than those in cities of 250,000 to 500,000 ($8.09); and 23 percent more than those in cities of 100,000 to 250,000 ($7.52).

Individual city listings and a summary of nationwide results of the survey are available from the Bureau or its regional offices. A comprehensive bulletin, providing more detailed information on wage rates and employer benefit fund payments, is in preparation. ☐

——*FOOTNOTE*——

[1] The survey of printing trades was designed to reflect union wage rates in the 153 cities having 100,000 inhabitants or more, based on the 1970 Census of Population. Data for the 66 cities studied were obtained from local union officials through mail questionnaire, telephone, or personal interview. Union wage rates are the basic (minimum) wage rates (excluding holiday, vacation, or other benefit payments made or regularly credited to the employee) agreed upon through collective bargaining. Overtime pay for hours beyond the established daily and weekly maximums is also excluded. Averages do not reflect rates for apprentices or premium rates, except for nightwork in newspaper plants. Thus, the averages do not represent total hourly earnings of organized printing trades members.

Major Agreements Expiring Next Month

This list of collective bargaining agreements expiring in February is based on contracts on file in the Bureau's Office of Wages and Industrial Relations. The list includes agreements covering 1,000 workers or more.

Employer and location	Industry	Union[1]	Number of workers
A. O. Smith Corp. (Granite City, Ill.)	Transportation equipment	Auto Workers (Ind.)	1,850
Allis-Chalmers Corp. (Independence, Mo.)	Machinery	Steelworkers	1,300
Associated General Contractors of New Jersey	Construction	Laborers	4,500
Beet Sugar Companies (California)[2]	Food products	Distillery Workers	3,500
Burroughs Corp. (Michigan)	Machinery	Auto Workers (Ind.)	2,000
Calumet Supermarket Forum, Inc. (Lake County, Ind.)	Retail trade	Food and Commercial Workers	1,500
Colt Industries, Chandler Evans Inc. (West Hartford, Conn.)	Machinery	Auto Workers (Ind.)	1,000
Dow Chemical Co., Michigan Division (Midland, Mich.)	Chemicals	Steelworkers	4,450
Eastern Labor Advisory Association-Cement Division (Interstate)	Trucking	Teamsters (Ind.)	2,300
Eaton Corp., 6 Divisions (Interstate)	Transportation equipment	Auto Workers (Ind.)	3,000
Eltra Corp. (Interstate)	Electrical products	Auto Workers (Ind.)	3,000
Farah Manufacturing Co., Inc. (El Paso, Tex.)	Apparel	Clothing and Textile Workers	1,400
GTE Automatic Electric, Inc. (Huntsville, Ala.)	Electrical products	Communications Workers	2,250
Independent Grocers Agreement (California)[2]	Retail trade	Food and Commercial Workers	1,300
Life Savers, Inc. (Canajoharie, N.Y.)	Food products	Bakery, Confectionery, and Tobacco Workers	1,050
Loews Corp., Lorillard Division (Greensboro, N.C.)	Tobacco	Bakery, Confectionery, and Tobacco Workers	2,300
Long Beach and Orange County Restaurant Association (California)	Restaurants	Hotel and Restaurant Employees	6,500
McGraw-Edison Co., Bussman Division (St. Louis, Mo.)	Electrical products	Independent Fuse Workers	2,000
Master Food & Liquor Agreement, 3 agreements (California)[2]	Retail trade	Food and Commercial Workers	7,400
Metropolitan Garage Owners Association, Inc. (New York, N.Y.)	Services	Teamsters (Ind.)	2,700
Montgomery Ward & Co., Inc., Detroit Stores (Michigan)	Retail trade	Food and Commercial Workers	1,200
National Fuel Gas (New York)	Utilities	Electrical Workers (IBEW)	1,550
Philadelphia Food Store Employers' Labor Council (Pennsylvania)	Retail trade	Teamsters (Ind.)	1,000
R. H. Macy & Co., Inc., Bamberger Division (Newark, N.J.)	Retail trade	Food and Commercial Workers	1,700
Rockwell International Corp. (Interstate)	Transportation equipment	Auto Workers (Ind.)	5,350
San Diego Gas & Electric Co. (San Diego, Calif.)	Utilities	Electrical Workers (IBEW)	2,200
Spiegel, Inc. (Chicago and Oakbrook, Ill.)	Retail trade	Teamsters (Ind.)	2,700
St. Paul Food Retailers Association (St. Paul, Minn.)	Retail trade	Food and Commercial Workers	2,800
Whirlpool Corp. (Evansville, Ind.)	Electrical products	Electrical Workers (IUE)	5,000
	Government activity	Employee organization[1]	
Ohio: Cuyahoga County Hospitals, Nonprofessional Employees	Public Health	American Federation of State, County and Municipal Employees	2,800
Cuyahoga County Welfare Department	Social Service	American Federation of State, County and Municipal Employees	1,500

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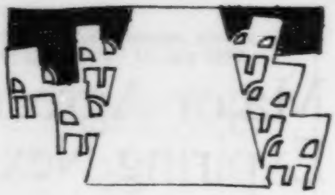
[1] Affiliated with AFL-CIO except where noted as independent (Ind.).

[2] Industry area (group of companies signing same contract).

Developments in Industrial Relations



Newport News shipyard recognizes Steelworkers

Newport News Shipbuilding and Dry Dock Co. acquiesced to a Federal circuit court of appeals ruling and recognized the Steelworkers union as bargaining representative for its 15,500 production and maintenance employees. Company President Edward J. Campbell said that a contract would be negotiated "as soon as practicable."

Steelworkers' officials hailed the representation victory at Virginia's largest private employer as a breakthrough in their efforts to organize workers in the South.

The dispute began in 1978, when the Steelworkers opposed the Peninsula Shipbuilders Association, a company union, in a National Labor Relations Board election at the yard. The vote was 9,093 to 7,548 in favor of the Steelworkers. The Board certified the results but the company appealed the decision, contending irregularities in the balloting. A district judge ordered the Board to reconsider its decision. After hearings, the Board decided the voting irregularities were not sufficiently widespread to affect the election results. The company appealed this decision to the circuit court of appeals, which issued the final ruling in the case.

The Steelworkers had begun a strike against the yard in January 1979, in an effort to force negotiations. The strike was suspended in April because many employees had returned to work.

Union wins access, vote at J. P. Stevens plants

The Amalgamated Clothing and Textile Workers' 16-year attempt to organize employees of J. P. Stevens & Co. was aided by a National Labor Relations Board ruling that the company allow union organizers access to its plants and the winning of a representation election in the South.

The Board ordered J. P. Stevens to grant ACTWU organizers access to its plants during the next 2 years. The Board ruled that the company had repeatedly violated the National Labor Relations Act and had ignored remedial orders of the Board and, on occasion, of Federal courts. Accordingly, the panel declared that "the imposition of extraordinary remedies" sought by the union was justified.

This ruling resulted from a 1976 organizing campaign at Stevens' Angle and Ferrum plants in Rocky Mount, Va., during which the union charged the company with violations of labor laws. In 1978, an administrative law judge ordered Stevens to reinstate a worker allegedly fired for union activity and to stop threatening other workers who engage in union activity. This current ruling broadened the judge's remedies to include that (1) on request, Stevens furnish the union with a list of all its workers and their addresses, (2) ACTWU officials be given access to company bulletin boards and allowed to address workers in all plants, and (3) in the event of a National Labor Relations Board election at any Stevens facility, the company permit at least two union officials to enter the plant to deliver a 30-minute speech to employees during working time.

The tally at the representation election at a Stevens plant in High Point, N.C., was 68 votes for the ACTWU and 48 for "no union." The win, the union's second at Stevens in the 16-year-period, came despite union claims of unlawful tactics by Stevens. The first victory was in 1978 at a Stevens plant in Roanoke Rapids, N.C., but an initial contract has not yet been negotiated.

Stock payment plan established for meatpackers

The round of bargaining between a number of major meatpackers and the Food and Commercial Workers concluded when Rath Packing Co. settled. Unlike the earlier accords which followed the pattern established by the John Morrell & Co. settlement (*Monthly Labor Review*, October 1979, p. 72), the Rath agreement provided for a stock-wage payment plan.

Under the plan, the 1,800 workers will receive the same hourly wage increases as those at the other companies, but they will receive part of their weekly earnings in Rath common stock until a total of 1.8 million shares has been distributed. Employees will receive at least $20 of their weekly earnings in cash and stock that will be deposited in individual accounts. The initial split will be $4 in cash and eight shares of stock at a fixed price of $2 a share.

UMW, mine operators sign safety pledge

The Bituminous Coal Operators Association and the United Mine Workers signed a pledge to cooperate in improving health and safety conditions in the mines. The pledge was in the form of a memorandum to Governor John D. Rockefeller of West Virginia, chairman of a commission appointed by President Carter to recommend changes to improve collective bargaining approaches, health and safety conditions, and productivity in the coal industry. The memorandum was written by a union-industry-government mine safety study group, which included representatives of the Mine Safety and Health Administration of the U.S. Department of Labor.

The agreement commits members of the BCOA to work through the joint study group for improved "mandatory health and safety standards based on factually justified needs." This includes close cooperation with the agencies responsible for formulating regulations to protect mine workers.

Despite this indication of improved cooperation between the UMW and the BCOA, there was another development that may have an adverse impact on future bargaining in the industry. The Consolidated Coal Co., the Nation's second largest producer, withdrew from the BCOA and announced that it would bargain separately with the union. There also was a possibility of further withdrawals; talks were reportedly underway within the BCOA on a demand by member steel companies that they be given a greater role in negotiations with the UMW.

The BCOA member companies are centered in the Appalachian region and produce about half of the Nation's soft coal, usually in underground mines.

Income taxes urged for funding social security

The controversy over the current and future condition of the social security system was renewed when the Advisory Council on Social Security presented its recommendations to Congress. One of the major recommendations of the Council was that part of the system be funded from income taxes, rather than from payroll taxes. According to the Council, this would reduce the present 6.13-percent payroll tax rate for both employees and their employers to 5.6 percent this year and preclude the need for any future increase until the year 2000.

In a 400-page report, the 13-member panel made up of academic experts and representatives from labor, government, and business recommended:

- Phasing into the system all employees of government and nonprofit organizations.
- Reducing slightly the maximum portion of workers' wages subject to payroll tax. (Effective January 1, 1980, the 6.13-percent tax applied to the first $25,900 of annual earnings.)
- Improving benefits for divorced women, widows, and workers at the low and high end of the wage range.
- Increasing the age at which a person is eligible for maximum social security retirement benefits from 65 to 68.
- Strengthening the benefit funds during periods of high unemployment by diverting money from general revenues.
- Subjecting half of all social security benefits to income taxes.

The Council found the current system financially sound, stating that the present low levels of funds are temporary and have "little bearing on the long-run financial strength" of the system.

A panel is appointed every 4 years to assess the social security system. The current Council was headed by Henry Aaron of the Brookings Institution.

Initial contract for Southern furniture workers

The AFL-CIO's Industrial Union Department, which for 2 years has been coordinating a drive to organize Southern furniture plants, announced that the United Furniture Workers of America has negotiated an initial contract with the Phoenix Chair Division of Thomasville Furniture Industries. The accord covered 500 workers in West Jefferson, N.C.

The IUD organizing director Harold McIver called the settlement a major breakthrough which will spur efforts to organize other Thomasville Furniture plants, as well as other furniture companies in the South. He said that Thomasville Furniture employs a total of 5,000 workers at 21 plants in North Carolina and Virginia.

The 1-year contract provides for a 9.5-percent wage increase, an additional paid holiday, and improvements in pension and health benefits.

Recording musicians approve new contract

American Federation of Musicians (AFM) members ratified a 25-month contract with the recording industry that provided for an 8-percent increase in wage scales, retroactive to November 1, and a 7-percent increase in November 1980. After the November 1980 increase, musicians' rates will be $146.81 for a basic 3-hour commercial session and $96.90 for a 1-1/2 hour session. For symphonic sessions, the new scales will be $115.62 for 3 hours and $207.49 for 4 hours.

AFM President Victor W. Fuentealba said that the union also gained provisions setting terms and conditions for recording chamber music and a new formula for "on location" recording of symphony and opera music. According to Fuentealba, these new provisions will improve employment opportunities for AFM members in the United States and Canada and eventually reduce the "flood of foreign recordings in the classical musical field."

The contract was approved by a 1,550 to 240 vote in a mail referendum. About 6,200 AFM members who earned at least $1,000 from phonograph recording in 1978 were eligible to vote.

More settlements in electrical equipment industry

The International Brotherhood of Electrical Workers and the International Union of Electrical Workers settled with RCA Corp., on terms that union sources said were similar to the General Electric Co. settlements that led off the round of bargaining in the electrical equipment industry (see *Monthly Labor Review*, September 1979, p. 61). The RCA accords were negotiated 2 weeks before the expiration date of existing contracts and covered 13,000 workers represented by the IBEW and 6,000 workers represented by IUE. The IBEW agreement is for 3 years and the IUE agreement is for 4 years, with a provision for reopening wage bargaining after the third year.

Wage provisions of the IBEW contract included increases of 12 cents an hour in the first year, 17.5 cents in the second, and 15 cents in the third. In addition, employees received an immediate cost-of-living increase of 38 cents an hour, and they will receive future automatic semiannual adjustments at the rate of 1 cent for each 0.2-percent movement in the Consumer Price Index. (The previous contract provided for annual adjustments of 1 cent for each 0.3-percent movement in the CPI, with no credit for that portion of any rise between 7 and 9 percent in a year.)

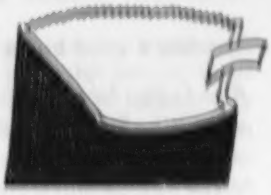
A major insurance improvement was the adoption of a company-financed dental plan for employees and dependents, effective January 1, 1981. The plan provides full coverage of usual and customary fees for diagnostic and preventive procedures and 50 percent coverage for restorative services, up to a maximum annual benefit of $750 per person. Other insurance improvements included $400,000 lifetime major medical coverage per disability (formerly $100,000); full payment of all family hospital-medical costs in excess of $1,000 a year; full payment for a second surgical opinion; maximum $200 a week sickness and accident benefits (formerly $175); and additional optional life insurance for dependents, financed by the employee.

The employee's share of the cost of the pension plan was reduced to 3 percent of that portion of annual earnings in excess of $9,000 (formerly $6,600). Minimum pension rates were increased to a range of $10 to $16 a month for each year of credited service, compared with $10 to $15 at General Electric. □

A note on communications

The *Monthly Labor Review* welcomes communications that supplement, challenge, or expand on research published in its pages. To be considered for publication, communications should be factual and analytical, not polemical in tone. Communications should be addressed to the Editor-in-Chief, *Monthly Labor Review*, Bureau of Labor Statistics, U.S. Department of Labor, Washington, D.C. 20212.

Book Reviews



People and jobs—taking the long view

Local Population and Employment Projection Techniques. By Michael R. Greenberg, Donald A. Kruekeberg, Connie O. Michaelson with Richard Mautner and Nancy Neuman. New Brunswick, N.J., The Center for Urban Policy Research, 1978. 277 pp.

The purpose of this monograph is to present and analyze models for the projection of population for minor civil divisions for up to 50 years and employment of counties for up to 25 years. Each set of models is introduced by a very clear, concise discussion of the usefulness and limitations of the variety of models currently available for projections.

Three classes of models for the projection of the population of minor civil divisions are given. As the authors explain, the simplest model is an extrapolation of the trend of historical growth rates; the second is based on distributional properties of projections made by regional or county agencies; the third increases or decreases populations on the basis of density limits. The monograph provides a thorough explanation of the population models described, including a summary based on empirical tests and informed judgments which examine the time or spatial appropriateness of each projection method. Both component, for example, cohort-survival and composite, and noncomponent, for example, trend extrapolation and housing unit methods, are analyzed.

The summary, along with the concise discussion which accompanies each method, is an excellent starting point for students of population projection methods. It also serves as a good review for those who have become "attached" to a particular methodology which may no longer fit the changing population trends of their area—or those who have accepted and long since forgotten the limitations inherent in a given method.

The discussion is followed by chapters describing the job set up and a listing of the input deck for a sample program. Because the boundaries of minor political units are frequently artificial, and thus inappropriate for many planning purposes, the authors have included an excellent chapter on allocations of population to other geographic delineations, such as river basins, market areas, and grid zones.

The second section of the monograph begins with an overview of employment projection techniques followed by a description of four models. The models include Constant Share, Simple Linear Regression, Population/Employment, and OBERS. The popularity (or criticisms, depending on one's point of view) of the OBERS projections makes this section extremely helpful.

The complexity and interdependences characteristic of our modern economic system encourage everyone, individuals, business firms, and government agencies to get into the projection ball game, often with disastrous results. There is no argument as to the need for constructive long term planning at the level of each political unit, especially the minor civil divisions. In addition, allocations of moneys from higher to lower political units are a widely used technique designed to accomplish the goal of local participation in current budgeting and expenditure planning. In some cases, funds are available to local units for the research necessary to develop long range programs and plans. However, more often than not, local expertise to carry out the research even with trained personnel may be less than adequate. No book can provide a complete solution to this problem. But for those not thoroughly familiar with projection techniques, as well as for those who need to update their expertise, this book provides an invaluable tool.

Lest one conclude that it is simply a technical manual for population and employment projections, I would reiterate its contribution in the summarization of the available methodology, specifically its emphasis on the appropriateness, complexity, and limitations of each method. The authors make excellent use of references to other more detailed works on projection methodology and empirical testing. Thus, from many standpoints, as a reference book, as a manual of projection models, and as a thorough analysis of methodology, the book serves its reader well.

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Landing a good blue-collar job

Blue-Collar Jobs for Women. By Muriel Lederer. New York, E. P. Dutton, 1979. 237 pp. $12.95, cloth; $7.95, paper.

The subtitle on the front cover of *Blue-Collar Jobs for Women,* "A Complete Guide to Getting Skilled and Getting a High-Paying Job in the Trades," is not that far off in its self-description, although it isn't until the final section of the book and the appendix that the author addresses both of these tasks. But *Blue-Collar Jobs for Women,* in spite of its title and like its predecessor, *New Job Opportunities for Women,* published in 1974, is a book not just for women. Rather, it is a book for minorities, the handicapped, and even men, who want to find out about skilled jobs and how to get them. In this regard, the book accomplishes its purpose.

In the first and largest section of the book, however, "Best Bets for Jobs that Pay," Lederer has assembled a compendium of craft and blue-collar job descriptions in a format similar to that of *New Job Opportunities for Women.* For each occupation the book describes in depth what the work entails, necessary training and abilities, potential earnings, and the occupational outlook. Although it appears that Lederer relies on data compiled and published by the Bureau of Labor Statistics, she does not mention the source of her figures nor to which year the salary figures refer.

Lederer also neglects to define clearly what she means by the blue-collar classification. The Bureau of the Census defines blue-collar occupations to include craftworkers (workers in construction and mechanics and repairers), as well as operatives and laborers. This distinction is crucial since it represents the wide skill level and salary range of blue-collar work. In giving salary estimates it perhaps would have been helpful for Lederer to point out that a particularly high figure—that for a skilled carpenter, for example—might refer to a union member in a metropolitan area, but be unrealistic for an unskilled worker in another area. It would be erroneous for women to assume that blue-collar work automatically provides an opportunity to make more money.

In reading this first section, one also wonders to what the ending of the chapter head "Best Bets for Jobs that Pay" refers. Is it money? Opportunity? One assumes it means both. Yet, some of the salary ranges are vast—electroplaters, for example, are quoted as making $2.75 to $9.80 per hour. And some of the openings for jobs, like printing occupations, are very few or declining.

But for the most part, Lederer conveys the job descriptions of the blue-collar occupations in an interesting and timely manner, chiefly by peppering the text with lots of remarks by women working in blue-collar jobs. For example, in her passage describing the plumber's occupation she writes:

> Mary Gardner admits that lady plumbers are rare so far. 'But my hands get between some tight-fitting pipes,' she says, waving a wrench in one hand and a piece of pipe in the other. 'I put a wet bar into a space 2 feet by 2 feet and I could hardly get my own two feet in to run the pipes to the existing kitchen system back-to-back.'

In general, these working women's comments interspersed throughout the text do more than hold the reader's attention. They are particularly illuminating to women interested in following the footsteps of the first successful few, for they give personal insights as to what the jobs are like, in the everyday working atmosphere, the rewards of working in skilled occupations, and what the obstacles were in breaking into the jobs. These passages are realistic. All of the women don't have instant success stories to tell. They have entered the skilled and craft trades in a variety of ways, some with more delays and difficulties than others. But they have entered and succeeded and their comments are testimony to their achievement.

Another passage on the job of the operating engineer repudiates the myth of women's physical incapacity for blue-collar jobs. It reads: "You wouldn't think that Lisa O'Malley, a petite redhead, could move tons of steel everyday in her job, but as a crane operator, that's exactly what she does. It's quite simple to operate a crane, she says. There are three controls for different directions, plus a brake and an alarm to warn people when the load is moving." At another point in the text Lederer makes the comment that men try to put women down for thinking they can excel in blue-collar jobs by telling them, "It's heavy work." Lederer asserts that women should best answer with a reply like, "But so is housework, gardening, nursing, and raising kids."

Besides describing blue-collar and skilled occupations, a big purpose of the book, as described by the subtitle, is explaining how to get into these jobs. Although Lederer begins the mission in the third chapter "Moving Toward Your Job" it is not until the appendix that she makes the forthright statement: "Here are some things you can do to start breaking into a blue-collar program." She suggests some organizations to contact and lists addresses of organizations devoted to women's upward mobility. The appendix of 40 pages is one of the most valuable parts of the book, containing a glossary and information on apprenticeships. Unfortunately, some of the addresses given by Lederer are out of date, undoubtedly a problem related to getting to press her lengthy research efforts.

In yet another respect the book proves valuable. Although the author glamorizes the economic rewards of blue-collar work, she tries not to glamorize other aspects of the occupations. Lederer says, "Are you willing to overlook the disadvantages of the job? Have you looked behind the scenes of what appears to be a glamorous job to see what the disadvantages are?" This may be an important assertion to the audience Lederer is chiefly concerned about, because to many women unknowledgeable about skilled and craft jobs, they may appear overly attractive for any number of reasons.

In the introduction, Lederer reminds us that millions of Rosie the Riveters performed innumerable skilled jobs during World War II. During the period from December 1941 to March 1944, 6.7 million women entered the labor force. Of these, 2.9 million were blue-collar workers. After the war their numbers diminished to the extent that census takers did not even count the remaining female blue-collar workers. In recent times, this has changed. Since 1970, the number of women in blue-collar jobs has almost doubled.

One of the reasons Lederer attributes to the recent increase in female blue-collar workers is economic benefit, and she reiterates this theme throughout the book, both in her own words and in her selection of comments from women workers themselves. But it is a point perhaps overemphasized. Lederer says: "Women are finding out what men have known for a long time: A skilled trade pays twice as much as a traditional women's white-collar job." While no one could argue with the credibility of money as a motivating factor, it is not the total nor necessarily the best explanation. For many women, the right to a skilled or craft job is not merely a matter of equal economic rights, but is a matter of equal rights to a job that will prove enormously satisfying. For some women, as well as for some men, meaning and satisfaction are the prime benefits in using their hands and minds in a skillful and complementary manner. These jobs provide an opportunity to use agility, strength, coordination, intelligence, and mechanical aptitudes, qualities over which men have no exclusive possession. So, the right to blue-collar jobs is not just an economic flight from the pink-collar ghetto. It is the flight for women to satisfying and fulfilling—economic and otherwise—jobs and opportunities.

—GAIL MARTIN
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Alienation in the organization

Life in Organizations: Workplaces as People Experience Them. Edited by Rosabeth Moss Kanter and Barry A. Stein. New York, Basic Books, Inc., Publishers, 1979. 444 pp. $17.50 cloth; $6.95, paper.

"The [organization] is too much with us soon and late, getting and spending we lay waste our powers . . ." seems to be one of this book's major implications which applies to organizational life in either the top or the bottom ranks. Those in the top cadre are typically too exhausted from the struggle to get ahead to understand fully why matters go as they do at the bottom; while those at the bottom devolve into cynicism because they feel they are never taken seriously enough by management to have a genuine effect on their own or their organization's performances. The author-editors through their selections and their contributions have shed much light on the ways that an imperfect human nature confounds and frustrates workers and managers alike in today's bureaucratic-organizational life.

A little more than a century ago, most people dwelt and earned their living in nearly the same physical location—the modest farm, store, workshop, and so on. Now the vast majority work far from their dwellings in large and complex organizations, which has generated an ethos often quite remote from the familiarity, loyalty, and sense of challenge of the earlier period. The gain in overall output and productivity during this transition was enormous; the resultant feelings of irritation and unease, beginning to border on an outright alienation among employees at the bottom, is what this collection seems to point to in the present work force.

Twenty-two selected essays or case studies, four of which are the editors' individual or collaborative work, are presented in two sections. First are those which examine separately top managers, middle managers, and ordinary workers, and, second, more generalized selections. Even through most of the latter, there continues to run a flavor of the officer (top and middle managers) versus enlisted man (worker) confrontation. The editors see in all of this a power struggle going on overtly and covertly at all levels of the modern social entities for producing and servicing which we call organizations.

At the top, power becomes a riddle intimately intertwined with the protagonist's vanity and ego fulfillment. A top manager is given authority or license to exert power, but quickly finds that the exercise of that power is dependent upon the covert sanctions and permissions granted by the follower managers, and that followers make this grant only when the top manager fills their needs or fits their expectations. When this does not occur, the struggle among the combatants drains energy away from the primary task of managing the overall organization.

Those at the bottom also want power, say the editors, but this is a highly localized power over the particular conditions of work of individuals or small groups. Where formal organizational rules successfully oppose worker controls of this nature, power can be exercised negatively by a rapid decline in responsibility for the quality of output or service, or even some forms of sabatoge.

Informal systems, operating around or beneath the formal rules, as described in several of the selections, particularly the Lordstown studies, illustrate how workers take power by controlling the way in which they work, without regard to management rules or collective bargaining agreements.

Much of managerial theory and training focuses on maintaining a flow of communications between managers, especially those in the middle range, and workers at the bottom. But, except in a few cases like the Scanlon Plan or the Lincoln Electric system, there is almost no earnest attempt to tap the common-sense knowledge the imaginative worker builds up over the years at a workplace. Management is most typically too preoccupied in "making it" up the executive ladder to invest the time and energy required. The employees joke that "there's the right way to do the job and the company way," and become increasingly indifferent to the goals of augmented quantity or quality of output. An officer-enlisted man culture persists as the chasm widens between the largely college trained managers and the less formally educated at the bottom. The trained professionals can't or won't accept the thoughts or ideas of those at the bottom, and this is often deeply resented, causing a pervasive dilution of the organization's potential.

In addition to the more common scenes of industrial workplaces, the collected selections here range over such organizations as universities, retail stores, government agencies, editorial offices, and others. The author-editors see this work as a practical book of advice, and there is much good advice and object lessons to be drawn. One case study presents a well-balanced account of participatory management in an insurance organization in which those at the top and at the bottom share control and power in some unique, and sometimes tenuous, ways.

In addition to the selections themselves, the introductory and summarizing commentary of the editors is knowledgeable and thoroughly straightforward, in fact, refreshingly free of the jargon and cliches so often found in this type of book. This is a solid piece of work that deserves to be read by all persons who are curious about, or have a stake in, modern organizations.

—KENNETH G. VAN AUKEN, JR.
Special Assistant to the Commissioner of Labor Statistics

Book notes

American Labor Sourcebook. Compiled by Bernard and Susan Rifkin. New York, McGraw-Hill Book Co., 1979, 928 pp. $39.95.

Anyone who spends $39.95 for this book on the basis of the publisher's claim that it "compiles all the essential information on labor-management negotiations" is likely to be disappointed. A reader with more modest expectations, who wants a lot of information in a single volume, may find it useful.

The 928-page book organizes into 20 sections a wealth of material photographically reproduced from publications of the Bureau of Labor Statistics, other U.S. government agencies, and the AFL-CIO.

The book begins with a review of "Labor in 1977 and 1978," consisting of "Developments in Industrial Relations" sections from 23 issues of the *Monthly Labor Review,* and ends with a selection of labor force and consumer price tables from the *Monthly Labor Review* and other BLS publications. In between, are sections describing the structure of the labor movement, labor and the courts, Federal labor laws and agencies, labor history, unemployment insurance, workers' compensation, other State labor legislation, and labor in the public sector, in politics, in foreign affairs, and in foreign countries. Also included are a glossary of labor terms, sample labor contract clauses, and *Monthly Labor Review* indexes from 1971 through 1978.

The Rifkins forthrightly credit most of this material to the *Monthly Labor Review,* the BLS *Directory of National Unions and Employee Associations,* the *Handbook of Labor Statistics,* the *Employment and Training Report of the President, Federal Labor Laws and Programs,* and the *U.S. Government Manual.* Nevertheless, the *Sourcebook* carries a standard copyright admonition that "no part of this publication may be reproduced . . . without prior written permission of the publisher."

McGraw-Hill has announced plans to produce biennial updates of the *Sourcebook* "to insure the continuing analysis of contemporary developments in the American labor movement." *Monthly Labor Review* subscribers may have the advantage of being able to preview these updates in the *Review.*

—HL

National Directory of Women's Employment Programs: Who They Are; What They Do. Washington, Wider Opportunities for Women, Inc., 1979. $7.50.

This book contains comprehensive information on organizations serving the needs of women entering the work force. Such organizations typically provide job counseling, development, training and placement services; assistance to employers, unions, schools, and other institutions regarding women's employment; and research, organizing, or advocacy activities related to women's employment.

The *Directory* describes 140 organizations—their names, addresses, telephone numbers, objectives and histories, programs and services, contact persons, publications, and also gives information on the number of employees in the organization and its funding.

The organizations are listed by States in four regions: *Midwest*—Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Nebraska, Ohio, and Wisconsin; *Northeast* —Connecticut, Delaware, District of Columbia, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, and Rhode Island; *South*—Alabama, Florida, Georgia, Kentucky, Louisiana, North Carolina, Tennessee, Texas, and Virginia; *West*—Arizona, California, Colorado, Hawaii, Oregon, Utah, and Washington.

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NOTES ON CURRENT LABOR STATISTICS

This section of the *Review* presents the principal statistical series collected and calculated by the Bureau of Labor Statistics. A brief introduction to each group of tables provides definitions, notes on the data, sources, and other material usually found in footnotes.

Readers who need additional information are invited to consult the BLS regional offices listed on the inside front cover of this issue of the *Review*. Some general notes applicable to several series are given below.

Seasonal adjustment. Certain monthly and quarterly data are adjusted to eliminate the effect of such factors as climatic conditions, industry production schedules, opening and closing of schools, holiday buying periods, and vacation practices, which might otherwise mask short-term movements of the statistical series. Tables containing these data are identified as "seasonally adjusted." Seasonal effects are estimated on the basis of past experience. When new seasonal factors are computed each year, revisions may affect seasonally adjusted data for several preceding years. For a technical discussion of the method used to make seasonal adjustments, see "Appendix A. The BLS Seasonal Factor Method," *BLS Handbook of Methods for Surveys and Studies*, Bulletin 1910 (Bureau of Labor Statistics, 1976), pp. 272–78, and *X-11 Variant of the Census Method II Seasonal Adjustment Program*, Technical Paper No. 15 (Bureau of the Census, 1967). Seasonally adjusted employment data in tables 2–7 were last revised in the February 1979 issue of the *Review* to reflect the preceding year's experience. Annual revision of the seasonally adjusted payroll data in tables 11, 13, 16, and 18 was last introduced in the November 1979 issue of the *Review*. New seasonal factors for productivity data in tables 33 and 34 are usually introduced in the September issue. Seasonally adjusted indexes and percent changes from month to month and from quarter to quarter are published for numerous Consumer and Producer Price Index series. However, seasonally adjusted indexes are not published for the U.S. average All Items CPI. Only seasonally adjusted percent changes are available for this series.

Adjustments for price changes. Some data are adjusted to eliminate the effect of changes in price. These adjustments are made by dividing current dollar values by the Consumer Price Index or the appropriate component of the index, then multiplying by 100. For example, given a current hourly wage rate of $3 and a current price index number of 150, where 1967 = 100, the hourly rate expressed in 1967 dollars is $2 ($3/150 × 100 = $2). The resulting values are described as "real," "constant," or "1967" dollars.

Availability of information. Data that supplement the tables in this section are published by the Bureau of Labor Statistics in a variety of sources. Press releases provide the latest statistical information published by the Bureau; the major recurring releases are published according to the schedule given below. The *Handbook of Labor Statistics 1977*, Bulletin 1966, provides more detailed data and greater historical coverage for most of the statistical series presented in the *Monthly Labor Review*. More information from the household and establishment surveys is provided in *Employment and Earnings*, a monthly publication of the Bureau, and in two comprehensive data books issued annually—*Employment and Earnings, United States* and *Employment and Earnings, States and Areas*. More detailed information on wages and other aspects of collective bargaining appears in the monthly periodical, *Current Wage Developments*. More detailed price information is published each month in the periodicals, the *CPI Detailed Report* and *Producer Prices and Price Indexes*. Selected key statistical series are presented graphically in the monthly *Chartbook on Prices, Wages, and Productivity*.

Symbols

p = preliminary. To improve the timeliness of some series, preliminary figures are issued based on representative but incomplete returns.

r = revised. Generally this revision reflects the availability of later data but may also reflect other adjustments.

n.e.c. = not elsewhere classified.

Schedule of release dates for major BLS statistical series

Title and frequency (monthly except where indicated)	Release date	Period covered	Release date	Period covered	MLR table number
Producer Price Indexes	January 10	December	February 15	January	26 - 30
Employment situation	January 11	December	February 1	January	1 - 11
Consumer Price Index	January 25	December	February 22	January	22 - 25
Real earnings	January 25	December	February 22	January	14 - 20
Productivity and costs (quarterly):					
Nonfarm business and manufacturing	January 28	.....	.....	.....	31 - 34
Nonfinancial corporations	.....	.....	February 27	.....	31 - 34
Work stoppages	January 29	December	February 28	January	37
Labor turnover in manufacturing	January 30	December	February 29	January	12 - 13

EMPLOYMENT DATA FROM THE HOUSEHOLD SURVEY

EMPLOYMENT DATA in this section are obtained from the Current Population Survey, a program of personal interviews conducted monthly by the Bureau of the Census for the Bureau of Labor Statistics. The sample consists of about 56,000 households, selected to represent the U.S. population 16 years of age and older. Households are interviewed on a rotating basis, so that three-fourths of the sample is the same for any 2 consecutive months.

Definitions

Employed persons are (1) those who worked for pay any time during the week which includes the 12th day of the month or who worked unpaid for 15 hours or more in a family-operated enterprise and (2) those who were temporarily absent from their regular jobs because of illness, vacation, industrial dispute, or similar reasons. A person working at more than one job is counted only in the job at which he or she worked the greatest number of hours.

Unemployed persons are those who did not work during the survey week, but were available for work except for temporary illness and had looked for jobs within the preceding 4 weeks. Persons who were available for work but did not work because they were on layoff or waiting to start new jobs within the next 30 days are also counted among the unemployed. The **unemployment rate** represents the number unemployed as a percent of the civilian labor force.

The **civilian labor force** consists of all employed or unemployed persons in the civilian noninstitutional population; the **total labor force** includes military personnel. Persons **not in the labor force** are those not classified as employed or unemployed; this group includes persons retired, those engaged in their own housework, those not working while attending school, those unable to work because of longterm illness, those discouraged from seeking work because of personal or job market factors, and those who are voluntarily idle. The **noninstitutional population** comprises all persons 16 years of age and older who are not inmates of penal or mental institutions, sanitariums, or homes for the aged, infirm, or needy.

Full-time workers are those employed at least 35 hours a week; **part-time workers** are those who work fewer hours. Workers on part-time schedules for economic reasons (such as slack work, terminating or starting a job during the week, material shortages, or inability to find full-time work) are among those counted as being on full-time status, under the assumption that they would be working full time if conditions permitted. The survey classifies unemployed persons in full-time or part-time status by their reported preferences for full-time or part-time work.

Notes on the data

From time to time, and especially after a decennial census, adjustments are made in the Current Population Survey figures to correct for estimating errors during the preceding years. These adjustments affect the comparability of historical data presented in table 1.

Data for periods prior to January 1978 are not strictly comparable with current data because of the introduction of an expansion in the sample and revisions in the estimation procedures. For an explanation of the supplementation procedures and an indication of the differences, see "Revisions in the Current Population Survey in January 1978," *Employment and Earnings*, February 1978, pp. 7–10.

Data in tables 2–7 are seasonally adjusted, based on the seasonal experience through December 1978.

1. Employment status of the noninstitutional population, 16 years and over, selected years, 1950–78

[Numbers in thousands]

Year	Total noninstitutional population	Total labor force		Civilian labor force						Not in labor force
		Number	Percent of population	Total	Employed			Unemployed		
					Total	Agriculture	Nonagricultural industries	Number	Percent of labor force	
1950	106,645	63,858	59.9	62,208	58,920	7,160	51,760	3,288	5.3	42,787
1955	112,732	68,072	60.4	65,023	62,171	6,449	55,724	2,852	4.4	44,660
1960	119,759	72,142	60.2	69,628	65,778	5,458	60,318	3,852	5.5	47,617
1964	127,224	75,830	59.6	73,091	69,305	4,523	64,782	3,786	5.2	51,394
1965	129,236	77,178	59.7	74,455	71,088	4,361	66,726	3,366	4.5	52,058
1966	131,180	78,893	60.1	75,770	72,895	3,979	68,915	2,875	3.8	52,288
1967	133,319	80,793	60.6	77,347	74,372	3,844	70,527	2,975	3.8	52,527
1968	135,562	82,272	60.7	78,737	75,920	3,817	72,103	2,817	3.6	53,291
1969	137,841	84,239	61.1	80,733	77,902	3,606	74,296	2,831	3.5	53,602
1970	140,182	85,903	61.3	82,715	78,627	3,462	75,165	4,088	4.9	54,280
1971	142,596	86,929	61.0	84,113	79,120	3,387	75,732	4,993	5.9	55,666
1972	145,775	88,991	61.0	86,542	81,702	3,472	78,230	4,840	5.6	56,785
1973	148,263	91,040	61.4	88,714	84,409	3,452	80,957	4,304	4.9	57,222
1974	150,827	93,240	61.8	91,011	85,936	3,492	82,443	5,076	5.6	57,587
1975	153,449	94,793	61.8	92,613	84,783	3,380	81,403	7,830	8.5	58,655
1976	156,048	96,917	62.1	94,773	87,485	3,297	84,188	7,288	7.7	59,130
1977	158,559	99,534	62.8	97,401	90,546	3,244	87,302	6,855	7.0	59,025
1978	161,058	102,537	63.7	100,420	94,373	3,342	91,031	6,047	6.0	58,521

2. Employment status by sex, age, and race, seasonally adjusted

[Numbers in thousands]

Employment status	Annual Average		1978		1979										
	1977	1978	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.
TOTAL															
Total noninstitutional population[1]	158,559	161,058	162,033	162,250	162,448	162,633	162,909	163,008	163,260	163,469	163,685	163,891	164,106	164,468	164,682
Total labor force	99,534	102,537	103,745	103,975	104,277	104,621	104,804	104,193	104,325	104,604	105,141	105,139	105,580	105,567	105,777
Civilian noninstitutional population[1]	156,426	158,941	159,916	160,142	160,353	160,539	160,819	160,926	161,182	161,393	161,604	161,801	162,013	162,375	162,589
Civilian labor force	97,401	100,420	101,628	101,867	102,183	102,527	102,714	102,111	102,247	102,528	103,059	103,049	103,498	103,474	103,685
Employed	90,546	94,373	95,751	95,855	96,300	96,647	96,842	96,174	96,316	96,754	97,210	96,900	97,513	97,293	97,646
Agriculture	3,244	3,342	3,275	3,387	3,232	3,311	3,343	3,186	3,184	3,260	3,262	3,322	3,400	3,238	3,426
Nonagricultural industries	87,302	91,031	92,476	92,468	93,068	93,335	93,499	92,987	93,134	93,494	93,949	93,578	94,113	94,005	94,221
Unemployed	6,855	6,047	5,877	6,012	5,883	5,881	5,871	5,937	5,929	5,774	5,848	6,149	5,985	6,182	6,039
Unemployment rate	7.0	6.0	5.8	5.9	5.8	5.7	5.7	5.8	5.8	5.6	5.7	6.0	5.8	6.0	5.8
Not in labor force	59,025	58,521	58,288	58,275	58,170	58,012	58,105	58,815	58,935	58,865	58,545	58,752	58,515	58,901	58,904
Men, 20 years and over															
Civilian noninstitutional population[1]	65,796	67,006	67,486	67,600	67,726	67,816	67,930	67,997	68,123	68,227	68,319	68,417	68,522	68,697	68,804
Civilian labor force	52,464	53,464	53,938	54,033	54,333	54,485	54,444	54,243	54,261	54,395	54,567	54,527	54,653	54,696	54,683
Employed	49,737	51,212	51,825	51,838	52,133	52,331	52,264	52,056	52,157	52,299	52,319	52,227	52,382	52,366	52,347
Agriculture	2,308	2,361	2,337	2,403	2,293	2,324	2,355	2,271	2,274	2,306	2,323	2,385	2,395	2,372	2,465
Nonagricultural industries	47,429	48,852	49,488	49,435	49,841	50,007	49,909	49,785	49,883	49,993	49,996	49,843	49,987	49,994	49,882
Unemployed	2,727	2,252	2,113	2,195	2,200	2,154	2,180	2,187	2,105	2,096	2,249	2,300	2,271	2,330	2,336
Unemployment rate	5.2	4.2	3.9	4.1	4.0	4.0	4.0	4.0	3.9	3.9	4.1	4.2	4.2	4.3	4.3
Not in labor force	13,332	13,541	13,548	13,567	13,393	13,331	13,495	13,754	13,862	13,832	13,752	13,890	13,869	14,001	14,121
Women, 20 years and over															
Civilian noninstitutional population[1]	74,160	75,489	76,001	76,119	76,228	76,332	76,476	76,532	76,670	76,784	76,897	77,006	77,124	77,308	77,426
Civilian labor force	35,665	37,416	38,095	38,217	38,185	38,429	38,642	38,345	38,560	38,596	39,010	39,292	39,331	39,317	39,516
Employed	33,199	35,180	35,887	35,990	36,019	36,252	36,440	36,165	36,323	36,373	36,861	36,968	37,178	37,039	37,325
Agriculture	537	586	571	591	586	608	613	580	543	592	584	596	640	556	632
Nonagricultural industries	32,662	34,593	35,316	35,399	35,433	35,644	35,827	35,584	35,780	35,781	36,276	36,371	36,538	36,483	36,693
Unemployed	2,486	2,236	2,208	2,227	2,166	2,177	2,201	2,180	2,237	2,223	2,150	2,324	2,153	2,279	2,190
Unemployment rate	7.0	6.0	5.8	5.8	5.7	5.7	5.7	5.7	5.8	5.8	5.5	5.9	5.5	5.8	5.5
Not in labor force	38,474	38,073	37,906	37,902	38,043	37,903	37,834	38,187	38,110	38,188	37,887	37,714	37,793	37,991	37,910
Both sexes, 16 - 19 years															
Civilian noninstitutional population[1]	16,470	16,447	16,429	16,422	16,400	16,391	16,404	16,397	16,389	16,381	16,387	16,377	16,367	16,370	16,360
Civilian labor force	9,252	9,540	9,595	9,617	9,665	9,613	9,628	9,523	9,426	9,537	9,481	9,230	9,514	9,461	9,487
Employed	7,610	7,981	8,039	8,027	8,148	8,064	8,138	7,953	7,839	8,082	8,031	7,705	7,953	7,888	7,974
Agriculture	399	395	367	393	354	380	375	335	368	362	355	341	365	360	329
Nonagricultural industries	7,211	7,586	7,672	7,634	7,794	7,684	7,763	7,618	7,471	7,720	7,676	7,364	7,588	7,528	7,645
Unemployed	1,642	1,559	1,556	1,590	1,517	1,549	1,490	1,570	1,587	1,455	1,450	1,525	1,561	1,573	1,513
Unemployment rate	17.7	16.3	16.2	16.5	15.7	16.1	15.5	16.5	16.8	15.3	15.3	16.5	16.4	16.6	15.9
Not in labor force	7,218	6,907	6,834	6,805	6,735	6,778	6,776	6,874	6,963	6,844	6,906	7,147	6,853	6,909	6,873
WHITE															
Civilian noninstitutional population[1]	137,595	139,580	140,332	140,507	140,683	140,825	141,063	141,123	141,331	141,482	141,661	141,822	141,981	142,296	142,461
Civilian labor force	86,107	88,456	89,468	89,747	90,093	90,395	90,415	89,923	90,018	90,279	90,554	90,662	91,081	90,997	91,280
Employed	80,734	83,836	85,013	85,125	85,543	85,941	85,938	85,479	85,515	85,871	86,093	85,829	86,395	86,243	86,579
Unemployed	5,373	4,620	4,455	4,622	4,550	4,453	4,478	4,444	4,503	4,409	4,460	4,832	4,687	4,755	4,702
Unemployment rate	6.2	5.2	5.0	5.2	5.1	4.9	5.0	4.9	5.0	4.9	4.9	5.3	5.1	5.2	5.2
Not in labor force	51,488	51,124	50,864	50,760	50,590	50,430	50,648	51,200	51,313	51,213	51,107	51,161	50,900	51,299	51,181
BLACK AND OTHER															
Civilian noninstitutional population[1]	18,831	19,361	19,585	19,635	19,670	19,714	19,755	19,802	19,850	19,901	19,943	19,979	20,032	20,079	20,128
Civilian labor force	11,294	11,964	12,163	12,153	12,077	12,228	12,251	12,175	12,176	12,272	12,364	12,340	12,408	12,546	12,392
Employed	9,812	10,537	10,746	10,758	10,725	10,775	10,878	10,734	10,767	10,883	11,025	10,987	11,095	11,083	11,057
Unemployed	1,482	1,427	1,417	1,395	1,352	1,452	1,374	1,442	1,409	1,389	1,338	1,353	1,313	1,463	1,335
Unemployment rate	13.1	11.9	11.7	11.5	11.2	11.9	11.2	11.8	11.6	11.3	10.8	11.0	10.6	11.7	10.8
Not in labor force	7,536	7,397	7,422	7,482	7,593	7,486	7,504	7,627	7,674	7,629	7,579	7,639	7,264	7,533	7,736

[1] As in table 1, population figures are not seasonally adjusted.

3. Selected employment indicators, seasonally adjusted

[In thousands]

Selected categories	Annual average		1978		1979										
	1977	1978	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.
CHARACTERISTIC															
Total employed, 16 years and over	90,546	94,373	95,751	95,855	96,300	96,647	96,842	96,174	96,318	96,754	97,210	96,900	97,513	97,293	97,646
Men	53,861	55,491	56,096	56,072	56,449	56,549	56,559	56,267	56,352	56,638	56,595	56,316	56,653	56,539	56,545
Women	36,685	38,882	39,655	39,783	39,851	40,098	40,283	39,907	39,966	40,116	40,615	40,585	40,860	40,754	41,101
Married men, spouse present	38,397	38,688	38,944	39,039	39,202	39,374	39,291	38,917	38,968	39,055	39,163	39,146	39,175	39,135	38,809
Married women, spouse present	20,976	21,881	22,274	22,297	22,410	22,632	22,700	22,355	22,490	22,580	22,890	22,777	22,965	22,922	22,937
OCCUPATION															
White-collar workers	45,187	47,205	47,888	48,040	48,275	49,001	49,133	49,160	49,104	49,165	49,573	49,615	49,779	49,648	49,869
Professional and technical	13,692	14,245	14,297	14,629	14,743	15,034	15,083	15,226	15,220	15,053	15,063	14,983	15,078	14,929	14,941
Managers and administrators, except farm	9,662	10,105	10,030	10,217	10,322	10,414	10,407	10,409	10,374	10,565	10,675	10,772	10,640	10,648	10,530
Salesworkers	5,728	5,951	6,192	6,092	6,055	6,141	6,067	6,079	6,091	6,065	6,161	6,085	6,114	6,247	6,451
Clerical workers	16,106	16,904	17,369	17,102	17,154	17,412	17,577	17,446	17,418	17,481	17,673	17,774	17,947	17,825	17,947
Blue-collar workers	30,211	31,531	32,202	31,962	32,491	32,331	32,085	31,582	31,826	31,958	31,949	31,767	32,287	32,191	32,169
Craft and kindred workers	11,881	12,386	12,646	12,610	12,842	12,932	12,808	12,697	12,790	13,003	12,832	12,755	13,057	12,974	12,912
Operatives, except transport	10,354	10,875	11,177	10,887	11,047	10,953	11,060	10,651	10,664	10,759	10,853	10,880	10,987	10,989	11,048
Transport equipment operatives	3,476	3,541	3,640	3,640	3,678	3,618	3,565	3,550	3,667	3,596	3,610	3,571	3,622	3,561	3,648
Nonfarm laborers	4,501	4,729	4,739	4,825	4,924	4,829	4,652	4,684	4,706	4,600	4,652	4,561	4,621	4,667	4,561
Service workers	12,392	12,839	13,009	13,007	12,777	12,770	12,856	12,909	12,754	12,946	12,697	12,591	12,796	12,977	12,935
Farmworkers	2,756	2,798	2,739	2,826	2,759	2,742	2,803	2,624	2,600	2,683	2,657	2,703	2,736	2,702	2,760
MAJOR INDUSTRY AND CLASS OF WORKER															
Agriculture:															
Wage and salary workers	1,331	1,419	1,424	1,478	1,365	1,429	1,419	1,362	1,439	1,445	1,403	1,363	1,391	1,373	1,504
Self-employed workers	1,570	1,607	1,563	1,625	1,547	1,550	1,595	1,531	1,490	1,525	1,552	1,632	1,678	1,617	1,631
Unpaid family workers	344	316	293	318	293	348	324	282	270	293	294	310	327	312	313
Nonagricultural industries:															
Wage and salary workers	80,804	84,253	85,578	85,579	86,169	86,346	86,592	86,195	86,129	86,309	86,277	86,227	86,891	87,032	86,983
Government	15,153	15,289	15,373	15,360	15,217	15,293	15,224	15,356	15,635	12,257	15,382	15,260	15,450	15,549	15,393
Private igdustries	65,651	68,966	70,205	70,219	70,952	71,053	71,368	70,839	70,494	71,051	70,895	70,967	71,441	71,483	71,590
Private households	1,376	1,363	1,335	1,316	1,245	1,334	1,255	1,160	1,177	1,236	1,217	1,205	1,332	1,270	1,212
Other industries	64,275	67,603	68,870	68,903	69,707	69,719	70,112	69,679	69,317	69,816	69,678	69,761	70,109	70,213	70,378
Self-employed workers	6,005	6,305	6,370	6,515	6,529	6,632	6,585	6,468	6,625	6,600	6,753	6,649	6,682	6,814	6,760
Unpaid family workers	492	472	455	460	478	456	443	471	466	482	529	443	453	421	409
PERSONS AT WORK[1]															
Nonagricultural industries	81,999	85,693	86,653	87,046	87,490	87,592	87,955	86,345	87,727	87,843	89,074	89,154	88,824	88,487	88,372
Full-time schedules	67,262	70,543	71,394	71,787	72,209	72,250	72,623	71,554	72,476	72,230	73,138	73,222	73,252	73,164	72,785
Part time for economic reasons	3,297	3,216	3,131	3,058	3,159	3,147	3,179	3,312	3,307	3,416	3,340	3,355	3,111	3,230	3,358
Usually work full time	1,257	1,249	1,279	1,209	1,208	1,205	1,235	1,265	1,246	1,416	1,394	1,478	1,255	1,293	1,419
Usually work part time	2,040	1,967	1,852	1,849	1,951	1,942	1,944	2,048	2,061	2,000	1,946	1,877	1,856	1,937	1,939
Part time for noneconomic reasons	11,440	11,934	12,128	12,201	12,122	12,195	12,154	11,479	11,943	12,198	12,597	12,577	2,461	12,093	12,228

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[1] Excludes persons "with a job but not at work" during the survey period for such reasons as vacation, illness, or industrial disputes.

4. Selected unemployment indicators, seasonally adjusted

Employment status	Annual average		1978		1979										
	1977	1978	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.
CHARACTERISTIC															
Total, 16 years and over	7.0	6.0	5.8	5.9	5.8	5.7	5.7	5.8	5.8	5.6	5.7	6.0	5.8	6.0	5.8
Men, 20 years and over	5.2	4.2	3.9	4.1	4.0	4.0	4.0	4.0	3.9	3.9	4.1	4.2	4.2	4.3	4.3
Women, 20 years and over	7.0	6.0	5.8	5.8	5.7	5.7	5.7	5.7	5.8	5.8	5.5	5.9	5.5	5.8	5.5
Both sexes, 16-19 years	17.7	16.3	16.2	16.5	15.7	16.1	15.1	16.5	16.8	15.3	15.3	16.5	16.4	16.6	15.9
White, total	6.2	5.2	5.0	5.2	5.1	4.9	5.0	4.9	5.0	4.9	4.9	5.3	5.1	5.2	5.2
Men, 20 years and over	4.6	3.7	3.4	3.5	3.6	3.4	3.4	3.4	3.3	3.4	3.6	3.8	3.7	3.7	3.8
Women, 20 years and over	6.2	5.2	5.0	5.1	5.0	5.0	5.0	4.9	5.1	5.0	4.7	5.2	4.8	5.1	4.9
Both sexes, 16-19 years	15.4	13.9	13.8	14.2	13.7	13.6	13.6	13.9	14.3	13.0	13.3	14.9	14.6	14.4	14.0
Black and other, total	13.1	11.9	11.7	11.5	11.2	11.8	11.2	11.8	11.6	11.3	10.8	11.0	10.6	11.7	10.8
Men, 20 years and over	10.0	8.6	8.3	8.4	7.8	8.6	8.8	8.6	8.4	7.9	8.3	8.3	7.9	9.0	8.3
Women, 20 years and over	11.7	10.6	10.3	10.2	10.6	10.6	9.8	10.8	9.9	10.8	9.8	10.3	9.6	10.1	9.3
Both sexes, 16-19 years	38.3	36.3	36.5	34.9	32.7	35.5	31.5	34.5	38.9	34.0	30.9	30.7	31.5	35.7	33.1
Married men, spouse present	3.6	2.8	2.4	2.5	2.6	2.6	2.6	2.7	2.5	2.6	2.9	3.0	2.8	2.9	2.9
Married women, spouse present	6.5	5.5	5.5	5.6	5.3	5.1	5.1	5.2	5.2	5.2	4.8	5.4	4.7	5.3	4.8
Women who head families	9.3	8.5	7.7	7.7	7.8	8.3	8.3	8.4	8.9	9.1	8.1	7.9	7.6	8.4	8.3
Full-time workers	6.5	5.5	5.2	5.3	5.2	5.2	5.1	5.3	5.2	5.1	5.3	5.4	5.4	5.5	5.4
Part-time workers	9.8	9.0	8.9	9.2	9.1	8.6	9.2	8.8	9.6	8.6	8.2	8.8	8.3	9.0	8.2
Unemployed 15 weeks and over	2.0	1.4	1.2	1.2	1.2	1.2	1.3	1.2	1.2	1.1	1.0	1.2	1.1	1.2	1.1
Labor force time lost[1]	7.6	6.5	6.2	6.2	6.2	6.2	6.1	6.5	6.3	6.3	6.4	6.5	6.2	6.4	6.4
OCCUPATION															
White-collar workers	4.3	3.5	3.2	3.5	3.3	3.4	3.4	3.3	3.2	3.4	3.2	3.6	3.3	3.5	3.1
Professional and technical	3.0	2.6	2.4	3.0	2.5	2.3	2.1	2.2	2.0	2.5	2.5	2.6	2.5	2.8	2.4
Managers and administrators, except farm	2.8	2.1	2.2	1.9	2.0	1.9	2.2	2.3	2.2	2.0	1.9	2.3	2.2	2.3	1.9
Salesworkers	5.3	4.1	3.1	3.6	3.8	4.3	4.1	4.0	4.0	4.5	3.5	4.2	3.9	3.8	3.5
Clerical workers	5.9	4.9	4.5	4.6	4.6	4.7	4.9	4.5	4.6	4.6	4.4	5.0	4.5	4.7	4.3
Blue-collar workers	8.1	6.9	6.4	6.8	6.4	6.4	6.6	6.9	6.7	6.5	6.8	7.6	7.1	7.3	7.5
Craft and kindred workers	5.6	4.6	4.0	4.7	4.5	4.7	4.6	4.2	4.0	4.2	4.2	4.9	4.1	4.8	4.9
Operatives, except transport	9.5	8.1	7.5	7.7	7.6	7.6	7.7	8.6	8.3	7.7	8.3	9.3	9.2	9.2	8.9
Transport equipment operatives	6.6	5.2	4.2	5.3	4.9	5.0	5.2	6.0	5.4	5.5	5.2	6.8	6.2	5.6	4.9
Nonfarm laborers	12.0	10.7	11.6	11.0	9.4	9.3	10.3	10.5	11.1	10.3	10.9	11.5	10.8	10.6	12.7
Service workers	8.2	7.4	7.4	7.7	7.9	7.1	7.2	7.4	7.2	7.2	7.2	7.0	6.7	7.0	6.6
Farmworkers	4.6	3.8	3.2	3.4	2.8	3.6	3.2	3.4	3.5	3.1	4.5	3.8	4.2	4.3	4.4
INDUSTRY															
Nonagricultural private wage and salary workers[2]	7.0	5.9	5.6	5.8	5.7	5.6	5.5	5.7	5.7	5.6	5.7	6.1	5.8	6.0	5.9
Construction	12.7	10.6	10.8	12.1	10.6	11.5	10.2	10.3	9.6	9.6	9.5	9.5	8.8	10.1	10.5
Manufacturing	6.7	5.5	5.1	5.0	5.0	4.8	5.2	5.4	5.4	5.3	5.8	6.2	6.1	6.2	5.9
Durable goods	6.2	4.9	4.6	4.4	4.4	4.1	4.3	4.6	4.4	4.6	5.5	5.7	5.3	5.6	5.7
Nondurable goods	7.4	6.3	5.8	6.0	5.9	5.8	6.4	6.5	7.0	6.2	6.2	6.9	7.3	7.0	6.1
Transportation and public utilities	4.7	3.7	3.3	3.3	3.5	3.0	4.0	2.9	3.5	3.0	3.9	3.8	4.1	3.8	4.3
Wholesale and retail trade	8.0	6.9	6.5	6.8	6.5	6.6	6.2	6.6	6.4	6.8	6.2	6.6	6.4	6.5	6.5
Finance and service industries	6.0	5.1	5.0	5.1	5.1	4.8	4.7	4.8	5.0	4.7	4.9	5.4	4.7	4.9	4.6
Government workers	4.2	3.9	3.9	4.0	4.9	3.7	4.1	3.6	3.5	3.6	3.5	3.8	3.3	4.1	3.6
Agricultural wage and salary workers	11.1	8.8	7.9	7.7	7.2	8.9	7.7	8.6	9.3	7.7	10.4	9.9	10.3	9.8	10.2

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[1] Aggregate hours lost by the unemployed and persons on part time for economic reasons as a percent of potentially available labor force hours.

[2] Includes mining, not shown separately.

5. Unemployment rates, by sex and age, seasonally adjusted

Sex and age	Annual average		1978		1979										
	1977	1978	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.
Total, 16 years and over	7.0	6.0	5.8	5.9	5.8	5.7	5.7	5.8	5.8	5.6	5.7	6.0	5.8	6.0	5.8
16 to 19 years	17.7	16.3	16.2	16.5	15.7	16.1	15.5	16.5	16.8	15.3	15.3	16.5	16.4	16.6	15.9
16 to 17 years	19.9	19.3	19.3	20.2	18.4	18.4	18.9	19.1	19.2	16.7	17.1	18.1	16.8	18.5	17.4
18 to 19 years	16.2	14.2	14.0	13.8	13.6	14.6	13.1	14.3	15.2	14.1	14.4	15.5	16.0	15.3	14.8
20 to 24 years	10.9	9.5	9.0	9.3	8.6	8.6	8.8	8.5	8.9	8.9	9.0	9.3	9.2	9.5	8.8
25 years and over	4.9	4.0	3.8	3.9	3.9	3.9	3.9	4.0	3.8	3.8	3.9	4.1	3.8	4.0	4.0
25 to 54 years	5.1	4.2	4.0	4.2	4.2	4.1	4.1	4.2	4.0	4.0	4.0	4.3	4.1	4.3	4.3
55 years and over	4.1	3.2	2.9	2.9	2.9	3.0	3.1	3.1	3.2	2.9	3.2	3.2	2.9	2.9	2.8
Men, 16 years and over	6.2	5.2	5.0	5.1	5.1	5.0	5.0	5.1	4.9	4.7	5.0	5.2	5.2	5.2	5.2
16 to 19 years	17.3	15.7	15.9	16.7	16.1	16.5	16.0	16.2	16.1	14.1	14.9	16.0	16.2	15.7	15.9
16 to 17 years	19.5	19.2	20.1	20.7	19.1	19.2	18.9	18.0	19.0	15.8	15.2	17.3	16.6	17.1	18.3
18 to 19 years	15.6	13.2	12.7	13.6	13.5	14.7	13.2	14.2	14.1	13.5	14.9	15.3	15.6	14.6	13.9
20 to 24 years	10.7	9.1	8.5	8.9	8.4	8.2	8.4	7.8	8.0	8.0	8.8	8.9	8.8	9.5	8.4
25 years and over	4.2	3.3	3.1	3.2	3.2	3.2	3.2	3.3	3.1	3.1	3.3	3.5	3.4	3.4	3.5
25 to 54 years	4.3	3.4	3.2	3.4	3.3	3.2	3.3	3.4	3.1	3.1	3.3	3.6	3.5	3.6	3.8
55 years and over	3.9	3.1	2.5	2.6	2.8	2.8	2.8	3.0	2.9	3.1	3.4	3.2	2.9	2.7	2.6
Women, 16 years and over	8.2	7.2	6.9	6.9	6.7	6.7	6.7	6.9	7.0	6.9	6.6	7.0	6.6	7.0	6.6
16 to 19 years	18.3	17.0	16.5	16.3	15.3	15.7	14.8	16.8	17.7	16.6	15.8	17.1	16.7	17.6	16.0
16 to 17 years	20.4	19.5	18.3	19.6	17.5	17.4	17.8	20.2	19.3	17.7	19.2	18.9	17.0	20.0	16.3
18 to 19 years	16.8	15.3	15.5	14.1	13.6	14.4	13.0	14.4	16.4	14.8	13.8	15.8	16.5	16.0	15.9
20 to 24 years	11.2	10.1	9.6	9.7	8.9	9.1	9.4	9.4	9.9	9.9	9.3	9.9	9.7	9.6	9.3
25 years and over	6.0	5.1	4.9	5.0	5.0	4.9	4.8	4.9	5.0	4.8	4.7	5.0	4.6	4.9	4.7
25 to 54 years	6.4	5.4	5.2	5.3	5.4	5.3	5.2	5.2	5.2	5.3	5.0	5.4	4.9	5.3	5.0
55 years and over	4.5	3.3	3.5	3.3	3.1	3.3	3.6	3.1	3.7	2.7	2.9	3.3	3.0	3.4	3.1

6. Unemployed persons, by reason for unemployment, seasonally adjusted

[Numbers in thousands]

Reason for unemployment	1978		1979										
	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.
NUMBER OF UNEMPLOYED													
Lost last job	2,372	2,442	2,454	2,481	2,440	2,521	2,361	2,358	2,532	2,724	2,608	2,771	2,745
On layoff	746	715	753	792	789	846	710	796	793	960	836	916	1,008
Other job losers	1,626	1,727	1,701	1,689	1,652	1,675	1,652	1,562	1,739	1,765	1,771	1,855	1,737
Left last job	825	871	927	829	863	847	951	867	838	894	818	825	843
Reentered labor force	1,754	1,937	1,692	1,756	1,788	1,790	1,762	1,738	1,737	1,798	1,785	1,788	1,665
Seeking first job	872	826	823	874	822	811	841	787	694	720	803	793	737
PERCENT DISTRIBUTION													
Total unemployed	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Job losers	40.7	40.2	41.6	41.8	41.3	42.2	39.9	41.0	43.7	44.4	43.4	44.9	45.8
On layoff	12.8	11.8	12.8	13.3	13.3	14.2	12.0	13.8	13.7	15.6	13.9	14.8	16.8
Other job losers	27.9	28.4	28.9	28.4	27.9	28.1	27.9	27.2	30.0	28.8	29.5	30.0	29.0
Job leavers	14.2	14.3	15.7	14.0	14.6	14.2	16.1	15.1	14.4	14.6	13.6	13.4	14.1
Reentrants	30.1	31.9	28.7	29.6	30.2	30.0	29.8	30.2	29.9	29.3	29.7	29.0	27.8
New entrants	15.0	13.6	14.0	14.7	13.9	13.6	14.2	13.7	12.0	11.7	13.4	12.8	12.3
UNEMPLOYED AS A PERCENT OF THE CIVILIAN LABOR FORCE													
Job losers	2.3	2.4	2.4	2.4	2.4	2.5	2.3	2.3	2.5	2.6	2.5	2.7	2.8
Job leavers	.8	.9	.9	.8	.8	.8	.9	.8	.8	.9	.8	.8	.8
Reentrants	1.7	1.9	1.7	1.7	1.7	1.8	1.7	1.7	1.7	1.7	1.7	1.7	1.6
New entrants	.9	.8	.8	.9	.8	.8	.8	.8	.7	.7	.8	.8	.7

7. Duration of unemployment, seasonally adjusted

[Numbers in thousands]

Weeks of unemployment	Annual average		1978		1979										
	1977	1978	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.
Less than 5 weeks	2,856	2,793	2,833	2,876	2,713	2,743	2,751	2,939	2,787	2,927	2,784	3,226	2,743	2,903	2,870
5 to 14 weeks	2,099	1,875	1,774	1,979	1,877	1,870	1,857	1,874	1,935	1,782	1,970	1,743	2,050	1,966	1,795
15 weeks and over	1,911	1,379	1,196	1,208	1,251	1,260	1,305	1,235	1,213	1,086	1,052	1,191	1,133	1,223	1,190
15 to 26 weeks	896	746	685	726	728	712	729	692	705	616	600	662	627	703	666
27 weeks and over	1,015	633	511	482	523	548	576	543	508	470	451	529	507	520	524
Average (mean) duration, in weeks	14.3	11.9	11.0	10.7	11.2	11.3	11.7	11.0	11.1	10.4	10.0	10.5	10.6	10.5	10.5

EMPLOYMENT, HOURS, AND EARNINGS DATA FROM ESTABLISHMENT SURVEYS

EMPLOYMENT, HOURS, AND EARNINGS DATA in this section are compiled from payroll records reported monthly on a voluntary basis to the Bureau of Labor Statistics and its cooperating State agencies by 162,000 establishments representing all industries except agriculture. In most industries, the sampling probabilities are based on the size of the establishment; most large establishments are therefore in the sample. (An establishment is not necessarily a firm; it may be a branch plant, for example, or warehouse.) Self-employed persons and others not on a regular civilian payroll are outside the scope of the survey because they are excluded from establishment records. This largely accounts for the difference in employment figures between the household and establishment surveys.

LABOR TURNOVER DATA in this section are compiled from personnel records reported monthly on a voluntary basis to the Bureau of Labor Statistics and its cooperating State agencies. A sample of 40,000 establishments represents all industries in the manufacturing and mining sectors of the economy.

Definitions

Employed persons are all persons who received pay (including holiday and sick pay) for any part of the payroll period including the 12th of the month. Persons holding more than one job (about 5 percent of all persons in the labor force) are counted in each establishment which reports them.

Production workers in manufacturing include blue-collar worker supervisors and all nonsupervisory workers closely associated with production operations. Those workers mentioned in tables 14–20 include production workers in manufacturing and mining; construction workers in construction; and nonsupervisory workers in transportation and public utilities, in wholesale and retail trade, in finance, insurance, and real estate, and in service industries. These groups account for about four-fifths of the total employment on private nonagricultural payrolls.

Earnings are the payments production or nonsupervisory workers receive during the survey period, including premium pay for overtime or late-shift work but excluding irregular bonuses and other special payments. **Real earnings** are earnings adjusted to eliminate the effects of price change. The **Hourly Earnings Index** is calculated from average hourly earnings data adjusted to exclude the effects of two types of changes that are unrelated to underlying wage-rate developments: fluctuations in overtime premiums in manufacturing (the only sector for which overtime data are available) and the effects of changes and seasonal factors in the proportion of workers in high-wage and low-wage industries. **Spendable earnings** are earnings from which estimated social security and Federal income taxes have been deducted. The Bureau of Labor Statistics computes spendable earnings from gross weekly earnings for only two illustrative cases: (1) a worker with no dependents and (2) a married worker with three dependents.

Hours represent the average weekly hours of production or nonsupervisory workers for which pay was received and are different from standard or scheduled hours. **Overtime hours** represent the portion of gross average weekly hours which were in excess of regular hours and for which overtime premiums were paid.

Labor turnover is the movement of all wage and salary workers from one employment status to another. **Accession rates** indicate the average number of persons added to a payroll in a given period per 100 employees; **separation rates** indicate the average number dropped from a payroll per 100 employees. Although month-to-month changes in employment can be calculated from the labor turnover data, the results are not comparable with employment data from the employment and payroll survey. The labor turnover survey measures changes during the calendar month while the employment and payroll survey measures changes from midmonth to midmonth.

Notes on the data

Establishment data collected by the Bureau of Labor Statistics are periodically adjusted to comprehensive counts of employment (called "benchmarks"). The latest complete adjustment was made with the release of September 1979 data, published in the November 1979 issue of the *Review*. Consequently, data published in the *Review* prior to that issue are not necessarily comparable to current data. Complete comparable historical unadjusted and seasonally adjusted data are published in a Supplement to Employment and Earnings (unadjusted data from April 1977 through June 1979 and seasonally adjusted data from January 1974 through June 1979) and in *Employment and Earnings, United States, 1909–78*, BLS Bulletin 1312–11 (for prior periods).

Data on recalls were shown for the first time in tables 12 and 13 in the January 1978 issue of the *Review*. For a detailed discussion of the recalls series, along with historical data, see "New Series on Recalls from the Labor Turnover Survey," *Employment and Earnings*, December 1977, pp. 10–19.

A comprehensive discussion of the differences between household and establishment data on employment appears in Gloria P. Green, "Comparing employment estimates from household and payroll surveys," *Monthly Labor Review*, December 1969, pp. 9–20. See also *BLS Handbook of Methods for Surveys and Studies*, Bulletin 1910 (Bureau of Labor Statistics, 1976).

The formulas used to construct the spendable average weekly earnings series reflect the latest provisions of the Federal income tax and social security tax laws. For the spendable average weekly earnings formulas for the years 1977–79, see *Employment and Earnings*, September 1979, pp. 6–8. Beginning with data for January 1978, real earnings data are adjusted using the revised Consumer Price Index for Urban Wage Earners and Clerical Workers. Data prior to January 1978 are based on the unrevised Consumer Price Index for Urban Wage Earners and Clerical Workers.

8. Employment by industry, 1949–78

[Nonagricultural payroll data, in thousands]

Year	Total	Mining	Construction	Manufacturing	Transportation and public utilities	Wholesale and retail trade	Wholesale trade	Retail trade	Finance, insurance, and real estate	Services	Government		
											Total	Federal	State and local
1949	43,754	930	2,194	14,441	4,001	9,264	2,602	6,662	1,828	5,240	5,856	1,908	3,948
1950	45,197	901	2,364	15,241	4,034	9,386	2,635	6,751	1,888	5,357	6,026	1,928	4,098
1951	47,819	929	2,637	16,393	4,226	9,742	2,727	7,015	1,956	5,547	6,389	2,302	4,087
1952	48,793	898	2,668	16,632	4,248	10,004	2,812	7,192	2,035	5,609	6,609	2,420	4,188
1953	50,202	866	2,659	17,549	4,290	10,247	2,854	7,393	2,111	5,835	6,645	2,305	4,340
1954	48,990	791	2,646	16,314	4,084	10,235	2,867	7,368	2,200	5,969	6,751	2,188	4,563
1955	50,641	792	2,839	16,882	4,141	10,535	2,926	7,610	2,298	6,240	6,914	2,187	4,727
1956	52,369	822	3,039	17,243	4,244	10,858	3,018	7,840	2,389	6,497	7,278	2,209	5,069
1957	52,853	828	2,962	17,174	4,241	10,886	3,028	7,858	2,438	6,708	7,616	2,217	5,399
1958	51,324	751	2,817	15,945	3,976	10,750	2,980	7,770	2,481	6,765	7,839	2,191	5,648
1959[1]	53,268	732	3,004	16,675	4,011	11,127	3,082	8,045	2,549	7,087	8,083	2,233	5,850
1960	54,189	712	2,926	16,796	4,004	11,391	3,143	8,248	2,629	7,378	8,353	2,270	6,083
1961	53,999	672	2,859	16,326	3,903	11,337	3,133	8,204	2,688	7,620	8,594	2,279	6,315
1962	55,549	650	2,948	16,853	3,906	11,566	3,198	8,368	2,754	7,982	8,890	2,340	6,550
1963	56,653	635	3,010	16,995	3,903	11,778	3,248	8,530	2,830	8,277	9,225	2,358	6,868
1964	58,283	634	3,097	17,274	3,951	12,160	3,337	8,823	2,911	8,660	9,596	2,348	7,248
1965	60,765	632	3,232	18,062	4,036	12,716	3,466	9,250	2,977	9,036	10,074	2,378	7,696
1966	63,901	627	3,317	19,214	4,158	13,245	3,597	9,648	3,058	9,498	10,784	2,564	8,220
1967	65,803	613	3,248	19,447	4,268	13,606	3,689	9,917	3,185	10,045	11,391	2,719	8,672
1968	67,897	606	3,350	19,781	4,318	14,099	3,779	10,320	3,337	10,567	11,839	2,737	9,102
1969	70,384	619	3,575	20,167	4,442	14,705	3,907	10,798	3,512	11,169	12,195	2,758	9,437
1970	70,880	623	3,588	19,367	4,515	15,040	3,993	11,047	3,645	11,548	12,554	2,731	9,823
1971	71,214	609	3,704	18,623	4,476	15,352	4,001	11,351	3,772	11,797	12,881	2,696	10,185
1972	73,675	628	3,889	19,151	4,541	15,949	4,113	11,836	3,908	12,276	13,334	2,684	10,649
1973	76,790	642	4,097	20,154	4,656	16,607	4,277	12,329	4,046	12,857	13,732	2,663	11,068
1974	78,265	697	4,020	20,077	4,725	16,987	4,433	12,554	4,148	13,441	14,170	2,724	11,446
1975	76,945	752	3,525	18,323	4,542	17,060	4,415	12,645	4,165	13,892	14,686	2,748	11,937
1976	79,382	779	3,576	18,997	4,582	17,755	4,546	13,209	4,271	14,551	14,871	2,733	12,138
1977	82,423	813	3,851	19,682	4,713	18,516	4,708	13,808	4,467	15,303	15,079	2,727	12,352
1978	86,446	851	4,271	20,476	4,927	19,499	4,957	14,542	4,727	16,220	15,476	2,753	12,723

[1] Data include Alaska and Hawaii beginning in 1959.

9. Employment by State

[Nonagricultural payroll data, in thousands]

State	Oct. 1978	Sept. 1979	Oct. 1979[p]	State	Oct. 1978	Sept. 1979	Oct. 1979[p]
Alabama	1,359.5	1,359.0	1,362.8	Montana	281.6	300.2	294.3
Alaska	166.1	171.4	167.4	Nebraska	608.8	621.9	620.1
Arizona	914.8	955.0	971.6	Nevada	367.6	383.5	382.9
Arkansas	737.5	751.6	753.6	New Hampshire	372.3	391.1	389.2
California	9,404.0	9,764.0	9,811.6	New Jersey	3,014.3	3,042.4	3,052.3
Colorado	1,166.0	1,198.1	1,206.9	New Mexico	454.4	474.2	473.5
Connecticut	1,377.6	1,409.8	1,414.5	New York	7,108.3	7,123.6	7,161.4
Delaware	252.0	248.4	250.5	North Carolina	2,307.5	2,363.3	2,372.0
District of Columbia	589.1	592.9	595.5	North Dakota	241.4	249.8	252.2
Florida	3,148.8	3,259.4	3,293.8	Ohio	4,471.7	4,527.7	4,528.4
Georgia	2,010.4	2,025.5	2,028.8	Oklahoma	1,045.9	1,091.2	1,091.7
Hawaii	379.7	390.3	392.5	Oregon	1,032.3	1,067.1	1,072.2
Idaho [1]	344.4	344.2	342.4	Pennsylvania	4,721.0	4,698.5	4,734.5
Illinois	4,831.9	4,886.8	4,849.4	Rhode Island	410.0	406.8	405.2
Indiana	2,228.3	2,262.6	2,263.1	South Carolina	1,150.6	1,167.7	1,176.2
Iowa	1,126.7	1,143.7	1,130.5	South Dakota	236.2	238.2	236.6
Kansas	922.6	953.2	958.4	Tennessee	1,736.7	1,737.8	1,745.5
Kentucky	1,266.8	1,287.2	1,287.8	Texas	5,341.1	5,562.4	5,593.4
Louisiana	1,428.2	1,447.3	1,454.6	Utah	542.7	571.5	573.7
Maine	413.6	418.1	416.2	Vermont	195.1	199.2	200.2
Maryland	1,618.3	1,628.5	1,626.3	Virginia	2,089.6	2,121.6	2,128.3
Massachusetts	2,551.2	2,597.4	2,602.4	Washington	1,550.4	1,638.8	1,641.3
Michigan	3,651.7	3,580.0	3,610.1	West Virginia	637.6	640.8	NA
Minnesota	1,725.7	1,779.7	1,795.6	Wisconsin	1,932.1	1,994.9	2,006.1
Mississippi	831.9	834.1	838.9	Wyoming	196.7	220.5	221.5
Missouri	1,958.7	1,975.1	1,978.5				

[1] Revised series; not strictly comparable with previously published data.

10. Employment by industry division and major manufacturing group

[Nonagricultural payroll data, in thousands]

Industry division and group	Annual average		1978		1979										
	1977	1978	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.ᵖ	Nov.ᵖ
TOTAL	82,423	86,446	88,622	88,893	87,128	87,331	88,207	88,820	89,671	90,541	89,618	89,673	90,211	90,667	90,987
MINING	813	851	920	916	910	915	926	932	944	968	976	986	990	983	987
CONSTRUCTION	3,851	4,271	4,584	4,402	3,998	3,957	4,226	4,413	4,682	4,881	4,993	5,048	4,984	4,975	4,897
MANUFACTURING	19,682	20,476	20,903	20,902	20,763	20,775	20,887	20,907	20,988	21,234	20,965	20,996	21,182	21,085	21,017
Production workers	14,135	14,714	15,058	15,047	14,910	14,908	14,993	15,002	15,061	15,240	14,946	14,960	15,172	15,076	15,004
Durable goods	11,597	12,246	12,583	12,616	12,561	12,579	12,664	12,697	12,739	12,877	12,712	12,598	12,805	12,729	12,687
Production workers	8,307	8,786	9,057	9,081	9,016	9,018	9,081	9,105	9,129	9,223	9,031	8,907	9,116	9,052	9,004
Lumber and wood products	721.9	752.4	757.2	753.9	739.0	737.7	745.5	748.8	763.8	783.2	776.8	780.0	776.3	771.8	749.6
Furniture and fixtures	464.3	491.1	498.0	498.4	497.0	495.2	491.8	487.8	483.9	484.2	475.5	483.5	485.3	487.9	490.6
Stone, clay, and glass products	668.7	698.0	712.9	703.6	681.6	680.6	697.2	706.6	718.6	733.1	727.1	728.2	723.6	720.2	716.8
Primary metal industries	1,181.6	1,212.7	1,236.1	1,243.0	1,243.8	1,244.8	1,251.1	1,259.0	1,258.6	1,274.3	1,260.7	1,244.5	1,244.3	1,224.1	1,221.0
Fabricated metal products	1,582.8	1,673.4	1,717.9	1,723.6	1,716.0	1,715.6	1,719.8	1,723.7	1,727.8	1,740.0	1,715.7	1,716.1	1,735.3	1,738.7	1,741.2
Machinery, except electrical	2,174.7	2,319.2	2,384.5	2,415.7	2,428.7	2,446.4	2,459.5	2,468.0	2,463.6	2,491.2	2,485.1	2,467.1	2,496.4	2,443.3	2,451.6
Electric and electronic equipment	1,878.0	1,999.5	2,057.2	2,062.4	2,060.9	2,071.0	2,082.6	2,086.1	2,095.2	2,128.2	2,111.7	2,089.5	2,136.1	2,141.1	2,144.9
Transportation equipment	1,871.5	1,991.7	2,073.4	2,087.6	2,075.2	2,082.7	2,083.9	2,082.2	2,091.8	2,077.9	2,027.7	1,933.2	2,051.0	2,040.1	2,011.4
Instruments and related products	615.1	653.5	672.0	675.6	677.5	680.2	683.2	686.5	686.5	698.8	692.9	695.3	692.7	695.0	696.9
Miscellaneous manufacturing	438.4	454.0	473.4	452.3	441.2	444.8	449.0	448.0	448.9	457.4	438.6	460.6	463.8	466.5	463.1
Nondurable goods	8,086	8,230	8,320	8,286	8,202	8,196	8,223	8,210	8,249	8,357	8,253	8,398	8,387	8,356	8,330
Production workers	5,828	5,928	6,001	5,966	5,894	5,890	5,912	5,897	5,932	6,017	5,915	6,053	6,056	6,024	6,000
Food and kindred products	1,711.0	1,721.2	1,740.9	1,717.2	1,678.0	1,656.1	1,666.9	1,657.3	1,669.6	1,716.6	1,737.8	1,810.0	1,814.1	1,765.9	1,731.2
Tobacco manufactures	70.7	69.6	74.2	73.9	69.8	66.4	64.4	62.5	61.9	62.1	62.1	69.0	72.2	72.2	64.6
Textile mill products	910.2	900.2	901.8	899.9	896.3	896.4	894.4	890.4	892.5	900.4	875.5	890.4	888.9	889.0	893.6
Apparel and other textile products	1,316.3	1,332.5	1,345.0	1,327.4	1,313.6	1,320.6	1,326.6	1,323.7	1,327.5	1,333.1	1,278.7	1,308.9	1,309.1	1316.2	1,312.5
Paper and allied products	691.6	700.9	702.4	704.1	700.0	703.4	706.8	710.8	712.7	724.6	719.6	723.3	718.5	717.6	717.5
Printing and publishing	1,141.4	1,193.1	1,215.1	1,226.4	1,221.0	1,225.7	1,229.5	1,231.0	1,234.7	1,243.4	1,245.8	1,245.4	1,246.1	1,255.4	1,264.8
Chemicals and allied products	1,073.7	1,096.3	1,103.2	1,103.0	1,100.0	1,099.7	1,103.9	1,106.7	1,110.9	1,126.6	1,123.0	1,121.2	1,114.5	1,116.1	1,118.8
Petroleum and coal products	202.3	208.7	210.7	209.0	205.8	206.4	208.3	210.8	212.9	216.8	218.0	218.3	218.1	218.0	219.1
Rubber and miscellaneous plastics products	713.5	751.9	771.9	773.5	771.0	773.8	774.4	772.0	777.0	779.4	767.4	765.8	762.0	762.5	762.1
Leather and leather products	254.8	255.6	255.1	251.5	246.3	245.1	245.7	245.1	249.2	253.7	224.7	245.8	243.1	243.0	245.3
TRANSPORTATION AND PUBLIC UTILITIES	4,713	4,927	5,063	5,084	5,010	5,028	5,060	4,989	5,125	5,231	5,200	5,210	5,242	5,243	5,259
WHOLESALE AND RETAIL TRADE	18,516	19,499	20,085	20,523	19,765	19,548	19,690	19,957	20,119	20,222	20,118	20,137	20,260	20,315	20.557
WHOLESALE TRADE	4,708	4,957	5,059	5,092	5,066	5,067	5,098	5,112	5,146	5,211	5,208	5,211	5,206	5,234	5,254
RETAIL TRADE	13,808	14,542	15,026	15,431	14,699	14,481	14,592	14,845	14,973	15,011	14,910	14,926	15,054	15,081	15,303
FINANCE, INSURANCE, AND REAL ESTATE	4,467	4,727	4,817	4,832	4,829	4,845	4,870	4,900	4,936	5,003	5,032	5,053	5,002	5,013	5,046
SERVICES	15,303	16,220	16,537	16,547	16,353	16,545	16,749	16,897	17,009	17,239	17,314	17,312	17,225	17,295	17,317
GOVERNMENT	15,079	15,476	15,703	15,687	15,500	15,718	15,799	15,825	15,858	15,763	15,020	14,931	15,326	15,758	15,907
Federal	2,727	2,753	2,746	2,733	2,730	2,738	2,740	2,750	2,773	2,824	2,838	2,844	2,751	2,756	2,760
State and local	12,352	12,723	12,957	12,954	12,770	12,980	13,059	13,075	13,085	12,939	12,182	12,087	12,575	13,002	13,147

11. Employment by industry division and major manufacturing group, seasonally adjusted

[Nonagricultural payroll data, in thousands]

Industry division and group	1978		1979										
	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct. p	Nov. p
TOTAL	87,840	88,133	88,433	88,700	89,039	89,036	89,398	89,626	89,713	89,762	89,803	89,957	90,185
MINING	919	922	927	937	940	940	944	949	956	966	973	980	986
CONSTRUCTION	4,420	4,460	4,497	4,486	4,614	4,559	4,648	4,662	4,668	4,674	4,671	4,693	4,731
MANUFACTURING	20,772	20,881	20,958	21,025	21,073	21,066	21,050	21,063	21,079	20,957	20,949	20,886	20,887
Production workers	14,933	15,021	15,085	15,128	15,153	15,134	15,112	15,096	15,090	14,956	14,957	14,890	14,877
Durable goods	12,510	12,583	12,640	12,715	12,751	12,752	12,739	12,760	12,786	12,714	12,737	12,640	12,614
Production workers	8,963	9,042	9,085	9,138	9,158	9,146	9,119	9,123	9,124	9,044	9,086	8,985	8,928
Lumber and wood products	760	765	768	768	769	761	762	757	753	752	758	760	752
Furniture and fixtures	492	494	497	496	493	490	487	485	488	484	480	482	485
Stone, clay, and glass products	704	710	709	712	718	714	715	715	711	710	708	708	708
Primary metal industries	1,242	1,247	1,250	1,256	1,259	1,260	1,254	1,257	1,256	1,245	1,236	1,225	1,227
Fabricated metal products	1,706	1,718	1,725	1,733	1,732	1,732	1,730	1,737	1,730	1,714	1,716	1,723	1,729
Machinery, except electrical	2,382	2,404	2,419	2,437	2,450	2,466	2,471	2,484	2,500	2,492	2,496	2,451	2,449
Electric and electronic equipment	2,037	2,050	2,065	2,079	2,093	2,101	2,106	2,124	2,131	2,092	2,117	2,122	2,124
Transportation equipment	2,057	2,063	2,069	2,094	2,094	2,084	2,077	2,057	2,073	2,079	2,066	2,024	1,995
Instruments and related products	670	674	679	682	685	689	686	693	694	695	692	696	695
Miscellaneous manufacturing	460	456	459	458	456	455	449	451	450	451	448	449	450
Nondurable goods	8,262	8,298	8,318	8,310	8,322	8,314	8,320	8,303	8,293	8,243	8,212	8,246	8,273
Production workers	5,950	5,979	6,000	5,990	5,995	5,988	5,993	5,973	5,966	5,912	5,891	5,925	5,949
Food and kindred products	1,725	1,736	1,735	1,729	1,736	1,728	1,725	1,720	1,707	1,696	1,691	1,706	1,716
Tobacco manufactures	69	69	68	68	69	69	70	69	68	64	65	65	60
Textile mill products	897	899	900	899	897	892	893	892	892	886	884	886	889
Apparel and other textile products	1,330	1,333	1,339	1,327	1,324	1,325	1,324	1,312	1,324	1,302	1,294	1,298	1,296
Paper and allied products	700	703	706	711	716	717	714	715	718	717	714	715	715
Printing and publishing	1,212	1,218	1,225	1,229	1,232	1,234	1,236	1,242	1,250	1,247	1,245	1,253	1,261
Chemicals and allied products	1,102	1,106	1,109	1,108	1,108	1,111	1,114	1,119	1,116	1,111	1,110	1,114	1,118
Petroleum and coal products	210	211	211	212	213	213	213	212	212	213	215	216	219
Rubber and miscellaneous plastics products	763	770	774	779	780	781	784	775	777	764	751	750	753
Leather and leather products	254	253	251	248	247	244	247	247	220	243	243	243	244
TRANSPORTATION AND PUBLIC UTILITIES	5,036	5,054	5,071	5,094	5,116	5,024	5,130	5,190	5,169	5,194	5,180	5,217	5,233
WHOLESALE AND RETAIL TRADE	19,829	19,858	19,965	20,016	20,054	20,088	20,129	20,116	20,122	20,126	20,169	20,244	20,285
WHOLESALE TRADE	5,054	5,077	5,102	5,118	5,134	5,138	5,156	5,180	5,182	5,185	5,190	5,208	5,238
RETAIL TRADE	14,775	14,781	14,863	14,898	14,920	14,950	14,973	14,936	14,940	14,941	14,979	15,036	15,047
FINANCE, INSURANCE, AND REAL ESTATE	4,827	4,847	4,866	4,884	4,899	4,915	4,936	4,958	4,972	5,003	4,997	5,018	5,056
SERVICES	16,554	16,630	16,670	16,763	16,833	16,880	16,954	17,051	17,092	17,141	17,191	17,280	17,334
GOVERNMENT	15,472	15,472	15,477	15,495	15,510	15,564	15,598	15,637	15,635	15,699	15,673	15,669	15,673
Federal	2,757	2,734	2,758	2,757	2,757	2,758	2,770	2,788	2,785	2,813	2,762	2,770	2,771
State and local	12,715	12,738	12,719	12,738	12,753	12,806	12,828	12,849	12,850	12,886	12,911	12,899	12,902

12. Labor turnover rates in manufacturing, 1976 to date

[Per 100 employees]

Year	Annual average	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
							Total accessions						
1976	3.9	3.9	3.5	4.2	3.9	4.5	4.8	4.2	5.1	4.4	3.5	2.9	2.2
1977	4.0	3.7	3.7	4.0	3.8	4.6	4.9	4.3	5.3	4.6	3.9	3.1	2.4
1978	4.1	3.8	3.2	3.8	4.0	4.7	4.9	4.4	5.4	4.9	4.3	3.3	2.4
1979	...	4.0	3.4	3.8	3.9	4.7	4.8	4.3	4.9	4.4	p4.1		
							New hires						
1976	2.6	2.1	2.1	2.7	2.6	3.1	3.6	2.9	3.6	3.2	2.5	1.9	1.3
1977	2.8	2.2	2.1	2.6	2.7	3.5	3.7	3.0	4.0	3.5	3.0	2.2	1.6
1978	3.1	2.5	2.2	2.7	2.9	3.6	3.9	3.3	4.2	3.9	3.5	2.6	1.7
1979	...	2.8	2.5	2.8	2.9	3.6	3.8	3.1	3.7	3.4	p3.1		
							Recalls						
1976	1.0	1.4	1.0	1.2	1.0	1.0	.9	1.1	1.1	.8	.7	.7	.7
1977	.9	1.2	1.3	1.1	.9	.8	.8	.9	1.0	.8	.6	.6	.6
1978	.7	1.0	.7	.8	.8	.8	.7	.8	.9	.7	.6	.5	.5
1979	...	.9	.7	.7	.7	.8	.7	.9	.9	.8	p.7		
							Total separations						
1976	3.8	3.7	3.0	3.5	3.6	3.4	3.6	4.3	4.9	4.7	4.1	3.4	3.5
1977	3.8	3.9	3.4	3.4	3.4	3.5	3.5	4.3	5.1	4.9	3.8	3.4	3.4
1978	3.9	3.6	3.1	3.5	3.6	3.7	3.8	4.1	5.3	4.8	4.1	3.5	3.4
1979	...	3.8	3.2	3.6	3.6	3.8	3.9	4.3	5.7	4.7	p4.2		
							Quits						
1976	1.7	1.3	1.2	1.6	1.7	1.7	1.6	1.9	2.8	2.5	1.7	1.2	1.0
1977	1.8	1.4	1.3	1.6	1.7	1.9	1.9	1.9	3.1	2.8	1.9	1.5	1.2
1978	2.1	1.5	1.4	1.8	2.0	2.1	2.2	2.1	3.5	3.1	2.3	1.7	1.3
1979	...	1.8	1.6	1.9	2.0	2.1	2.1	2.0	3.3	2.7	p2.1		
							Layoffs						
1976	1.3	1.6	1.0	1.1	1.1	.9	.9	1.6	1.1	1.3	1.5	1.5	1.8
1977	1.1	1.7	1.4	1.0	.9	.8	.8	1.5	1.0	1.1	1.1	1.1	1.5
1978	.9	1.2	.9	.9	.8	.7	.7	1.0	.8	.8	.9	1.0	1.4
1979	...	1.1	.8	.8	.9	.7	.8	1.4	1.3	1.1	p1.2		

13. Labor turnover rates in manufacturing, by major industry group

[Per 100 employees]

Major industry group	Accession rates									Separation rates								
	Total			New hires			Recalls			Total			Quits			Layoffs		
	Oct. 1978	Sept. 1979	Oct. 1979p	Oct. 1978	Sept. 1979	Oct. 1979p	Oct. 1978	Sept. 1979	Oct. 1979p	Oct. 1978	Sept. 1979	Oct. 1979p	Oct. 1978	Sept. 1979	Oct. 1979p	Oct. 1978	Sept. 1979	Oct. 1979p
MANUFACTURING	4.3	4.4	4.1	3.5	3.4	3.1	0.8	0.8	0.7	4.1	4.7	4.2	2.3	2.7	2.1	0.9	1.1	1.2
Seasonally adjusted	4.3	3.8	4.1	3.3	2.8	2.9	...	...	...	3.9	3.9	3.9	2.2	1.9	2.0	.9	1.2	1.1
Durable goods	4.0	4.0	3.7	3.3	3.0	2.8	.4	.7	.6	3.6	4.1	3.7	1.9	2.2	1.8	.6	.9	1.0
Lumber and wood products	5.8	5.7	5.1	5.2	4.9	4.6	.4	.6	.4	6.4	6.4	6.7	4.1	4.5	3.6	1.1	.7	1.9
Furniture and fixtures	6.6	5.8	5.5	6.0	5.2	4.8	.4	.4	.6	5.9	5.4	5.3	4.1	3.6	3.2	.5	.6	.8
Stone, clay, and glass products	3.8	3.8	3.6	3.2	3.1	2.9	.5	.6	.5	3.9	4.6	4.4	2.1	2.6	2.0	.8	1.0	1.5
Primary metal industries	2.7	2.4	2.5	1.9	1.6	1.5	.8	.8	.7	2.6	3.9	3.6	1.0	1.3	1.0	.7	1.6	1.6
Fabricated metal products	4.5	4.6	4.4	3.9	3.6	3.5	.4	.7	.7	4.2	4.6	4.4	2.3	2.5	2.1	.9	1.1	1.3
Machinery, except electrical	3.4	3.0	2.9	2.8	2.5	2.4	.3	.3	.2	2.6	3.0	2.7	1.4	1.7	1.3	.3	.5	.6
Electric and electronic equipment	3.9	3.7	3.3	3.0	2.9	2.6	.3	.4	.4	3.4	3.7	3.0	1.8	2.2	1.6	.6	.5	.5
Transportation equipment	3.5	4.4	...	2.5	2.2	...	.6	1.7	...	2.8	4.0	...	1.2	1.4	...	.6	1.8	...
Instruments and related products	3.1	3.0	3.2	2.7	2.5	2.6	.1	.2	.3	2.8	3.4	2.9	1.6	2.4	1.7	.3	.3	.6
Miscellaneous manufacturing	6.5	6.9	6.4	5.6	5.9	5.3	.7	.7	.9	6.5	6.7	6.5	3.9	4.0	3.4	1.2	1.1	1.7
Nondurable goods	4.8	5.1	4.7	3.8	4.0	3.6	.8	.9	.8	4.9	5.5	5.0	2.8	3.4	2.7	1.3	1.3	1.4
Food and kindred products	6.8	8.0	6.5	5.0	6.0	4.9	1.6	1.8	1.3	7.9	8.9	8.1	3.7	5.1	4.0	3.2	2.7	3.2
Tobacco manufacturers	3.4	5.4	...	2.4	2.2	...	.6	2.1	...	3.3	3.4	...	1.5	1.5	...	.9	1.0	...
Textile mill products	5.1	4.9	5.1	4.2	4.0	4.1	.5	.5	.6	5.1	5.1	5.0	3.4	3.5	3.1	.7	.6	.9
Apparel and other products	5.8	6.2	6.2	4.4	4.4	4.5	1.1	1.5	1.5	5.7	6.2	6.1	3.5	3.9	3.4	1.2	1.4	1.7
Paper and allied products	2.9	2.9	2.7	2.4	2.5	2.1	.3	.3	.4	2.8	3.6	2.7	1.4	2.0	1.3	.6	.7	.7
Printing and publishing	3.6	4.1	3.9	3.4	3.6	3.4	.3	.4	.4	3.3	4.0	3.5	2.2	2.8	2.3	.6	.5	.6
Chemicals and allied products	1.7	1.7	1.7	1.4	1.4	1.4	.2	.2	1.2	1.6	2.2	1.6	.7	1.2	.7	.4	.4	.4
Petroleum and coal products	1.8	3.5	2.5	1.6	3.3	2.3	.1	.1	...	1.6	2.5	2.2	.8	1.4	.8	.2	.5	.8
Rubber and miscellaneous plastics products	5.7	5.3	4.8	4.9	4.3	3.8	.5	.6	.6	5.1	6.1	5.3	3.1	3.6	2.8	.7	1.3	1.2
Leather and leather products	7.1	7.3	6.6	5.7	5.6	5.1	1.0	1.2	1.1	8.2	8.6	7.1	5.0	5.3	4.3	2.1	2.2	1.7

14. Hours and earnings, by industry division, 1947–78

[Gross averages, production or nonsupervisory workers on nonagricultural payrolls]

Year	Average weekly earnings	Average weekly hours	Average hourly earnings	Average weekly earnings	Average weekly hours	Average hourly earnings	Average weekly earnings	Average weekly hours	Average hourly earnings	Average weekly earnings	Average weekly hours	Average hourly earnings
	Total private			Mining			Construction			Manufacturing		
1947	$45.58	40.3	$1.131	$59.94	40.8	$1.469	$58.87	38.2	$1.541	$49.17	40.4	$1.217
1948	49.00	40.0	1.225	65.56	39.4	1.664	65.27	38.1	1.713	53.12	40.0	1.328
1949	50.24	39.4	1.275	62.33	36.3	1.717	67.56	37.7	1.792	53.88	39.1	1.378
1950	53.13	39.8	1.335	67.16	37.9	1.772	69.68	37.4	1.863	58.32	40.5	1.440
1951	57.86	39.9	1.45	74.11	38.4	1.93	76.96	38.1	2.02	63.34	40.6	1.56
1952	60.65	39.9	1.52	77.59	38.6	2.01	82.86	38.9	2.13	66.75	40.7	1.64
1953	63.76	39.6	1.61	83.03	38.8	2.14	86.41	37.9	2.28	70.47	40.5	1.74
1954	64.52	39.1	1.65	82.60	38.6	2.14	88.91	37.2	2.39	70.49	39.6	1.78
1955	67.72	39.6	1.71	89.54	40.7	2.20	90.90	37.1	2.45	75.30	40.7	1.85
1956	70.74	39.3	1.80	95.06	40.8	2.33	96.38	37.5	2.57	78.78	40.4	1.95
1957	73.33	38.8	1.89	98.25	40.1	2.45	100.27	37.0	2.71	81.19	39.8	2.04
1958	75.08	38.5	1.95	96.08	38.9	2.47	103.78	36.8	2.82	82.32	39.2	2.10
1959[1]	78.78	39.0	2.02	103.68	40.5	2.56	108.41	37.0	2.93	88.26	40.3	2.19
1960	80.67	38.6	2.09	105.04	40.4	2.60	112.67	36.7	3.07	89.72	39.7	2.26
1961	82.60	38.6	2.14	106.92	40.5	2.64	118.08	36.9	3.20	92.34	39.8	2.32
1962	85.91	38.7	2.22	110.70	41.0	2.70	122.47	37.0	3.31	96.56	40.4	2.39
1963	88.46	38.8	2.28	114.40	41.6	2.75	127.19	37.3	3.41	99.23	40.5	2.45
1964	91.33	38.7	2.36	117.74	41.9	2.81	132.06	37.2	3.55	102.97	40.7	2.53
1965	95.45	38.8	2.46	123.52	42.3	2.92	138.38	37.4	3.70	107.53	41.2	2.61
1966	98.82	38.6	2.56	130.24	42.7	3.05	146.26	37.6	3.89	112.19	41.4	2.71
1967	101.84	38.0	2.68	135.89	42.6	3.19	154.95	37.7	4.11	114.49	40.6	2.82
1968	107.73	37.8	2.85	142.71	42.6	3.35	164.49	37.3	4.41	122.51	40.7	3.01
1969	114.61	37.7	3.04	154.80	43.0	3.60	181.54	37.9	4.79	129.51	40.6	3.19
1970	119.83	37.1	3.23	164.40	42.7	3.85	195.45	37.3	5.24	133.33	39.8	3.35
1971	127.31	36.9	3.45	172.14	42.4	4.06	211.67	37.2	5.69	142.44	39.9	3.57
1972	136.90	37.0	3.70	189.14	42.5	4.44	221.19	36.5	6.06	154.71	40.5	3.82
1973	145.39	36.9	3.94	201.40	42.4	4.75	235.89	36.8	6.41	166.46	40.7	4.09
1974	154.76	36.5	4.24	219.14	41.9	5.23	249.25	36.6	6.81	176.80	40.0	4.42
1975	163.53	36.1	4.53	249.31	41.9	5.95	266.08	36.4	7.31	190.79	39.5	4.83
1976	175.45	36.1	4.86	273.90	42.4	6.46	283.73	36.8	7.71	209.32	40.1	5.22
1977	189.00	36.0	5.25	301.20	43.4	6.94	295.65	36.5	8.10	228.90	40.3	5.68
1978	203.70	35.8	5.69	332.11	43.3	7.67	318.32	36.8	8.65	249.27	40.4	6.17
	Transportation and public utilities			Wholesale and retail trade			Finance, insurance, and real estate			Services		
1947	......	......	......	$38.07	40.5	$0.940	$43.21	37.9	$1.140	......	......	......
1948	......	......	......	40.80	40.4	1.010	45.48	37.9	1.200	......	......	......
1949	......	......	......	42.93	40.5	1.060	47.63	37.8	1.260	......	......	......
1950	......	......	......	44.55	40.5	1.100	50.52	37.7	1.340	......	......	......
1951	......	......	......	47.79	40.5	1.18	54.67	37.7	1.45	......	......	......
1952	......	......	......	49.20	40.0	1.23	57.08	37.8	1.51	......	......	......
1953	......	......	......	51.35	39.5	1.30	59.57	37.7	1.58	......	......	......
1954	......	......	......	53.33	39.5	1.35	62.04	37.6	1.65	......	......	......
1955	......	......	......	55.16	39.4	1.40	63.92	37.6	1.70	......	......	......
1956	......	......	......	57.48	39.1	1.47	65.68	36.9	1.78	......	......	......
1957	......	......	......	59.60	38.7	1.54	67.53	36.7	1.84	......	......	......
1958	......	......	......	61.76	38.6	1.60	70.12	37.1	1.89	......	......	......
1959[1]	......	......	......	64.41	38.8	1.66	72.74	37.3	1.95	......	......	......
1960	......	......	......	66.01	38.5	1.71	75.14	37.2	2.02	......	......	......
1961	......	......	......	67.41	38.3	1.76	77.12	36.9	2.09	......	......	......
1962	......	......	......	69.91	38.2	1.83	80.94	37.3	2.17	......	......	......
1963	......	......	......	72.01	38.1	1.89	84.38	37.5	2.25	......	......	......
1964	$118.78	41.1	$2.89	74.66	37.9	1.97	85.79	37.3	2.30	$70.03	36.1	$1.94
1965	125.14	41.3	3.03	76.91	37.7	2.04	88.91	37.2	2.39	73.60	35.9	2.05
1966	128.13	41.2	3.11	79.39	37.1	2.14	92.13	37.3	2.47	77.04	35.5	2.17
1967	130.82	40.5	3.23	82.35	36.6	2.25	95.72	37.1	2.58	80.38	35.1	2.29
1968	138.85	40.6	3.42	87.00	36.1	2.41	101.75	37.0	2.75	83.97	34.7	2.42
1969	147.74	40.7	3.63	91.39	35.7	2.56	108.70	37.1	2.93	90.57	34.7	2.61
1970	155.93	40.5	3.85	96.02	35.3	2.72	112.67	36.7	3.07	96.66	34.4	2.81
1971	168.82	40.1	4.21	101.09	35.1	2.88	117.85	36.6	3.22	103.06	33.9	3.04
1972	187.86	40.4	4.65	106.45	34.9	3.05	122.98	36.6	3.36	110.85	33.9	3.27
1973	203.31	40.5	5.02	111.76	34.6	3.23	129.20	36.6	3.53	117.29	33.8	3.47
1974	217.48	40.2	5.41	119.02	34.2	3.48	137.61	36.5	3.77	126.00	33.6	3.75
1975	233.44	39.7	5.88	126.45	33.9	3.73	148.19	36.5	4.06	134.67	33.5	4.02
1976	256.71	39.8	6.45	133.79	33.7	3.97	155.43	36.4	4.27	143.52	33.3	4.31
1977	278.90	39.9	6.99	142.52	33.3	4.28	165.26	36.4	4.54	153.45	33.0	4.65
1978	302.80	40.0	7.57	153.64	32.9	4.67	178.36	36.4	4.90	163.67	32.9	4.99

[1] Data include Alaska and Hawaii beginning in 1959.

15. Weekly hours, by industry division and major manufacturing group

[Gross averages, production or nonsupervisory workers on private nonagricultural payrolls]

Industry division and group	Annual Average		1978		1979										
	1977	1978	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.ᵖ	Nov.ᵖ
TOTAL PRIVATE	36.0	35.8	35.8	36.1	35.2	35.4	35.7	35.1	35.5	35.9	36.0	36.0	35.8	35.7	35.5
MINING	43.4	43.3	43.8	43.4	42.4	42.6	42.9	42.6	42.8	43.3	41.7	43.1	43.5	43.6	43.8
CONSTRUCTION	36.5	36.8	36.5	37.0	34.6	35.4	37.0	35.5	37.2	37.9	37.7	38.0	37.9	37.6	36.5
MANUFACTURING	40.3	40.4	40.9	41.4	40.1	40.2	40.6	38.9	40.1	40.4	39.9	40.0	40.3	40.3	40.2
Overtime hours	3.5	3.6	3.8	3.9	3.5	3.5	3.6	2.5	3.3	3.4	3.2	3.3	3.6	3.4	3.3
Durable goods	41.0	41.1	41.6	42.3	40.9	41.1	41.4	39.3	40.8	41.0	40.4	40.4	40.8	40.8	40.7
Overtime hours	3.7	3.8	4.1	4.3	3.8	3.9	3.9	2.6	3.6	3.6	3.4	3.4	3.6	3.5	3.4
Lumber and wood products	39.8	39.8	39.9	40.1	38.5	39.0	39.7	39.1	39.6	40.2	39.4	39.9	40.1	39.7	38.6
Furniture and fixtures	39.0	39.3	39.4	40.1	38.3	38.1	39.0	37.5	38.2	38.8	38.0	38.6	39.0	39.3	39.1
Stone, clay, and glass products	41.3	41.6	42.1	42.2	40.5	40.6	41.8	41.1	41.9	42.1	41.5	41.7	41.7	41.7	41.7
Primary metal industries	41.3	41.8	42.2	42.5	42.2	42.1	41.9	41.7	11.4	41.6	41.3	40.8	41.3	40.9	40.4
Fabricated metal products	41.0	41.0	41.4	42.2	40.8	40.9	41.3	38.8	40.7	41.0	40.3	40.5	40.8	40.9	40.9
Machinery except electrical	41.5	42.0	42.5	43.6	42.1	42.5	42.6	40.3	41.7	42.0	41.2	41.3	41.9	41.6	41.8
Electric and electronic equipment	40.4	40.3	40.7	41.3	40.3	40.5	40.7	38.8	40.2	40.5	39.6	39.7	40.5	40.3	40.9
Transportation equipment	42.5	42.2	43.0	44.5	41.9	42.1	42.3	37.9	41.6	41.3	40.9	40.5	40.7	41.2	40.5
Instruments and related products	40.6	40.9	41.3	41.7	40.6	41.0	41.3	40.0	40.8	40.7	40.3	40.3	40.7	40.8	41.7
Miscellaneous manufacturing	38.8	38.8	39.4	39.4	38.6	38.6	39.2	37.6	38.5	39.0	38.7	38.9	39.3	39.4	39.8
Nondurable goods	39.4	39.4	39.7	39.9	38.9	38.9	39.3	38.2	39.1	39.4	39.2	39.4	39.6	39.4	39.5
Overtime hours	3.2	3.2	3.3	3.3	3.0	3.0	3.1	2.5	2.9	3.0	3.0	3.2	3.5	3.2	3.2
Food and kindred products	40.0	39.7	40.0	40.3	39.5	39.2	39.6	39.0	39.6	39.8	40.1	40.3	40.6	40.1	40.0
Tobacco manufactures	37.8	38.1	38.7	38.8	36.1	36.2	38.1	37.6	38.9	39.0	36.1	37.6	39.1	38.8	38.8
Textile mill products	40.4	40.4	40.6	40.8	39.9	39.9	40.4	38.6	40.1	40.6	39.9	40.3	40.8	40.8	41.1
Apparel and other textile products	35.6	35.6	35.9	35.8	34.6	34.9	35.4	33.9	35.1	35.6	35.4	35.6	35.4	35.5	35.5
Paper and allied products	42.9	42.9	43.2	43.4	42.6	42.2	42.6	41.6	42.4	42.8	42.5	42.6	42.7	42.7	42.7
Printing and publishing	37.7	37.6	38.1	38.3	37.1	37.3	37.7	36.8	37.3	37.4	37.4	37.9	37.9	37.5	37.9
Chemicals and allied products	41.7	41.9	42.3	42.3	41.7	41.7	41.9	41.9	41.8	41.8	41.7	41.8	41.8	41.7	42.1
Petroleum and coal products	42.7	43.6	44.5	43.7	42.8	42.7	43.8	43.9	43.7	43.4	44.1	43.6	44.7	44.2	44.0
Rubber and miscellaneous plastics products	41.0	40.9	41.4	42.0	41.1	41.2	41.4	39.4	40.5	40.7	40.2	40.0	40.5	40.4	40.1
Leather and leather products	36.9	37.1	37.0	37.1	36.3	35.9	35.9	35.3	36.4	37.1	36.9	36.6	36.8	36.5	36.8
TRANSPORTATION AND PUBLIC UTILITIES	39.9	40.0	39.9	40.2	39.6	39.9	39.8	39.0	39.6	40.0	40.0	40.3	39.9	39.8	39.7
WHOLESALE AND RETAIL TRADE	33.3	32.9	32.5	33.1	32.0	32.1	32.4	32.5	32.4	32.9	33.3	33.2	32.7	32.5	32.4
WHOLESALE TRADE	38.8	38.8	38.8	39.1	38.4	38.4	38.9	38.6	38.9	39.0	39.0	38.9	38.8	38.9	39.0
RETAIL TRADE	31.6	31.0	30.6	31.3	29.9	30.1	30.3	30.6	30.4	31.0	31.5	31.4	30.7	30.5	30.4
FINANCE, INSURANCE, AND REAL ESTATE	36.4	36.4	36.3	36.3	36.4	36.4	36.3	36.4	36.1	36.2	36.4	36.2	36.3	36.3	36.4
SERVICES	33.0	32.8	32.6	32.5	32.4	32.4	32.6	32.5	32.5	32.9	33.3	33.2	32.7	32.6	32.6

16. Weekly hours, by industry division and major manufacturing group, seasonally adjusted

[Gross averages, production or nonsupervisory workers on private nonagricultural payrolls]

Industry division and group	1978		1979										
	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.[p]	Nov.[p]
TOTAL PRIVATE	35.8	35.8	35.8	35.7	35.9	35.3	35.7	35.6	35.6	35.6	35.7	35.6	35.6
MINING	43.3	43.4	43.4	43.1	43.1	42.9	42.8	43.0	41.6	43.2	43.1	43.0	43.3
CONSTRUCTION	36.8	37.0	37.1	36.6	37.1	35.5	37.1	37.2	36.8	37.2	37.5	36.6	36.8
MANUFACTURING	40.6	40.6	40.6	40.6	40.6	39.1	40.2	40.1	40.2	40.1	40.2	40.2	40.0
Overtime hours	3.7	3.7	3.7	3.7	3.7	2.7	3.5	3.4	3.3	3.2	3.2	3.2	3.2
Durable goods	41.3	41.4	41.4	41.4	41.4	39.5	40.9	40.7	40.7	40.7	40.7	40.7	40.5
Overtime hours	4.0	4.0	4.1	4.1	4.0	2.7	3.8	3.6	3.5	3.3	3.3	3.3	3.3
Lumber and wood products	40.0	39.9	39.9	39.6	40.0	39.1	39.4	39.4	39.3	39.5	39.7	39.3	38.7
Furniture and fixtures	39.1	39.2	38.9	38.8	39.1	38.1	38.5	38.5	38.4	38.3	38.6	38.8	38.8
Stone, clay, and glass products	41.9	41.9	41.8	41.6	42.0	41.2	41.7	41.6	41.4	41.3	41.5	41.3	41.5
Primary metal industries	42.2	42.2	42.3	42.2	42.0	41.8	41.4	41.2	41.3	41.0	41.0	41.1	40.4
Fabricated metal products	41.1	41.3	41.1	41.3	41.3	39.1	40.7	40.7	40.8	40.6	40.7	40.8	40.6
Machinery, except electrical	42.2	42.4	42.3	42.5	42.4	40.5	42.0	42.0	41.9	41.6	41.9	41.6	41.5
Electric and electronic equipment	40.4	40.5	40.5	40.7	40.7	39.0	40.4	40.3	40.2	39.8	40.3	40.3	40.6
Transportation equipment	42.7	42.8	42.8	42.7	42.3	37.9	41.5	40.8	40.9	41.7	40.6	41.2	40.3
Instruments and related products	40.9	40.9	41.1	41.2	41.2	40.3	40.8	40.6	40.7	40.5	40.6	40.7	41.3
Miscellaneous manufacturing	38.9	38.9	39.0	39.0	39.0	37.6	38.6	38.9	39.3	39.1	39.1	39.2	39.3
Nondurable goods	39.5	39.4	39.5	39.3	39.4	38.6	39.2	39.2	39.2	39.2	39.3	39.3	39.3
Overtime hours	3.2	3.2	3.2	3.2	3.3	2.7	3.0	3.0	3.0	3.0	3.1	3.0	3.1
Food and kindred products	39.8	39.9	40.0	39.8	40.0	39.6	39.8	39.8	39.8	39.7	40.0	40.0	39.8
Tobacco manufactures	37.5	38.1	37.2	36.9	38.0	37.6	38.9	37.6	38.5	38.0	38.6	38.3	37.6
Textile mill products	40.4	40.4	40.7	40.1	40.3	38.8	40.0	40.1	40.1	40.1	40.6	40.8	40.9
Apparel and other textile products	35.6	35.5	35.3	35.4	35.4	34.2	35.2	35.2	35.5	35.3	35.3	35.3	35.2
Paper and allied products	43.0	42.8	42.8	42.7	42.8	41.8	42.6	42.5	42.5	42.6	42.4	42.7	42.5
Printing and publishing	37.8	37.6	37.7	37.7	37.7	37.1	37.4	37.4	37.5	37.7	37.5	37.4	37.6
Chemicals and allied products	42.1	41.8	42.0	42.0	41.9	41.7	41.9	41.7	41.9	42.0	41.7	41.7	41.9
Petroleum and coal products	44.1	43.8	43.5	43.6	44.0	43.9	43.7	43.3	43.6	43.7	44.1	43.8	43.6
Rubber and miscellaneous plastics products	41.1	41.2	41.4	41.2	41.3	39.7	40.9	40.7	40.6	40.2	40.3	40.2	39.8
Leather and leather products	36.9	36.7	36.8	36.4	36.3	35.6	36.1	36.4	36.6	36.5	37.0	36.5	36.7
TRANSPORTATION AND PUBLIC UTILITIES	39.9	40.0	40.0	40.0	40.0	39.2	39.8	39.8	39.7	39.9	39.9	39.8	39.7
WHOLESALE AND RETAIL TRADE	32.8	32.8	32.5	32.5	32.7	32.8	32.6	32.6	32.6	32.5	32.6	32.7	32.7
WHOLESALE TRADE	38.8	38.9	38.7	38.7	39.0	38.7	39.0	38.8	38.8	38.7	38.7	38.8	39.0
RETAIL TRADE	30.9	30.9	30.6	30.6	30.7	30.9	30.6	30.6	30.6	30.5	30.7	30.7	30.7
FINANCE, INSURANCE, AND REAL ESTATE	36.4	36.3	35.3	36.4	36.4	36.5	36.1	36.2	36.3	36.1	36.4	36.2	36.5
SERVICES	32.7	32.6	32.6	32.6	32.8	32.7	32.7	32.7	32.8	32.7	32.7	32.6	32.7

17. Hourly earnings, by industry division and major manufacturing group

[Gross averages, production or nonsupervisory workers on private nonagricultural payrolls]

Industry division and group	Annual average		1978		1979										
	1977	1978	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct. p	Nov. p
TOTAL PRIVATE	$5.25	$5.69	$5.80	$5.91	$5.87	$6.00	$6.02	$6.03	$6.09	$6.12	$6.16	$6.19	$6.31	$6.32	$6.34
MINING	6.94	7.67	8.05	8.06	8.20	8.21	8.27	8.54	8.45	8.48	8.52	8.48	8.57	8.57	8.71
CONSTRUCTION	8.10	8.65	8.89	8.92	8.98	9.02	8.97	9.02	9.14	9.13	9.24	9.32	9.51	9.48	9.49
MANUFACTURING	5.68	6.17	6.38	6.48	6.40	6.52	6.56	6.54	6.63	6.66	6.71	6.69	6.80	6.82	6.85
Durable goods	6.06	6.58	6.82	6.93	6.92	6.96	6.99	6.85	7.07	7.11	7.15	7.12	7.24	7.25	7.28
Lumber and wood products	5.10	5.60	5.75	5.79	5.79	5.83	5.84	5.90	5.97	6.16	6.23	6.23	6.32	6.26	6.24
Furniture and fixtures	4.34	4.68	4.80	4.86	4.87	4.93	4.95	4.94	4.97	5.05	5.04	5.10	5.18	5.20	5.22
Stone, clay, and glass products	5.81	6.32	6.54	6.58	6.57	6.58	6.64	6.73	6.78	6.85	6.89	6.90	6.98	6.99	7.03
Primary metal industries	7.40	8.20	8.52	8.56	8.62	8.75	8.75	8.82	8.83	8.91	9.04	9.10	9.16	9.11	9.20
Fabricated metal products	5.91	6.34	6.54	6.62	6.60	6.65	6.72	6.82	6.77	6.81	6.80	6.83	6.93	6.97	7.00
Machinery, except electrical	6.26	6.77	7.01	7.15	7.10	7.16	7.19	7.10	7.25	7.34	7.35	7.35	7.48	7.47	7.52
Electric and electronic equipment	5.39	5.82	5.97	6.09	6.11	6.13	6.16	6.11	6.21	6.25	6.27	6.36	6.46	6.49	6.52
Transportation equipment	7.28	7.91	8.27	8.41	8.34	8.35	8.42	8.26	8.56	8.53	8.55	8.44	8.59	8.85	8.86
Instruments and related products	5.29	5.71	5.84	5.95	5.99	6.02	6.04	6.03	6.11	6.11	6.16	6.14	6.21	6.32	6.41
Miscellaneous manufacturing	4.36	4.69	4.79	4.86	4.93	4.95	4.95	4.96	5.00	4.99	5.03	5.04	5.07	5.11	5.13
Nondurable goods	5.11	5.53	5.70	5.75	5.81	5.82	5.85	5.90	5.91	5.94	6.03	6.04	6.11	6.14	6.20
Food and kindred products	5.37	5.80	5.97	6.02	6.09	6.10	6.12	6.19	6.22	6.22	6.28	6.28	6.33	6.36	6.49
Tobacco manufactures	5.54	6.13	6.02	6.18	6.36	6.53	6.64	6.90	6.83	6.82	6.83	6.59	6.54	6.42	7.01
Textile mill products	3.99	4.30	4.45	4.48	4.52	4.51	4.52	4.48	4.52	4.54	4.65	4.77	4.82	4.83	4.86
Apparel and other textile products	3.62	3.94	4.04	4.08	4.17	4.17	4.19	4.19	4.20	4.21	4.23	4.21	4.28	4.32	4.33
Paper and allied products	5.96	6.52	6.75	6.75	6.80	6.83	6.88	6.92	6.96	7.05	7.17	7.22	7.32	7.33	7.40
Printing and publishing	6.12	6.50	6.66	6.70	6.72	6.73	6.77	6.72	6.83	6.88	6.90	6.94	7.04	7.06	7.09
Chemicals and allied products	6.43	7.01	7.22	7.28	7.32	7.32	7.36	7.50	7.47	7.53	7.60	7.65	7.73	7.81	7.87
Petroleum and coal products	7.83	8.63	8.78	8.89	9.01	9.10	9.31	9.44	9.39	9.32	9.39	9.35	9.51	9.50	9.57
Rubber and miscellaneous plastics products	5.17	5.52	5.71	5.77	5.82	5.84	5.86	5.82	5.90	5.91	5.95	5.94	6.03	6.13	6.11
Leather and leather products	3.61	3.89	3.98	4.01	4.13	4.14	4.17	4.18	4.18	4.19	4.19	4.22	4.29	4.31	4.33
TRANSPORTATION AND PUBLIC UTILITIES	6.99	7.57	7.78	7.85	7.90	7.92	7.90	7.88	7.94	8.03	8.23	8.32	8.45	8.48	8.48
WHOLESALE AND RETAIL TRADE	4.28	4.67	4.80	4.81	4.95	4.97	4.98	5.00	5.00	5.02	5.05	5.06	5.13	5.14	5.18
WHOLESALE TRADE	5.39	5.88	6.07	6.14	6.18	6.21	6.23	6.30	6.29	6.34	6.38	6.41	6.51	6.51	6.58
RETAIL TRADE	3.85	4.20	4.31	4.31	4.47	4.47	4.47	4.48	4.48	4.50	4.51	4.52	4.58	4.59	4.62
FINANCE, INSURANCE, AND REAL ESTATE	4.54	4.90	5.00	5.07	5.13	5.19	5.16	5.20	5.22	5.22	5.29	5.29	5.38	5.38	5.39
SERVICES	4.65	4.99	5.13	5.16	5.23	5.27	5.26	5.28	5.27	5.27	5.29	5.30	5.45	5.48	5.52

18. Hourly Earnings Index for production or nonsupervisory workers on private nonagricultural payrolls, by industry division

[Seasonally adjusted data: 1967 = 100]

Industry	1978		1979											Percent change	
	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct. p	Nov. p	Oct. 1979 to Nov. 1979	Nov. 1978 to Nov. 1979
TOTAL PRIVATE (in current dollars)	219.2	220.9	222.6	224.0	225.2	226.8	227.5	229.0	230.9	232.2	234.3	235.0	236.9	0.8	8.1
Mining	249.9	250.9	252.1	253.7	256.1	264.1	262.7	254.9	266.9	265.6	268.1	268.0	271.4	1.3	8.6
Construction	211.6	213.0	213.8	216.7	216.5	218.1	220.4	220.4	222.1	223.1	224.4	223.9	225.6	.8	6.6
Manufacturing	222.4	224.2	225.4	227.2	228.7	231.0	232.3	233.9	235.4	236.9	238.7	240.0	241.9	.8	8.7
Transportation and public utilities	236.3	238.0	240.8	241.7	243.1	241.7	243.7	248.4	251.3	252.6	255.6	256.6	258.2	.6	9.3
Wholesale and retail trade	213.0	214.6	217.7	218.1	219.4	220.9	221.0	222.6	223.8	225.4	227.0	227.3	229.6	1.0	7.8
Finance, insurance, and real estate	200.7	202.1	202.4	204.2	204.8	207.5	207.0	208.0	210.8	211.5	214.4	213.6	215.3	.8	7.3
Services	217.7	219.3	220.8	222.2	223.3	225.0	224.3	225.7	227.0	228.4	231.5	232.2	233.8	.7	7.4
TOTAL PRIVATE (in constant dollars)	108.6	108.7	108.5	107.8	107.3	106.8	106.1	105.7	105.6	105.1	104.9	104.3	(1)	(1)	(1)

[1] Not available.

19. Weekly earnings, by industry division and major manufacturing group

[Gross averages, production or nonsupervisory workers on private nonagricultural payrolls]

Industry division and group	Annual average		1978		1979										
	1977	1978	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.^{p}	Nov.^{p}
TOTAL PRIVATE	$189.00	$203.70	$210.50	$213.35	$210.14	$212.40	$214.91	$211.65	$216.20	$219.71	$221.76	$222.84	$225.90	$225.62	$225.07
MINING	301.20	332.11	352.50	349.80	347.68	349.75	354.78	363.80	361.66	367.62	355.28	365.49	372.80	373.65	381.50
CONSTRUCTION	295.65	318.32	324.40	330.04	310.71	319.31	331.80	320.21	340.01	346.03	348.35	354.16	360.43	356.82	346.39
MANUFACTURING	228.90	249.27	260.94	268.27	260.25	262.10	266.34	254.41	265.86	269.06	267.73	267.60	274.04	274.85	275.37
Durable goods	248.46	270.44	283.71	293.14	283.03	286.06	289.39	273.14	286.46	291.51	286.86	287.65	295.30	295.80	296.30
Lumber and wood products	202.98	222.88	229.43	232.18	222.92	227.37	231.85	230.69	236.41	247.63	245.46	248.58	253.43	248.13	240.86
Furniture and fixtures	169.26	183.92	189.12	194.89	186.52	187.83	193.05	185.25	189.85	195.94	191.52	196.86	202.02	204.36	204.10
Stone, clay, and glass products	239.95	262.91	275.33	277.68	266.09	267.15	277.55	276.60	284.08	288.39	285.94	287.73	291.07	291.48	293.15
Primary metal industries	305.62	342.76	359.54	363.80	363.76	368.38	386.63	371.96	365.56	370.66	373.35	371.28	378.31	372.60	371.68
Fabricated metal products	242.31	258.94	270.76	279.36	269.28	271.99	277.54	256.86	275.54	279.21	274.04	276.62	282.74	285.07	286.30
Machinery except electrical	259.79	284.34	297.93	311.74	298.91	304.30	306.29	286.13	302.33	308.28	302.82	303.56	313.41	310.75	314.34
Electric and electronic equipment	217.76	234.55	242.98	251.52	246.23	248.27	250.71	237.07	249.64	253.13	248.29	252.49	261.63	261.55	266.67
Transportation equipment	309.40	333.80	355.61	374.25	349.45	351.54	356.17	313.05	356.10	352.29	349.70	341.82	349.61	356.38	350.73
Instruments and related products	214.77	233.54	241.19	248.12	243.19	246.82	249.45	241.20	249.29	248.68	248.25	247.44	252.75	257.86	267.30
Miscellaneous manufacturing	169.17	181.97	188.73	191.48	190.30	191.07	194.04	186.50	192.50	194.61	194.66	196.06	199.25	201.33	204.17
Nondurable goods	201.33	217.88	226.29	229.43	226.01	226.40	229.91	225.38	231.08	234.04	236.38	237.98	241.96	241.92	244.90
Food and kindred products	214.80	230.26	238.80	242.61	240.56	239.12	242.35	241.41	246.31	247.56	251.83	253.08	257.00	255.04	259.60
Tobacco manufactures	209.41	233.55	232.97	239.78	229.60	236.39	252.98	255.68	265.69	265.98	246.56	247.78	255.71	249.10	271.99
Textile mill products	161.20	173.72	180.67	182.78	180.35	179.50	182.61	172.93	181.25	184.32	185.54	192.23	196.66	197.06	199.34
Apparel and other textile products	128.87	140.26	145.04	146.06	144.29	145.53	148.33	142.04	147.42	149.86	149.74	149.88	151.51	153.36	153.72
Paper and allied products	255.68	279.71	291.60	294.69	288.68	288.23	293.09	287.87	295.10	302.74	304.73	307.57	312.56	312.90	315.98
Printing and publishing	230.72	244.40	253.75	256.61	249.31	251.03	255.23	247.30	254.76	257.31	258.06	263.03	266.82	264.75	268.71
Chemicals and allied products	268.13	293.72	305.41	307.94	305.24	305.24	308.38	314.25	312.25	314.75	316.92	319.77	323.11	325.68	331.33
Petroleum and coal products	334.34	376.27	380.71	388.49	385.63	388.57	407.78	414.42	410.34	404.49	414.10	407.66	425.10	419.90	421.08
Rubber and miscellaneous plastics products	211.97	225.77	236.39	242.34	239.20	240.61	242.80	229.31	238.95	240.54	239.19	237.60	244.22	247.65	245.01
Leather and leather products	133.21	144.32	147.26	148.77	149.92	148.63	149.70	147.55	152.15	155.45	154.61	154.45	157.87	157.32	159.34
TRANSPORTATION AND PUBLIC UTILITIES	278.90	302.80	310.42	315.57	312.84	316.01	314.42	307.32	314.42	321.20	329.20	335.30	337.16	336.71	337.05
WHOLESALE AND RETAIL TRADE	142.52	153.64	156.00	159.21	158.72	159.54	161.35	162.50	162.00	165.16	168.17	167.99	167.75	167.05	167.83
WHOLESALE TRADE	209.13	228.14	235.52	240.07	237.31	238.46	242.35	243.18	244.68	247.26	249.21	249.35	252.59	253.24	256.62
RETAIL TRADE	121.66	130.20	131.88	134.90	133.65	134.55	135.44	137.39	136.50	139.50	142.07	141.93	140.61	140.00	140.45
FINANCE, INSURANCE, AND REAL ESTATE	165.26	178.36	182.59	184.04	186.73	186.92	187.31	190.37	188.44	188.96	192.56	191.50	195.29	195.29	196.20
SERVICES	153.45	163.67	167.24	167.70	169.45	170.75	171.48	171.93	171.28	173.38	176.16	175.96	178.22	178.65	179.95

20. Gross and spendable weekly earnings, in current and 1967 dollars, 1960 to date

[Averages for production or nonsupervisory workers on private nonagricultural payrolls]

Year and month	Private nonagricultural workers						Manufacturing workers					
	Gross average weekly earnings		Spendable average weekly earnings				Gross average weekly earnings		Spendable average weekly earnings			
			Worker with no dependents		Married worker with 3 dependents				Worker with no dependents		Married worker with 3 dependents	
	Current dollars	1967 dollars	Current dollars	1967 dollars	Current dollars	1967 dollars	Current dollars	1967 dollars	Current dollars	1967 dollars	Current dollars	1967 dollars
1960	$80.67	$90.95	$65.59	$73.95	$72.96	$82.25	$89.72	$101.15	$72.57	$81.82	$80.11	$90.32
1961	82.60	92.19	67.08	74.87	74.48	83.13	92.34	103.06	74.60	83.26	82.18	91.72
1962	85.91	94.82	69.56	76.78	76.99	84.98	96.56	106.58	77.86	85.94	85.53	94.40
1963	88.46	96.47	71.05	77.48	78.56	85.67	99.23	108.21	79.51	86.71	87.25	95.15
1964	91.33	98.31	75.04	80.78	82.57	88.88	102.97	110.84	84.40	90.85	92.18	99.22
1965	95.45	101.01	79.32	83.94	86.63	91.67	107.53	113.79	89.08	94.26	96.78	102.41
1966	98.82	101.67	81.29	83.63	88.66	91.21	112.19	115.42	91.45	94.08	99.33	102.19
1967	101.84	101.84	83.38	83.38	90.86	90.86	114.49	114.49	92.97	92.97	100.93	100.93
1968	107.73	103.39	86.71	83.21	95.28	91.44	122.51	117.57	97.70	93.76	106.75	102.45
1969	114.61	104.38	90.96	82.84	99.99	91.07	129.51	117.95	101.90	92.81	111.44	101.49
1970	119.83	103.04	96.21	82.73	104.90	90.20	133.33	114.64	106.32	91.42	115.58	99.38
1971	127.31	104.95	103.80	85.57	112.43	92.69	142.44	117.43	114.97	94.78	124.24	102.42
1972	136.90	109.26	112.19	89.54	121.68	97.11	154.71	123.47	125.34	100.03	135.57	108.20
1973	145.39	109.23	117.51	88.29	127.38	95.70	166.46	125.06	132.57	99.60	143.50	107.81
1974	154.76	104.78	124.37	84.20	134.61	91.14	176.80	119.70	140.19	94.92	151.56	102.61
1975	163.53	101.45	132.49	82.19	145.65	90.35	190.79	118.36	151.61	94.05	166.29	103.16
1976	175.45	102.90	143.30	84.06	155.87	91.42	209.32	122.77	167.83	98.43	181.32	106.35
1977	189.00	104.13	155.19	85.50	169.93	93.63	228.90	126.12	183.80	101.27	200.06	110.23
1978	203.70	104.30	165.39	84.69	180.71	92.53	249.27	127.63	197.40	101.08	214.87	110.02
1978: November	210.50	104.31	170.28	84.38	185.81	92.08	260.94	129.31	205.21	101.69	223.76	110.88
December	213.35	105.15	172.31	84.92	187.95	92.63	268.27	132.22	210.12	103.56	229.40	113.06
1979: January	210.14	102.66	170.88	83.48	187.22	91.46	260.25	127.14	206.40	100.83	225.48	110.15
February	212.40	102.56	172.53	83.31	188.98	91.25	262.10	126.56	207.69	100.28	226.89	109.56
March	214.91	102.68	174.35	83.30	190.93	91.22	266.34	127.25	210.65	100.65	230.10	109.94
April	211.65	99.93	171.98	81.20	188.39	88.95	254.41	120.12	202.32	95.52	221.05	104.37
May	[c]216.20	100.89	175.29	81.80	191.93	89.56	265.86	124.06	[c]210.32	98.14	229.74	107.20
June	219.71	101.30	177.85	82.00	194.67	89.75	269.06	124.05	212.51	97.98	232.17	107.04
July	221.76	101.08	179.36	81.75	196.26	89.45	267.73	122.03	211.61	96.45	231.16	105.36
August	222.84	100.60	180.13	81.32	197.11	88.99	267.60	120.81	211.52	95.49	231.06	104.32
September	225.90	100.98	182.36	81.52	199.42	89.15	274.04	122.50	215.89	96.51	235.94	105.47
October [p]	225.62	100.01	182.16	80.74	199.21	88.30	274.85	121.83	216.44	95.94	236.56	104.86
November [p]	225.07	(1)	181.76	(1)	198.79	(1)	275.37	(1)	216.79	(1)	236.95	(1)

[1] Not available.

c = Corrected.

NOTE: The earnings expressed in 1967 dollars have been adjusted for changes in price level as measured by the Bureau's Consumer Price Index for Urban Wage Earners and Clerical Workers (revised). These series are described in "The Spendable Earnings Series: A Technical Note on its Calculation", **Employment and Earnings and Monthly Report on the Labor Force**, February 1969, pp. 6 – 13, See also "Spendable Earnings Formulas, 1977 – 79" **Employment and Earnings**. September 1979, pp. 6 – 8.

UNEMPLOYMENT INSURANCE DATA

UNEMPLOYMENT INSURANCE DATA are compiled monthly by the Employment and Training Administration of the U.S. Department of Labor from records of State and Federal unemployment insurance claims filed and benefits paid. Railroad unemployment insurance data are prepared by the U.S. Railroad Retirement Board.

Definitions

Data for **all programs** represent an unduplicated count of insured unemployment under the State, Ex-Servicemen, and UCFE programs, and the Railroad Insurance Act.

Under both State and Federal unemployment insurance programs for civilian employees, insured workers must report the completion of at least 1 week of unemployment before they are defined as unemployed. Persons not covered by unemployment insurance (about one-third of the labor force) and those who have exhausted or not yet earned benefit rights are excluded from the scope of the survey. **Initial claims** are notices filed by persons in unemployment insurance programs to indicate they are out of work and wish to begin receiving compensation. A claimant who continued to be unemployed a full week is then counted in the insured unemployment figure. The **rate of insured unemployment** expresses the number of insured unemployed as a percent of the average insured employment in a 12-month period.

An **application** for benefits is filed by a railroad worker at the beginning of his first period of unemployment in a benefit year; no application is required for subsequent periods in the same year. **Number of payments** are payments made in 14-day registration periods. The **average amount of benefit payment** is an average for all compensable periods, not adjusted for recovery of overpayments or settlement of underpayments. However, **total benefits** paid have been adjusted.

21. Unemployment insurance and employment service operations

[All items except average benefits amounts are in thousands]

Item	1978			1979									
	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.
All programs:													
Insured unemployment	1,999	2,148	2,567	3,198	3,209	2,921	2,610	2,230	2,119	2,429	2,377	2,164	2,236
State unemployment insurance program:[1]													
Initial claims[2]	1,289	1,526	1,882	2,421	1,576	1,396	1,589	1,309	1,400	1,976	1,545	1,219	.....
Insured unemployment (average weekly volume)	1,816	2,009	2,421	3,037	3,053	2,750	2,440	2,078	1,991	2,300	2,245	2,024	2,057
Rate of insured unemployment	2.4	2.7	3.2	3.9	4.0	3.6	3.1	2.6	2.5	2.8	2.7	2.4	2.4
Weeks of unemployment compensated	6,405	6,744	7,907	11,371	10,762	11,106	8,956	8,442	7,197	7,889	8,830	6,893	.....
Average weekly benefit amount for total unemployment	$83.42	$83.99	$85.34	$88.28	$90.31	$90.28	$89.25	$88.37	$87.25	$86.40	$88.56	$89.07	.....
Total benefits paid	519,726	$550,691	$645,084	$972,820	$915,146	$975,641	$777,899	$725,229	$610,269	$665,667	$767,025	$806,095	.....
Unemployment compensation for ex-servicemen:[3]													
Initial claims[1]	23	23	24	24	21	21	20	20	24	28	26	23	.....
Insured unemployment (average weekly volume)	49	48	50	54	53	52	48	45	45	51	52	52	52
Weeks of unemployment compensated	203	244	228	262	219	241	207	214	193	216	234	211	.....
Total benefits paid	$18,887	$20,591	$21,040	$24,425	$20,489	$22,794	$19,617	$20,440	$18,623	$20,965	$22,550	$19,634	.....
Unemployment compensation for Federal civilian employees:[4]													
Initial claims	18	16	18	21	13	12	12	12	13	16	13	13	.....
Insured unemployment (average weekly volume)	34	32	34	37	35	33	27	24	23	25	25	25	26
Weeks of unemployment compensated	120	135	136	158	133	143	112	106	91	96	107	91	.....
Total benefits paid	$10,414	$11,826	$12,174	$14,222	$12,256	$13,168	$10,345	$9,330	$8,341	$8,802	$9,829	$8,456	.....
Railroad unemployment insurance:													
Applications	8	15	10	8	6	5	3	3	9	15	8	13	.....
Insured unemployment (average weekly volume)	18	17	17	26	24	23	18	10	8	11	12	21	.....
Number of payments	53	33	30	50	50	23	40	29	19	20	26	32	.....
Average amount of benefit payment	$192.38	$171.54	$189.59	$200.80	$200.54	$204.72	$195.56	$177.39	$183.13	$190.10	$195.61	$189.08	.....
Total benefits paid	$10,070	$5,384	$5,678	$9,634	$9,871	$10,538	$7,276	$5,681	$3,314	$3,899	$3,767	$5,747	.....
Employment service:[5]													
New applications and renewals	1,670	3,026	414	5,830	.....	8,059	9,180	10,452	11,907	13,186	14,479	.....	.....
Nonfarm placements	467	827	1,120	1,414	.....	1,991	2,291	2,816	3,051	3,482	3,936	.....	.....

[1] Initial claims and State insured unemployment include data under the program for Puerto Rican sugarcane workers.

[2] Includes interstate claims for the Virgin Islands. Excludes transition claims under State programs.

[3] Excludes data on claims and payments made jointly with other programs.

[4] Includes the Virgin Islands. Excludes data on claims and payments made jointly with State programs.

[5] Cumulative total for fiscal year (October 1 - September 30).

NOTE: Data for Puerto Rico included. Dashes indicate data not available.

PRICE DATA

PRICE DATA are gathered by the Bureau of Labor Statistics from retail and primary markets in the United States. Price indexes are given in relation to a base period (1967 = 100, unless otherwise noted).

Definitions

The **Consumer Price Index** is a monthly statistical measure of the average change in prices in a fixed market basket of goods and services. Effective with the January 1978 index, the Bureau of Labor Statistics began publishing CPI's for two groups of the population. One index, a new CPI for All Urban Consumers, covers 80 percent of the total noninstitutional population; and the other index, a revised CPI for Urban Wage Earners and Clerical Workers, covers about half the new index population. The All Urban Consumers index includes, in addition to wage earners and clerical workers, professional, managerial, and technical workers, the self-employed, short-term workers, the unemployed, retirees, and others not in the labor force.

The CPI is based on prices of food, clothing, shelter, fuel, drugs, transportation fares, doctor's and dentist's fees, and other goods and services that people buy for day-to-day living. The quantity and quality of these items is kept essentially unchanged between major revisions so that only price changes will be measured. Prices are collected from over 18,000 tenants, 24,000 retail establishments, and 18,000 housing units for property taxes in 85 urban areas across the country. All taxes directly associated with the purchase and use of items are included in the index. Because the CPI's are based on the expenditures of two population groups in 1972–73, they may not accurately reflect the experience of individual families and single persons with different buying habits.

Though the CPI is often called the "Cost-of-Living Index," it measures only price change, which is just one of several important factors affecting living costs. Area indexes do not measure differences in the level of prices among cities. They only measure the average change in prices for each area since the base period.

Producer Price Indexes measure average changes in prices received in primary markets of the United States by producers of commodities in all stages of processing. The sample used for calculating these indexes contains about 2,800 commodities and about 10,000 quotations per month selected to represent the movement of prices of all commodities produced in the manufacturing, agriculture, forestry, fishing, mining, gas and electricity, and public utilities sectors. The universe includes all commodities produced or imported for sale in commercial transactions in primary markets in the United States.

Producer Price Indexes can be organized by stage of processing or by commodity. The stage of processing structure organizes products by degree of fabrication (that is, finished goods, intermediate or semifinished goods, and crude materials). The commodity structure organizes products by similarity of end-use or material composition.

To the extent possible, prices used in calculating Producer Price Indexes apply to the first significant commercial transaction in the United States, from the production or central marketing point. Price data are generally collected monthly, primarily by mail questionnaire. Most prices are obtained directly from producing companies on a voluntary and confidential basis. Prices generally are reported for the Tuesday of the week containing the 13th day of the month.

In calculating Producer Price Indexes, price changes for the various commodities are averaged together with implicit quantity weights representing their importance in the total net selling value of all commodities as of 1972. The detailed data are aggregated to obtain indexes for stage of processing groupings, commodity groupings, durability of product groupings, and a number of special composite groupings.

Price indexes for the output of selected SIC industries measure average price changes in commodities produced by particular industries, as defined in the *Standard Industrial Classification Manual 1972* (Washington, U.S. Office of Management and Budget, 1972). These indexes are derived from several price series, combined to match the economic activity of the specified industry and weighted by the value of shipments in the industry. They use data from comprehensive industrial censuses conducted by the U.S. Bureau of the Census and the U.S. Department of Agriculture.

Notes on the data

Beginning with the May 1978 issue of the *Review*, regional CPI's cross classified by population size, were introduced. These indexes will enable users in local areas for which an index is not published to get a better approximation of the CPI for their area by using the appropriate population size class measure for their region. The cross-classified indexes will be published bimonthly. (See table 24.)

For further details about the new and the revised indexes and a comparison of various aspects of these indexes with the old unrevised CPI, see *Facts About the Revised Consumer Price Index*, a pamphlet in the Consumer Price Index Revision 1978 series. See also *The Consumer Price Index: Concepts and Content Over the Years*. Report 517, revised edition (Bureau of Labor Statistics, May 1978).

For interarea comparisons of living costs at three hypothetical standards of living, see the family budget data published in the *Handbook of Labor Statistics, 1977*, Bulletin 1966 (Bureau of Labor Statistics, 1977), tables 122–133. Additional data and analysis on price changes are provided in the *CPI Detailed Report* and *Producer Prices and Price Indexes*, both monthly publications of the Bureau.

As of January 1976, the Wholesale Price Index (as it was then called) incorporated a revised weighting structure reflecting 1972 values of shipments. From January 1967 through December 1975, 1963 values of shipments were used as weights.

For a discussion of the general method of computing consumer, producer, and industry price indexes, see *BLS Handbook of Methods for Surveys and Studies*, Bulletin 1910 (Bureau of Labor Statistics, 1976), chapters 13–15. See also John F. Early, "Improving the measurement of producer price change," *Monthly Labor Review*, April 1978, pp. 7–15. For industry prices, see also Bennett R. Moss, "Industry and Sector Price Indexes," *Monthly Labor Review*, August 1965, pp. 974–82.

22. Consumer Price index for Urban Wage Earners and Clerical Workers, annual averages and changes, 1967–78

[1967 = 100]

Year	All items		Food and beverages		Housing		Apparel and upkeep		Transportation		Medical care		Entertainment		Other goods and services	
	Index	Percent change	Index	Percent change	Index	Percent change	Index	Percent change	Index	Percent change	Index	Percent change	Index	Percent change	Index	Percent change
1967	100.0	...	100.0	...	100.0	...	100.0	...	100.0	...	100.0	...	100.0	...	100.0	...
1968	104.2	4.2	103.6	3.6	104.0	4.0	105.4	5.4	103.2	3.2	106.1	6.1	105.7	5.7	105.2	5.2
1969	109.8	5.4	108.8	5.0	110.4	6.2	111.5	5.8	107.2	3.9	113.4	6.9	111.0	5.0	110.4	4.9
1970	116.3	5.9	114.7	5.4	118.2	7.1	116.1	4.1	112.7	5.1	120.6	6.3	116.7	5.1	116.8	5.8
1971	121.3	4.3	118.3	3.1	123.4	4.4	119.8	3.2	118.6	5.2	128.4	6.5	122.9	5.3	122.4	4.8
1972	125.3	3.3	123.2	4.1	128.1	3.8	122.3	2.1	119.9	1.1	132.5	3.2	126.5	2.9	127.5	4.2
1973	133.1	6.2	139.5	13.2	133.7	4.4	126.8	3.7	123.8	3.3	137.7	3.9	130.0	2.8	132.5	3.9
1974	147.7	11.0	158.7	13.8	148.8	11.3	136.2	7.4	137.7	11.2	150.5	9.3	139.8	7.5	142.0	7.2
1975	161.2	9.1	172.1	8.4	164.5	10.6	142.3	4.5	150.6	9.4	168.6	12.0	152.2	8.9	153.9	8.4
1976	170.5	5.8	177.4	3.1	174.6	6.1	147.6	3.7	165.5	9.9	184.7	9.5	159.8	5.0	162.7	5.7
1977	181.5	6.5	188.0	6.0	186.5	6.8	154.2	4.5	177.2	7.1	202.4	9.6	167.7	4.9	172.2	5.8
1978	195.3	7.6	206.2	9.7	202.6	8.6	159.5	3.4	185.8	4.9	219.4	8.4	176.2	5.1	183.2	6.4

23. Consumer Price Index for All Urban Consumers and revised CPI for Urban Wage Earners and Clerical Workers, U.S. city average—general summary and groups, subgroups, and selected items

[1967 = 100 unless otherwise specified]

General summary	All Urban Consumers							Urban Wage Earners and Clerical Workers (revised)						
	1978	1979						1978	1979					
	Oct.	May	June	July	Aug.	Sept.	Oct.	Oct.	May	June	July	Aug.	Sept.	Oct.
All items	200.9	214.1	216.6	218.9	221.1	223.4	225.4	200.7	214.3	216.9	219.4	221.5	223.7	225.6
Food and beverages	211.6	228.2	229.3	230.7	230.2	231.0	232.1	211.5	228.2	229.3	230.9	230.4	231.2	232.3
Housing	209.5	222.4	225.5	228.4	231.5	234.6	237.7	209.1	222.3	225.5	228.4	231.5	234.5	237.7
Apparel and upkeep	163.3	166.1	165.7	164.3	166.3	169.8	171.0	163.6	165.7	165.3	164.5	166.2	169.3	170.8
Transportation	189.7	207.7	212.6	216.6	219.6	221.4	222.7	190.3	208.6	213.7	217.8	220.7	222.4	223.4
Medical care	224.7	236.3	237.7	239.9	241.8	243.7	245.9	224.9	236.3	238.2	240.5	242.6	244.7	247.2
Entertainment	179.3	187.8	188.2	189.1	190.2	191.1	192.0	178.3	187.1	187.5	188.6	188.9	190.2	191.4
Other goods and services	188.3	193.9	194.5	195.2	197.0	201.7	202.3	187.6	193.8	194.3	195.1	197.2	200.6	201.4
Commodities	191.8	205.8	208.4	210.5	212.2	214.1	215.6	191.8	206.1	208.7	211.0	212.6	214.4	215.8
Commodities less food and beverages	180.2	192.9	196.0	198.4	200.9	203.3	204.9	180.0	193.1	196.3	198.8	201.3	203.5	205.0
Nondurables less food and beverages	180.1	195.7	200.5	204.2	208.8	213.2	214.9	180.2	196.6	201.6	205.6	210.5	214.8	216.6
Durables	178.8	189.2	191.1	192.6	193.6	194.5	196.0	178.5	188.9	190.8	192.2	192.9	193.5	194.8
Services	217.6	229.5	232.1	234.7	237.6	240.7	243.6	217.3	229.7	232.3	235.1	237.9	241.0	244.0
Rent, residential	167.4	173.8	174.7	175.9	177.5	179.0	181.4	167.4	173.7	174.7	175.8	177.3	178.9	181.2
Household services less rent	244.3	260.2	264.5	268.6	272.8	276.7	280.7	244.2	261.1	265.6	269.8	274.1	278.2	282.3
Transportation services	200.4	209.8	210.9	212.6	214.9	216.6	218.5	200.7	210.5	211.6	213.3	215.3	216.8	218.6
Medical care services	241.5	254.4	255.9	258.5	260.6	262.8	265.3	241.6	254.0	256.1	258.8	261.2	263.8	266.8
Other services	189.9	197.6	198.4	199.3	200.5	204.7	205.7	189.8	198.0	198.7	200.1	201.2	204.9	206.4
Special indexes:														
All items less food	196.7	208.9	211.8	214.2	216.9	219.6	221.8	196.4	209.1	212.0	214.6	217.3	219.8	222.0
All items less mortgage interest costs	196.9	208.7	211.0	213.0	214.7	216.7	218.3	196.7	209.1	211.5	213.7	215.3	217.2	218.7
Commodities less food	179.1	191.6	194.7	197.0	199.5	201.8	203.4	179.0	191.8	194.9	197.4	199.9	202.0	203.5
Nondurables less food	178.1	193.2	197.6	201.1	205.4	209.6	211.3	178.3	194.0	198.6	202.5	207.0	211.0	212.9
Nondurables less food and apparel	188.8	210.2	217.0	222.8	228.3	232.7	234.8	188.9	211.0	218.0	223.9	229.7	234.2	236.3
Nondurables	196.6	212.8	215.7	218.3	220.4	223.1	224.5	196.7	213.2	216.3	219.2	221.3	223.9	225.3
Services less rent	226.7	239.8	242.6	245.6	248.8	252.1	255.1	226.4	240.1	243.0	246.1	249.2	252.6	255.7
Services less medical care	213.6	225.3	228.0	230.6	233.6	236.7	239.6	213.2	225.6	228.2	231.0	233.9	236.9	239.9
Domestically produced farm foods	205.1	224.2	224.9	225.9	223.5	223.7	224.1	204.9	223.9	224.6	225.8	223.4	223.6	224.0
Selected beef cuts	212.6	271.9	268.3	267.8	253.0	255.3	257.3	213.4	273.1	269.9	270.1	255.5	258.0	259.1
Energy	226.5	260.8	275.4	287.1	296.3	304.3	307.5	226.4	262.2	277.3	289.2	298.8	307.0	310.2
All items less energy	199.2	210.7	212.2	213.8	215.4	217.3	219.2	199.0	210.8	212.3	213.9	215.3	217.0	218.8
All items less food and energy	194.0	204.1	205.8	207.3	209.4	211.5	213.6	193.7	204.0	205.5	207.2	209.0	211.0	213.0
Commodities less food and energy	175.1	183.6	184.8	185.6	186.8	188.2	189.6	174.9	183.3	184.5	185.4	186.4	187.5	188.7
Energy commodities	218.0	266.4	284.9	300.8	314.5	325.3	329.0	218.3	267.3	286.2	301.9	315.8	326.5	330.2
Services less energy	215.8	227.8	229.9	232.4	235.4	238.4	241.3	215.5	228.0	230.1	232.7	235.7	238.7	241.7
Purchasing power of the consumer dollar, 1967 = $1	$0.498	$0.467	$0.462	$0.457	$0.452	$0.448	$0.444	$0.498	$0.467	$0.461	$0.456	$0.451	$0.447	$0.443

23. Continued—Consumer Price Index—U.S. city average

[1967 = 100 unless otherwise specified]

General summary	All Urban Consumers							Urban Wage Earners and Clerical Workers (revised)						
	1978	1979						1978	1979					
	Oct.	May	June	July	Aug.	Sept.	Oct.	Oct.	May	June	July	Aug.	Sept.	Oct.
BEVERAGES	211.6	228.2	229.3	230.7	230.2	231.0	232.1	211.5	228.2	229.3	230.9	230.4	231.2	232.3
Food	216.8	234.3	235.4	236.9	236.3	237.1	238.2	216.7	234.2	235.4	237.1	236.5	237.3	238.3
Food at home	215.4	233.4	234.2	235.5	233.9	234.7	235.4	215.1	232.8	233.6	235.0	233.5	234.2	234.8
Cereals and bakery products	205.1	216.2	217.8	220.1	223.7	225.6	227.0	206.0	216.8	218.2	221.1	224.1	226.6	227.9
Cereals and bakery products (12/77 = 100)	110.5	114.6	115.5	116.6	118.5	120.0	120.8	110.6	114.7	115.4	117.0	119.0	120.6	121.4
Flour and prepared flour mixes (12/77 = 100)	111.8	116.7	117.8	119.4	122.5	123.4	124.0	112.1	117.0	118.4	120.3	123.3	125.1	125.0
Cereal (12/77 = 100)	109.2	115.1	115.8	117.0	118.0	118.8	119.2	109.5	115.4	116.0	117.4	118.5	118.7	119.3
Rice, pasta, and cornmeal (12/77 = 100)	111.3	111.9	112.8	113.6	115.7	118.6	120.4	110.7	111.7	111.8	113.4	115.8	119.1	120.8
Bakery products (12/77 = 100)	107.9	114.4	115.2	116.4	118.3	119.2	119.9	108.5	114.7	115.5	117.0	118.5	119.7	120.3
White bread	178.0	189.0	190.3	194.2	198.4	200.7	202.5	178.9	189.0	189.5	194.3	198.0	200.5	202.3
Other breads (12/77 = 100)	108.5	114.9	115.3	116.2	116.6	119.6	120.5	110.0	116.2	117.1	118.5	120.8	122.5	123.8
Fresh biscuits, rolls, and muffins (12/77 = 100)	108.7	114.7	115.8	116.1	118.1	119.0	119.4	108.6	114.5	115.4	115.8	117.7	118.6	118.7
Fresh cakes and cupcakes (12/77 = 100)	107.4	113.3	114.0	114.8	116.6	116.7	117.6	108.2	113.9	114.8	115.9	116.3	116.8	118.1
Cookies (12/77 = 100)	106.8	113.4	114.1	114.8	115.6	115.9	116.6	107.9	114.9	116.2	117.2	117.2	117.8	118.3
Crackers and bread and cracker products (12/77 = 100)	107.5	113.3	112.2	112.7	114.7	114.8	115.0	107.6	113.2	112.7	112.9	114.9	114.9	115.0
Fresh sweetrolls, coffeecake, and donuts (12/77 = 100)	106.0	113.7	115.9	116.0	117.5	118.8	118.9	107.5	115.3	117.8	117.8	119.3	121.6	120.7
Frozen and refrigerated bakery products and fresh pies, tarts, and turnovers (12/77 = 100)	109.9	116.6	117.6	119.8	120.8	121.7	122.5	108.7	114.1	113.9	116.5	117.1	118.6	118.8
Meats, poultry, fish, and eggs	211.7	242.2	239.8	239.0	230.2	231.0	230.3	211.1	241.2	239.0	238.3	229.6	230.5	229.7
Meats, poultry, and fish	216.1	247.9	246.1	245.0	235.8	236.0	235.9	215.5	246.9	245.3	244.2	235.3	235.4	235.3
Meats	215.3	252.1	249.6	248.0	237.8	238.1	238.6	214.8	250.9	248.8	247.4	237.6	237.7	238.1
Beef and veal	211.3	270.3	266.9	266.4	251.9	254.2	256.2	212.0	271.3	268.2	268.4	254.1	256.4	257.5
Ground beef other than canned	210.5	280.6	278.7	274.5	260.3	261.4	263.4	211.3	280.0	278.8	274.7	261.9	263.5	265.8
Chuck roast	213.0	285.7	279.7	280.5	257.5	261.0	263.3	216.7	293.1	286.0	288.7	264.0	267.9	268.3
Round roast	192.0	244.4	236.8	239.1	222.2	229.2	230.3	192.8	244.1	240.0	242.7	225.9	231.0	233.0
Round steak	202.6	256.5	250.0	248.1	238.1	239.2	242.2	200.2	253.2	247.5	246.4	235.4	235.7	239.4
Sirloin steak	212.1	259.0	259.8	260.7	247.5	251.0	250.4	212.7	259.3	261.1	260.7	247.3	253.9	249.6
Other beef and veal (12/77 = 100)	123.7	152.8	151.3	151.8	145.0	145.6	147.1	123.9	153.4	151.6	152.8	146.0	146.6	147.0
Pork	218.7	222.2	217.2	215.1	207.4	206.5	204.3	217.9	221.6	217.2	214.9	207.6	206.1	204.7
Bacon	220.5	215.8	203.9	200.0	192.5	194.0	190.5	222.8	216.7	206.0	201.6	195.0	195.6	194.4
Pork chops	207.5	210.1	206.4	207.7	195.3	198.1	195.1	207.0	211.3	207.4	209.2	196.2	196.1	194.9
Ham other than canned (12/77 = 100)	103.2	101.8	99.5	97.2	96.4	95.2	94.8	103.9	99.6	97.0	96.1	94.9	94.3	94.0
Sausage	265.3	276.1	276.1	270.4	263.8	258.4	257.6	262.9	274.2	276.0	269.5	263.2	258.4	258.1
Canned ham	223.9	229.5	226.0	224.4	221.1	216.6	218.2	219.9	229.6	226.4	222.3	218.9	215.3	215.8
Other pork (12/77 = 100)	120.2	127.0	124.4	124.2	118.3	117.4	115.2	118.3	126.5	124.4	123.2	118.4	117.5	115.1
Other meats	216.7	244.0	248.9	245.1	243.5	240.2	240.7	214.6	240.0	245.2	241.0	239.9	236.6	238.0
Frankfurters	210.9	245.2	249.3	243.2	241.9	235.9	236.8	210.0	242.4	249.0	243.0	242.6	236.1	237.7
Bologna, liverwurst, and salami (12/77 = 100)	120.6	134.1	136.7	135.4	134.3	133.2	134.2	119.4	132.2	133.4	132.3	129.7	129.5	130.7
Other lunchmeats (12/77 = 100)	113.2	121.8	123.1	122.0	122.7	121.6	120.3	111.6	118.6	120.6	119.4	120.8	119.0	118.8
Lamb and organ meats (12/77 = 100)	116.9	138.5	143.9	141.0	137.6	135.6	137.7	116.5	140.0	145.9	141.1	137.9	136.9	138.8
Poultry	177.3	188.0	187.2	186.2	177.1	174.8	170.3	174.9	186.2	185.1	184.0	174.3	172.8	168.3
Fresh whole chicken	177.6	185.9	185.8	184.1	171.3	169.9	159.7	173.8	183.9	181.5	179.6	166.7	165.8	157.7
Fresh and frozen chicken parts (12/77 = 100)	112.4	120.4	120.3	119.4	112.1	111.8	110.1	111.7	120.2	120.1	119.1	111.1	110.9	108.4
Other poultry (12/77 = 100)	117.2	125.1	123.4	123.6	123.0	119.2	120.3	115.8	122.9	122.7	123.2	122.1	119.8	119.8
Fish and seafood	281.7	297.2	301.0	304.3	306.5	309.7	311.5	279.6	292.7	295.9	298.3	301.4	304.4	306.5
Canned fish and seafood (12/77 = 100)	105.8	109.8	110.3	111.4	112.7	113.9	115.2	105.7	108.6	109.2	110.2	111.5	113.5	114.5
Fresh and frozen fish and seafood (12/77 = 100)	108.2	115.2	117.2	118.6	119.2	120.4	120.7	107.0	113.2	114.9	115.7	116.9	117.5	118.1
Eggs	159.1	172.9	161.9	165.8	161.8	170.7	161.3	159.1	171.5	161.6	165.4	160.5	170.5	160.3
Dairy Products	191.1	203.8	205.5	206.3	208.6	211.3	213.3	191.7	204.3	205.9	206.7	208.9	212.0	214.0
Fresh milk and cream (12/77 = 100)	107.8	114.7	115.7	116.1	117.7	119.0	120.3	107.9	115.2	116.0	116.3	117.9	119.5	120.4
Fresh whole milk	176.5	188.1	189.4	190.0	192.8	195.4	197.6	176.8	188.7	189.8	190.3	193.0	195.6	197.4
Other fresh milk and cream (12/77 = 100)	107.6	114.3	115.6	116.3	117.4	118.1	119.2	107.8	114.9	116.0	116.5	117.7	119.3	119.8
Processed dairy products (12/77 = 100)	108.3	115.8	116.8	117.3	118.2	120.1	120.9	109.0	116.0	117.0	117.6	118.4	120.5	121.7
Butter	189.3	199.4	199.9	200.6	203.0	209.9	213.3	189.9	201.5	202.0	202.6	205.7	212.3	216.6
Cheese (12/77 = 100)	107.8	116.3	116.9	117.7	118.4	120.1	121.0	108.1	116.1	116.3	117.4	118.4	120.2	121.1
Ice cream and related products (12/77 = 100)	108.0	115.2	116.9	117.0	117.8	120.1	120.4	109.9	115.7	117.8	118.4	118.1	120.7	121.9
Other dairy products (12/77 = 100)	107.0	112.7	114.5	114.5	115.4	115.5	116.4	107.1	112.6	114.6	114.3	115.4	115.6	116.9
Fruits and vegetables	216.3	226.8	233.8	238.1	237.8	231.8	232.0	214.0	224.9	231.5	236.6	237.0	229.6	230.2
Fresh fruits and vegetables	221.5	231.0	243.3	249.4	247.5	234.7	235.5	217.9	228.7	240.4	248.1	247.9	232.9	233.6
Fresh fruits	244.4	249.6	266.0	278.2	286.9	271.6	260.4	241.4	245.7	261.1	278.2	288.9	271.2	260.6
Apples	195.3	229.9	232.9	250.2	275.2	244.7	212.7	197.6	224.2	233.7	248.4	275.9	243.1	212.9
Bananas	181.4	212.6	225.3	221.0	202.3	210.3	206.6	181.5	209.1	221.7	218.5	202.5	208.4	199.7
Oranges	312.9	267.1	311.5	313.5	316.2	312.3	306.7	296.6	259.7	293.0	306.1	298.6	291.8	290.3
Other fresh fruits (12/77 = 100)	132.4	135.4	141.4	151.3	157.5	147.1	143.9	133.0	134.7	140.7	154.2	163.5	152.3	149.7
Fresh vegetables	200.1	213.6	222.0	222.4	210.7	200.3	212.2	198.8	213.4	221.8	221.0	211.0	198.4	209.4
Potatoes	198.5	203.9	221.5	225.7	211.4	199.3	191.1	196.2	203.5	224.3	227.9	212.1	193.4	183.8
Lettuce	202.6	194.1	193.1	200.0	235.7	219.6	262.9	195.6	195.1	186.0	195.9	240.3	222.9	264.2
Tomatoes	159.5	219.7	222.0	185.8	187.0	178.5	194.4	163.5	217.9	223.0	189.4	185.6	179.2	194.1
Other fresh vegetables (12/77 = 100)	116.5	122.9	128.1	132.1	113.8	109.5	114.0	114.1	123.0	128.7	130.2	113.3	108.0	112.5
Processed fruits and vegetables	212.5	224.2	225.4	227.8	229.2	230.6	230.1	211.5	222.5	223.5	225.8	226.9	227.9	228.3
Processed fruits (12/77 = 100)	107.9	116.8	117.6	118.5	119.7	120.6	120.4	108.1	116.8	117.0	118.1	119.0	119.8	120.3
Frozen fruit and fruit juices (12/77 = 100)	108.0	112.6	114.3	114.3	115.5	116.3	116.3	107.6	113.3	114.4	113.6	114.4	114.9	115.2
Fruit juices and other than frozen (12/77 = 100)	137.0	115.6	115.6	117.0	117.9	119.3	119.8	107.9	115.7	115.1	117.4	118.2	119.7	120.7
Canned and dried fruits (12/77 = 100)	108.8	121.8	122.5	123.8	125.0	125.5	124.6	108.8	120.8	121.2	122.7	123.8	123.9	124.0
Processed vegetables (12/77 = 100)	105.5	108.5	108.9	110.4	110.7	111.2	110.9	104.5	107.4	108.1	109.3	109.5	109.9	109.8
Frozen vegetables (12/77 = 100)	105.4	107.2	107.1	109.6	109.7	109.8	110.2	104.8	107.2	107.7	109.7	109.9	109.4	110.2

23. Continued—Consumer Price Index—U.S. city average

[1967 = 100 unless otherwise specified]

General summary	All Urban Consumers							Urban Wage Earners and Clerical Workers (revised)						
	1978	1979						1978	1979					
	Oct.	May	June	July	Aug.	Sept.	Oct.	Oct.	May	June	July	Aug.	Sept.	Oct.
FOOD AND BEVERAGES — Continued														
Food — Continued														
Food at home — Continued														
Fruits and vegetables — Continued														
Cut corn and canned beans except lima (12/77=100)	108.2	112.2	113.2	114.3	113.9	114.7	113.6	107.1	111.0	112.0	112.4	112.0	112.6	111.9
Other canned and dried vegetables (12/77=100)	104.3	107.4	107.7	108.8	109.7	110.1	109.9	103.1	105.7	106.3	107.5	108.1	108.7	108.5
Other foods at home	254.5	266.0	267.1	269.5	272.8	276.0	278.0	254.7	265.3	266.2	268.7	271.8	274.7	276.5
Sugar and sweets	262.3	276.3	277.4	279.4	281.0	282.0	283.1	262.2	275.6	276.6	278.3	279.9	281.2	282.2
Candy and chewing gum (12/77=100)	110.1	117.1	117.4	118.5	119.4	119.7	119.7	110.4	116.9	117.0	118.1	c119.0	119.3	119.6
Sugar and artificial sweeteners (12/77=100)	110.5	115.3	115.4	115.4	115.6	115.9	119.9	110.5	115.4	115.3	115.4	115.5	116.4	116.9
Other sweets (12/77=100)	106.9	111.7	112.6	113.8	114.6	115.3	115.9	105.9	110.4	111.9	112.6	113.6	114.0	114.8
Fats and oils (12/77=100)	216.3	225.3	226.3	227.4	228.9	231.5	231.9	217.1	225.1	226.6	227.6	228.9	230.7	231.9
Margarine	231.6	238.8	239.1	240.2	240.3	245.5	244.4	232.2	236.9	238.4	239.7	239.8	242.8	244.9
Nondairy substitutes and peanut butter (12/77=100)	107.4	112.4	112.8	113.7	114.0	114.6	115.1	107.6	112.1	112.5	113.6	114.0	114.5	114.6
Other fats, oils, and salad dressings (12/77=100)	111.9	117.0	117.8	118.3	119.7	120.6	121.1	112.5	117.4	118.2	118.5	119.6	120.4	121.0
Nonalcoholic beverages	340.4	349.3	350.4	354.6	361.8	367.7	372.1	341.0	348.4	348.5	353.6	360.0	365.0	368.2
Cola drinks, excluding diet cola	223.4	237.4	237.9	238.3	239.2	242.7	246.4	223.1	235.6	234.7	236.5	236.9	240.1	242.0
Carbonated drinks, including diet cola (12/77=100)	109.1	115.1	115.3	115.6	116.2	117.9	118.5	108.2	112.9	112.5	113.0	114.2	115.7	116.1
Roasted coffee	371.8	341.2	347.3	376.5	411.7	425.9	432.4	372.0	340.3	347.3	375.1	406.1	418.2	424.4
Freeze dried and instant coffee	346.7	329.8	330.2	335.6	349.5	359.9	366.5	346.4	328.6	328.9	336.2	349.4	358.9	365.3
Other noncarbonated drinks (12/77=100)	108.5	113.5	113.4	113.1	114.2	114.0	114.8	108.3	112.3	112.3	112.2	113.0	112.7	113.5
Other prepared foods	193.2	206.6	207.8	209.1	210.5	212.6	213.4	193.3	206.5	207.9	208.8	210.4	212.4	213.4
Canned and packaged soup (12/77=100)	103.9	111.4	112.6	113.2	113.2	113.1	113.4	103.4	111.6	112.6	113.1	113.3	113.3	113.3
Frozen prepared foods (12/77=100)	107.9	118.3	119.2	121.4	120.7	123.1	123.1	107.5	117.3	118.6	119.5	118.7	121.1	122.0
Snacks (12/77=100)	104.1	113.1	113.3	114.0	115.7	118.4	119.6	104.6	113.6	113.7	114.8	116.4	119.0	120.6
Seasonings, olives, pickles, and relish (12/77=100)	109.1	114.0	114.4	115.0	115.9	117.4	118.8	108.9	113.6	114.0	114.2	115.4	116.3	116.7
Other condiments (12/77=100)	107.0	113.1	113.6	114.3	115.2	115.9	115.8	107.8	113.9	114.9	115.2	116.2	117.5	117.0
Miscellaneous prepared foods (12/77=100)	108.3	114.5	115.1	115.3	116.3	116.8	117.2	108.4	114.2	114.8	115.2	116.3	116.3	116.7
Other canned and packaged prepared foods (12/77=100)	108.0	114.6	115.6	115.8	116.8	116.7	116.7	107.8	114.2	115.3	115.3	116.7	116.7	116.9
Food away from home	224.6	241.1	242.7	244.9	246.5	247.6	249.6	224.5	242.0	244.4	246.5	248.3	249.3	251.3
Lunch (12/77=100)	109.4	117.7	118.5	119.6	120.3	120.7	121.3	109.1	118.5	119.6	120.4	121.3	121.7	122.2
Dinner (12/77=100)	108.8	116.8	117.7	118.9	119.8	120.3	121.6	108.8	116.8	118.2	119.7	120.5	120.9	122.4
Other meals and snacks (12/77=100)	108.6	115.9	116.6	117.3	117.8	118.6	119.5	108.8	116.6	117.4	118.2	119.1	119.9	120.5
Alcoholic beverages	163.1	171.5	172.1	172.7	173.3	174.2	176.0	163.8	171.9	172.4	173.3	173.6	174.9	176.9
Alcoholic beverages at home (12/77=100)	106.0	111.5	111.9	112.2	112.7	113.3	114.6	107.0	112.4	112.7	113.3	113.4	114.3	115.7
Beer and ale	158.1	169.2	170.0	170.3	170.6	172.3	175.1	159.1	169.2	169.8	170.5	170.3	171.8	175.2
Whiskey	123.4	126.5	126.8	127.4	128.4	129.0	129.4	124.3	127.8	128.2	129.2	129.9	130.4	131.0
Wine	180.9	192.7	193.2	194.1	196.0	195.2	198.0	185.9	195.9	196.2	197.8	199.4	202.7	202.5
Other alcoholic beverages (12/77=100)	102.7	104.7	105.2	105.2	105.4	105.5	105.9	182.3	105.0	104.9	105.0	105.1	105.3	105.9
Alcoholic beverages away from home (12/77=100)	108.2	113.7	113.9	114.5	114.6	115.1	115.9	106.6	111.2	111.7	112.3	112.8	113.4	114.2
HOUSING	209.5	222.4	225.5	228.4	231.5	234.6	237.7	209.1	222.3	225.5	228.4	231.5	234.5	237.7
Shelter	218.6	233.5	236.7	240.1	243.9	247.4	251.5	218.5	234.1	237.2	240.7	244.5	248.2	252.4
Rent, residential	167.4	173.8	174.7	175.9	177.5	179.0	181.4	167.4	173.7	174.7	175.8	177.3	178.9	181.2
Other rental costs	213.8	230.3	232.3	236.0	238.2	239.3	241.6	213.5	229.6	231.8	235.2	237.6	238.6	241.3
Lodging while out of town	220.3	242.1	244.3	248.8	251.2	251.8	254.2	219.7	240.5	243.1	246.7	249.5	249.9	253.0
Tenants' insurance (12/77=100)	103.5	107.2	108.0	110.9	112.0	113.7	114.1	103.5	107.5	108.2	111.5	112.6	114.1	114.7
Homeownership	237.0	254.9	258.8	263.0	267.6	271.9	276.7	237.1	255.9	259.9	264.2	268.9	273.3	278.3
Home purchase	203.4	217.6	220.9	224.0	226.9	229.8	233.4	203.4	217.6	220.8	224.0	227.0	230.0	233.6
Financing, taxes, and insurance	272.4	297.2	302.2	308.6	316.4	323.0	330.5	273.1	299.2	304.2	310.6	318.7	325.6	333.5
Property insurance	287.9	307.1	310.6	312.6	314.6	316.7	319.9	106.3	306.9	310.1	312.1	314.2	318.5	321.9
Property taxes	195.4	181.2	181.3	181.8	183.1	184.7	185.1	196.0	182.7	182.8	183.3	184.6	186.1	186.5
Contracted mortgage interest cost	314.6	358.4	366.0	375.6	387.2	396.7	408.1	118.8	358.9	366.2	375.8	387.4	397.1	408.8
Mortgage interest rates	152.1	162.0	163.0	164.9	167.7	169.7	172.0	152.2	162.2	163.1	164.9	167.8	169.7	172.0
Maintenance and repairs	240.7	252.4	255.5	257.9	259.7	262.5	264.7	238.6	253.4	256.7	259.1	260.8	263.4	265.3
Maintenance and repair services	260.2	273.2	277.4	280.0	281.8	284.4	287.0	258.0	275.5	280.2	282.8	284.2	287.2	289.4
Maintenance and repair commodities	195.0	203.8	204.4	206.1	208.1	211.5	212.5	194.8	204.0	204.9	206.5	209.0	210.8	211.9
Paint and wallpaper, supplies, tools, and equipment (12/77=100)	106.7	110.7	111.8	112.5	114.3	117.0	117.4	106.1	110.8	112.1	112.8	115.0	116.1	116.6
Lumber, awnings, glass, and masonry (12/77=100)	107.4	112.6	112.9	113.7	113.7	115.2	116.0	108.4	113.3	113.9	114.4	114.8	115.7	116.2
Plumbing, electrical, heating, and cooling supplies (12/77=100)	103.4	108.4	108.6	110.1	110.8	111.9	112.8	104.0	109.5	109.3	110.2	111.5	112.6	113.8
Miscellaneous supplies and equipment (12/77=100)	104.9	110.2	109.3	110.3	111.1	112.9	113.3	103.8	108.6	107.6	109.5	110.3	111.2	111.9
Fuel and other utilities	220.1	232.2	239.0	243.5	247.2	251.2	252.9	220.3	232.5	239.4	244.1	247.7	251.7	253.4
Fuels	254.0	274.6	286.2	293.8	299.7	306.6	310.3	253.9	274.6	286.1	293.9	299.8	306.6	310.1
Fuel oil, coal, and bottled gas	300.1	364.3	391.2	412.9	436.6	461.6	470.8	300.3	364.8	391.6	413.5	438.0	462.5	471.7
Fuel oil	300.1	375.3	405.9	429.5	458.2	482.5	491.2	300.2	375.7	406.1	430.0	458.5	483.3	491.9
Other fuels (6/78 = 100)	98.5	100.1	102.6	106.2	109.3	114.4	118.5	98.8	100.2	102.6	106.5	109.4	114.6	118.8
Gas (piped) and electricity	240.0	251.6	258.9	264.5	266.5	270.1	272.5	239.9	251.4	258.8	264.6	266.5	269.9	272.2
Electricity	207.7	214.3	223.7	227.4	229.2	230.6	228.7	208.1	214.7	224.3	229.0	229.7	231.1	228.8
Utility (piped) gas	276.2	296.8	301.8	307.7	309.7	317.5	329.1	275.0	295.4	300.1	306.5	308.5	315.8	327.4

23. Continued—Consumer Price Index—U.S. city average

[1967 = 100 unless otherwise specified]

General summary	All Urban Consumers							Urban Wage Earners and Clerical Workers (revised)						
	1978	1979						1978	1979					
	Oct.	May	June	July	Aug.	Sept.	Oct.	Oct.	May	June	July	Aug.	Sept.	Oct.
HOUSING—Continued														
Fuel and other utilities—Continued														
Other utilities and public services	158.9	159.0	159.2	159.4	159.8	159.8	158.8	159.0	159.1	159.2	159.4	159.8	159.8	158.9
Telephone services	133.0	132.2	132.0	132.1	132.5	132.4	131.2	133.0	132.2	132.0	132.2	132.5	132.4	131.3
Local charges (12/77 = 100)	101.4	100.6	100.0	100.1	100.5	100.4	98.7	101.5	100.6	100.1	100.2	100.6	100.5	98.8
Interstate toll calls (12/77 = 100)	98.1	98.3	98.4	98.4	98.5	98.4	98.4	98.2	98.3	98.5	98.5	98.5	98.4	98.4
Intrastate toll calls (12/77 = 100)	100.3	100.7	101.2	101.3	101.5	101.4	101.7	100.2	100.6	101.1	101.2	101.4	101.3	101.5
Water and sewerage maintenance	235.9	241.4	243.1	244.0	244.6	245.3	245.6	236.0	241.5	243.3	244.0	244.6	245.5	245.8
Household furnishings and operations	181.9	189.2	190.1	190.4	191.2	192.2	193.3	180.5	188.1	188.8	189.0	189.8	190.6	191.7
Housefurnishings	157.7	162.6	163.1	162.9	163.2	164.1	165.2	156.6	162.4	162.8	162.5	163.0	163.5	164.4
Textile housefurnishings	167.9	173.1	174.9	173.6	172.8	175.3	177.8	167.9	173.1	174.0	171.6	173.0	174.9	177.2
Household linens (12/77 = 100)	103.5	106.1	106.8	104.3	103.6	106.7	107.7	103.1	105.8	105.1	103.1	103.7	106.3	107.4
Curtains, drapes, slipcovers, and sewing materials (12/77 = 100)	105.8	108.7	111.4	112.4	112.0	112.0	114.2	106.4	110.3	112.3	111.4	112.7	112.2	114.1
Furniture and bedding	176.7	176.9	177.5	176.8	177.1	178.3	180.0	168.9	176.4	177.6	177.2	177.3	178.5	180.3
Bedroom furniture (12/77 = 100)	107.9	112.8	112.9	113.2	114.0	114.8	116.4	105.9	110.8	111.7	112.1	112.7	113.0	114.8
Sofas (12/77 = 100)	104.0	106.2	107.8	106.2	106.3	107.1	107.3	103.9	108.4	110.1	108.7	108.2	108.6	109.6
Living room chairs and tables (12/77 = 100)	103.0	103.7	103.5	104.5	104.9	105.1	106.2	102.8	105.4	105.4	106.2	106.1	106.7	107.5
Other furniture (12/77 = 100)	108.2	114.7	114.7	113.3	112.7	113.9	115.0	106.7	112.9	113.3	112.5	112.5	114.2	114.7
Appliances including TV and sound equipment	132.6	135.6	135.6	135.4	135.8	136.2	136.9	132.1	135.8	135.3	135.0	135.5	135.7	136.7
Television and sound equipment (12/77 = 100)	102.8	104.0	104.0	103.9	104.3	104.7	104.9	101.7	103.8	103.3	103.3	104.0	104.4	104.1
Television	102.1	102.8	102.7	102.6	102.8	102.9	103.4	101.2	102.2	102.0	101.6	101.9	101.9	102.0
Sound equipment (12/77 = 100)	104.6	106.1	106.3	106.1	106.8	107.5	107.4	103.2	106.3	105.5	105.8	106.7	107.4	106.9
Household appliances	150.4	155.4	155.4	155.1	155.5	155.8	156.9	150.7	156.0	155.6	154.9	155.1	155.2	155.6
Refrigerators and home freezer	150.1	152.4	151.9	152.9	154.6	154.1	155.3	153.3	156.9	156.0	157.3	157.9	156.5	157.9
Laundry equipment (12/77 = 100)	105.5	109.8	110.8	110.7	110.7	110.9	112.1	105.2	109.9	110.5	110.1	110.2	111.2	111.3
Other household appliances (12/77 = 100)	105.7	108.7	109.5	108.7	108.6	109.1	109.8	105.1	108.8	108.3	107.1	107.1	107.2	107.2
Stoves, dishwashers, vacuums, and sewing machines (12/77 = 100)	107.3	110.0	109.8	109.0	108.5	108.6	109.0	105.9	109.6	109.9	107.6	107.7	107.7	106.9
Office machines, small electric appliances, and air conditioners (12/77 = 100)	103.8	108.3	109.2	108.5	108.8	108.7	110.7	104.1	108.0	107.6	106.5	106.4	106.8	107.6
Other household equipment (12/77 = 100)	105.2	108.3	109.5	110.3	110.7	110.9	111.2	103.9	109.0	109.6	110.4	110.6	110.3	110.8
Floor and window coverings, infants' laundry cleaning and outdoor equipment (12/77 = 100)	104.9	108.5	108.5	109.1	109.5	111.1	109.8	100.3	104.6	104.2	104.6	105.9	105.8	105.5
Clocks, lamps, and decor items (12/77 = 100)	102.9	105.2	105.9	107.5	107.1	108.0	108.6	103.5	105.9	106.3	107.2	106.7	107.0	107.1
Tableware, serving pieces, and nonelectric kitchenware (12/77 = 100)	107.7	113.0	113.2	114.4	115.1	114.7	115.4	105.3	111.7	112.8	114.1	113.9	114.5	114.7
Lawn equipment, power tools, and other hardware (12/77 = 100)	103.7	107.9	107.9	107.6	108.5	107.6	108.5	104.5	110.1	110.6	111.0	111.5	109.5	111.0
Housekeeping supplies	210.0	220.5	221.5	222.3	223.4	224.1	224.8	209.3	219.4	219.9	220.7	221.6	222.6	223.9
Soaps and detergents	202.0	209.6	210.2	210.9	212.5	215.1	217.9	201.2	208.2	208.8	210.5	210.9	214.5	216.3
Other laundry and cleaning products (12/77 = 100)	108.6	110.1	110.7	111.3	112.0	112.3	113.7	105.9	110.0	110.8	111.3	111.9	112.4	113.5
Cleansing and toilet tissue, paper towels and napkins (12/77 = 100)	108.5	116.3	116.7	116.5	116.2	116.4	117.2	100.7	117.1	117.2	116.9	116.3	117.1	117.9
Stationery, stationery supplies, and gift wrap (12/77 = 100)	103.2	107.3	108.2	108.9	109.5	109.9	109.5	103.2	106.7	107.0	107.5	108.5	108.3	108.6
Miscellaneous household products (12/77 = 100)	107.3	111.6	111.8	112.3	112.9	113.3	114.3	105.8	110.4	110.1	110.5	111.3	111.8	112.7
Lawn and garden supplies (12/77 = 100)	102.7	111.7	112.3	113.0	113.8	112.7	110.0	101.1	110.0	110.3	110.4	111.3	109.9	108.8
Housekeeping services	233.7	246.2	248.0	249.7	251.6	253.4	254.6	233.2	244.9	247.0	248.8	250.4	252.1	253.9
Postage	257.3	257.3	257.3	257.3	257.3	257.3	257.3	257.2	257.2	257.2	257.2	257.2	257.2	257.2
Moving, storage, freight, household laundry, and drycleaning services (12/77 = 100)	107.6	113.8	115.1	116.3	117.3	118.1	118.8	107.8	114.1	115.5	116.5	117.7	118.6	119.7
Appliance and furniture repair (12/77 = 100)	104.2	108.5	109.1	109.5	110.7	111.7	112.3	103.9	107.6	108.8	109.4	110.3	111.1	112.1
APPAREL AND UPKEEP	163.3	166.1	165.7	164.3	166.3	169.8	171.0	163.6	165.7	165.3	164.5	166.2	169.3	170.8
Apparel commodities	159.3	160.8	160.2	158.6	160.6	164.2	165.2	159.6	160.6	160.0	159.1	160.7	163.9	165.3
Apparel commodities less footwear	157.7	158.4	157.4	155.6	157.7	161.5	162.3	158.2	158.1	157.2	156.0	157.9	161.2	162.4
Men's and boys'	159.1	160.1	160.4	159.2	159.6	162.7	164.2	159.8	160.8	160.9	160.6	161.1	163.2	164.4
Men's (12/77 = 100)	100.9	101.1	101.1	100.0	100.6	102.7	103.5	101.7	101.8	101.6	101.3	101.9	103.2	103.8
Suits, sport coats, and jackets (12/77 = 100)	100.3	96.5	96.5	96.8	97.1	100.0	101.6	99.8	97.2	96.8	95.8	96.2	98.3	99.1
Coats and jackets (12/77 = 100)	98.7	94.8	94.5	94.4	95.5	96.5	97.8	101.8	97.9	97.6	97.6	99.2	99.1	99.5
Furnishings and special clothing (12/77 = 100)	103.0	107.4	108.1	108.4	109.3	110.6	109.9	103.1	106.1	106.2	106.6	107.0	108.6	109.1
Shirts (12/77 = 100)	100.9	103.9	103.5	100.9	103.2	107.2	108.5	102.6	105.0	104.5	104.1	104.9	107.1	108.3
Dungarees, jeans, and trousers (12/77 = 100)	100.6	100.0	99.9	99.0	98.1	99.0	99.5	101.7	102.1	101.7	101.5	101.9	102.5	102.8
Boys' (12/77 = 100)	100.4	102.8	103.5	104.2	103.3	104.8	106.3	99.9	101.9	103.1	103.5	102.7	103.9	105.3
Coats, jackets, sweaters, and shirts (12/77 = 100)	96.3	99.3	100.0	101.7	101.1	102.7	103.9	95.6	98.1	99.4	101.3	100.3	102.0	103.8
Furnishings (12/77 = 100)	104.1	107.1	108.3	108.0	107.9	109.4	110.8	100.1	106.1	107.6	107.1	107.0	108.8	110.1
Suits, trousers, sport coats, and jackets (12/77 = 100)	102.1	103.8	104.4	104.8	103.1	104.5	106.5	101.9	103.2	104.1	103.9	102.9	103.5	104.7
Women's and girls'	154.0	153.2	150.8	147.8	151.3	156.9	155.5	154.0	152.0	149.9	147.5	150.5	154.4	154.8
Women's (12/77 = 100)	102.6	102.4	100.8	98.4	100.7	103.9	103.4	102.7	102.2	100.6	98.7	100.4	103.0	103.3
Coats and jackets	172.5	164.3	162.4	162.1	170.4	174.1	173.9	172.8	173.0	166.9	166.8	173.1	175.7	174.1
Dresses	166.2	170.4	163.5	157.2	162.8	171.1	167.2	165.9	162.0	158.6	152.8	152.8	158.5	159.1
Separates and sportswear (12/77 = 100)	101.2	99.7	98.4	95.0	96.3	99.8	99.6	100.2	98.7	98.5	98.7	97.7	100.4	100.4
Underwear, nightwear, and hosiery (12/77 = 100)	102.6	105.4	105.6	105.6	106.2	106.2	106.6	103.1	106.1	106.5	106.1	107.0	107.4	107.9
Suits (12/77 = 100)	99.4	93.5	91.7	87.3	89.8	98.7	97.1	99.7	96.6	92.4	87.9	91.0	98.1	99.9
Girls (12/77 = 100)	101.5	98.1	95.6	98.1	100.5	102.4	103.6	101.2	98.3	95.9	95.5	98.8	101.1	101.5
Coats, jackets, dresses, and suits (12/77 = 100)	101.2	98.1	95.6	98.7	100.8	102.8	102.8	98.2	95.8	93.4	94.6	95.9	98.5	97.9
Separates and sportswear (12/77 = 100)	101.6	98.3	95.7	93.9	98.3	100.3	102.5	100.0	92.2	93.8	92.5	99.7	102.1	103.5
Underwear, nightwear, hosiery, and accessories (12/77 = 100)	102.0	105.8	105.7	104.8	104.1	105.7	106.7	101.5	104.3	103.4	102.0	101.8	103.5	103.9

23. Continued—Consumer Price Index—U.S. city average

[1967 = 100 unless otherwise specified]

General summary	All Urban Consumers							Urban Wage Earners and Clerical Workers (revised)						
	1978	1979						1978	1979					
	Oct.	May	June	July	Aug.	Sept.	Oct.	Oct.	May	June	July	Aug.	Sept.	Oct.
APPAREL AND UPKEEP—Continued														
Apparel commodities—Continued														
Apparel commodities less footwear—Continued														
Infants' and toddlers'	220.0	221.2	220.9	219.0	221.2	223.4	224.8	219.3	223.6	223.9	221.9	224.2	226.0	226.7
Other apparel commodities	161.9	166.9	167.3	167.9	169.8	172.6	175.5	164.1	167.3	167.8	168.4	170.2	174.9	178.7
Sewing materials and notions (12/77 = 100)	99.4	101.2	101.0	101.3	102.3	102.3	102.2	99.0	96.4	95.7	95.6	96.8	100.4	100.8
Jewelry and luggage (12/77 = 100)	107.0	110.7	111.3	111.7	113.0	115.6	118.3	109.4	113.5	114.3	114.9	116.1	118.9	122.3
Footwear	167.8	175.0	176.7	176.6	177.5	180.1	182.6	167.0	175.2	176.0	176.6	178.9	179.4	181.9
Men's (12/77 = 100)	105.9	111.8	114.0	113.4	114.5	115.0	116.7	105.6	112.2	113.2	114.5	115.2	116.3	118.0
Boys' and girls' (12/77 = 100)	103.8	109.3	110.3	111.0	112.0	111.6	113.0	104.6	109.8	110.0	111.2	111.4	111.6	113.0
Womens' (12/77 = 100)	105.4	108.3	108.4	108.3	108.1	112.0	113.5	103.9	107.7	107.9	108.9	108.5	109.6	111.1
Apparel services	190.1	203.1	204.8	205.7	207.7	210.2	212.5	190.2	202.6	203.6	204.9	206.7	208.7	210.8
Laundry and drycleaning other than coin operated (12/77 = 100)	109.2	118.4	119.7	120.6	122.1	123.6	125.2	109.8	118.4	119.2	120.3	121.8	123.2	124.7
Other apparel services (12/77 = 100)	106.9	111.2	111.4	111.2	111.9	113.0	114.0	106.2	110.9	111.1	111.2	111.5	112.3	112.9
TRANSPORTATION	189.7	207.7	212.6	216.6	219.6	221.4	222.7	190.3	208.6	213.7	217.8	220.7	222.4	223.4
Private	189.4	208.1	213.3	217.4	220.4	222.0	223.1	189.8	208.8	214.1	218.3	221.2	222.7	223.7
New cars	155.5	165.8	166.3	166.7	166.6	166.1	167.5	155.1	165.3	165.9	166.6	166.3	165.9	167.4
Used cars	195.4	205.4	208.9	209.2	207.0	202.9	199.9	195.4	205.4	208.9	209.2	207.0	202.9	199.9
Gasoline	201.9	247.7	265.0	280.0	292.0	301.0	303.8	202.0	248.5	266.2	281.0	293.3	302.3	305.2
Automobile maintenance and repair	226.4	240.1	242.0	244.0	245.7	247.1	249.1	226.8	240.5	242.3	244.2	246.0	247.5	249.4
Body work (12/77 = 100)	107.8	114.1	116.0	117.4	118.6	119.4	120.6	108.3	115.2	116.0	117.6	118.6	119.2	120.4
Automobile drive train, brake, and miscellaneous mechanical repair (12/77 = 100)	108.4	114.9	115.8	116.7	117.4	118.1	119.4	109.1	115.8	116.7	117.5	118.2	119.0	120.2
Maintenance and servicing (12/77 = 100)	107.5	114.3	115.0	115.9	116.3	116.9	117.5	107.1	113.8	114.6	115.3	116.0	116.8	117.3
Power plant repair (12/77 = 100)	107.1	113.1	113.9	114.8	116.0	116.7	117.8	107.3	113.3	114.3	115.2	116.3	117.0	118.0
Other private transportation	186.9	196.4	197.3	198.5	200.5	201.7	203.7	187.2	196.9	197.7	199.1	201.0	202.3	204.0
Other private transportation commodities	161.2	171.0	171.8	173.3	175.1	177.7	182.0	162.9	172.1	172.6	174.4	176.1	178.7	181.6
Motor oil, coolant, and other products (12/77 = 100)	104.2	109.9	110.3	110.5	112.2	114.4	115.9	104.8	108.6	109.3	109.9	112.0	114.5	115.9
Automobile parts and equipment (12/77 = 100)	104.2	110.6	111.2	112.3	113.4	114.9	117.9	105.4	111.6	111.9	113.2	114.1	115.7	117.6
Tires	143.0	151.4	151.9	153.7	154.7	156.4	160.7	144.7	153.8	153.7	155.7	156.1	158.1	161.1
Other parts and equipment (12/77 = 100)	105.8	113.0	114.1	114.8	116.7	119.1	121.8	107.0	112.4	113.4	114.3	116.8	118.6	120.0
Other private transportation services	195.5	205.1	206.0	207.1	209.1	210.1	211.4	195.4	205.4	206.3	207.6	209.6	210.6	211.9
Automobile insurance	218.7	226.5	227.3	229.1	232.3	233.5	233.8	218.8	226.4	227.2	229.0	232.3	233.5	233.7
Automobile finance charges (12/77 = 100)	105.0	115.5	116.3	116.8	117.2	117.7	120.4	104.6	114.8	115.6	116.4	116.4	117.0	119.4
Automobile rental, registration, and other fees (12/77 = 100)	103.5	106.5	106.8	106.9	107.5	107.8	107.9	103.5	106.8	107.2	107.3	108.1	108.4	108.6
State registration	143.8	144.0	144.0	144.0	144.0	144.0	144.0	143.5	143.9	143.9	143.9	143.9	143.9	143.9
Drivers' license (12/77 = 100)	104.1	104.5	104.5	104.5	104.5	104.5	104.5	103.9	104.3	104.3	104.3	104.3	104.3	104.2
Vehicle inspection (12/77 = 100)	108.5	112.7	114.6	114.6	114.6	114.6	114.6	110.8	113.5	115.5	115.5	115.5	115.5	115.5
Other vehicle related fees (12/77 = 100)	106.1	113.0	113.6	114.0	115.5	116.1	116.4	106.9	115.8	116.6	116.9	119.3	120.3	120.8
Public	189.3	193.3	194.0	197.1	200.8	205.2	209.1	190.2	194.2	194.8	197.6	200.6	204.1	207.3
Airline fare	189.5	193.7	194.3	198.5	205.2	214.1	220.6	189.1	193.2	193.8	198.4	205.2	214.2	220.7
Intercity bus fare	243.7	250.1	253.9	258.8	263.2	268.0	276.0	244.1	249.2	253.2	258.5	263.0	268.0	275.5
Intracity mass transit	185.4	187.9	188.4	189.8	190.5	190.5	191.3	185.3	188.0	188.4	189.7	190.2	190.2	191.0
Taxi fare	206.7	216.2	217.2	220.6	224.7	228.5	233.6	210.9	221.8	223.3	226.5	230.3	233.9	238.7
Intercity train fare	195.1	205.2	205.3	216.1	220.6	221.0	221.1	194.9	205.2	205.2	217.1	220.8	221.3	221.4
MEDICAL CARE	224.7	236.3	237.7	239.9	241.8	243.7	245.9	224.9	236.3	238.2	240.5	242.6	244.7	247.2
Medical care commodities	145.9	152.4	153.3	154.1	155.0	155.8	156.6	146.6	153.3	154.5	155.3	156.2	156.7	157.4
Prescription drugs	134.0	140.6	141.3	141.9	142.8	143.5	144.5	134.7	141.5	142.4	143.0	143.7	144.4	145.2
Anti-infective drugs (12/77 = 100)	105.4	110.7	112.0	112.0	112.5	113.1	113.5	106.4	111.7	112.9	113.0	113.2	114.1	114.8
Tranquilizers and sedatives (12/77 = 100)	106.5	113.3	113.7	114.0	114.6	114.9	115.8	106.6	113.7	114.2	114.4	114.8	115.0	115.6
Circulatories and diuretics (12/77 = 100)	104.6	107.9	108.3	108.6	109.3	109.3	109.7	105.6	108.5	109.2	109.1	109.7	110.0	110.6
Hormones, diabetic drugs, biologicals, and prescription and supplies (12/77 = 100)	110.8	117.5	117.9	118.9	120.3	120.9	122.5	111.7	117.5	118.0	118.3	120.4	120.8	122.2
Pain and symptom control drugs (12/77 = 100)	106.3	111.8	112.1	113.1	113.7	114.8	115.6	106.5	112.9	113.4	114.7	115.2	116.0	116.3
Supplements, cough and cold preparations, and respiratory agents (12/77 = 100)	105.3	109.2	109.4	109.5	110.3	110.9	111.3	105.8	110.1	110.9	111.0	111.7	112.2	112.6
Nonprescription drugs and medical supplies (12/77 = 100)	105.2	109.4	110.2	110.8	111.4	112.0	112.5	106.7	110.3	111.2	111.9	112.5	112.8	113.2
Eyeglasses (12/77 = 100)	103.5	106.7	107.4	108.2	108.7	109.2	110.2	103.5	107.0	107.7	108.5	108.9	109.3	110.0
Internal and respiratory over-the-counter drugs	161.9	169.3	170.3	171.3	172.2	173.0	173.7	162.4	170.6	172.0	173.2	174.3	174.7	175.2
Nonprescription medical equipment and supplies (12/77 = 100)	104.5	108.1	109.1	109.7	110.4	110.8	111.0	105.7	109.3	110.3	110.7	111.3	111.2	111.8
Medical care services	241.5	254.4	255.9	258.5	260.6	262.8	265.3	241.6	254.0	256.1	258.8	261.2	263.8	266.8
Professional services	213.7	224.3	225.7	227.6	228.9	230.3	231.6	214.3	225.3	227.3	229.3	231.1	233.1	234.9
Physicians' services	228.1	240.7	241.8	224.7	246.6	248.4	249.7	228.4	241.4	243.6	246.8	248.7	251.5	254.4
Dental services	202.9	212.4	214.3	215.2	216.0	217.2	218.5	204.5	214.6	216.5	217.1	219.0	220.7	221.2
Other professional services (12/77 = 100)	106.4	110.2	110.6	111.5	111.9	112.4	112.7	105.8	109.4	110.0	111.0	111.5	111.7	112.1
Other medical care services	275.2	290.9	292.5	295.8	299.0	302.0	306.2	274.8	289.0	291.2	294.9	298.1	301.3	305.9
Hospital and other medical services (12/77 = 100)	109.4	115.6	116.2	117.3	118.6	119.6	121.3	109.3	114.7	115.3	116.6	117.8	118.9	120.5
Hospital room	343.7	363.9	366.0	369.7	374.2	376.4	380.2	343.7	361.3	362.9	367.5	371.7	374.1	379.4
Other hospital and medical care services	108.7	114.7	115.2	116.4	117.4	118.8	120.8	108.5	113.7	114.3	115.6	116.7	118.0	119.5

23. Continued—Consumer Price Index—U.S. city average

[1967 = 100 unless otherwise specified]

General summary	All Urban Consumers							Urban Wage Earners and Clerical Workers (revised)						
	1978	1979						1978	1979					
	Oct.	May	June	July	Aug.	Sept.	Oct.	Oct.	May	June	July	Aug.	Sept.	Oct.
ENTERTAINMENT	179.3	187.8	188.2	189.1	190.2	191.1	192.0	179.3	187.1	187.5	188.6	188.9	190.2	191.4
Entertainment commodities	179.7	188.1	188.7	189.7	191.0	192.0	193.1	178.4	186.8	187.4	188.2	188.4	189.9	190.7
Reading materials (12/77 = 100)	104.3	109.4	109.5	110.0	111.1	111.9	113.8	104.0	109.1	109.1	109.5	110.7	111.4	113.3
Newspapers	202.1	212.2	211.6	212.6	214.0	214.5	217.7	201.7	211.7	211.1	212.2	213.7	214.2	217.4
Magazines, periodicals, and books (12/77 = 100)	106.0	111.2	111.6	112.0	113.7	115.0	117.2	106.0	111.0	111.6	111.7	113.5	114.8	117.2
Sporting goods and equipment (12/77 = 100)	103.4	109.2	109.3	110.0	110.4	111.3	111.2	101.1	106.4	106.6	107.0	105.4	107.5	106.7
Sport vehicles (12/77 = 100)	103.1	110.6	110.3	110.8	111.3	112.3	111.5	100.3	107.0	107.0	106.9	103.9	106.7	104.6
Indoor and warm weather sport equipment (12/77 = 100)	103.3	105.9	106.1	106.7	105.9	106.1	107.5	101.5	102.9	103.3	104.7	104.7	104.7	106.0
Bicycles	154.1	158.7	160.1	162.2	163.8	165.6	167.1	152.7	158.1	160.0	161.8	162.9	164.7	166.9
Other sporting goods and equipment (12/77 = 100)	102.7	106.8	106.9	107.8	108.6	109.3	110.0	101.3	104.7	105.4	106.5	107.2	108.5	109.8
Toys, hobbies and other entertainment (12/77 = 100)	104.1	108.2	108.9	109.4	110.2	110.4	110.8	104.1	108.6	109.0	109.6	110.2	110.4	111.0
Toys, hobbies and music equipment (12/77 = 100)	104.6	108.9	109.2	109.3	110.0	110.4	110.7	103.2	109.0	109.0	109.1	109.8	109.6	110.1
Photographic supplies and equipment (12/77 = 100)	103.9	107.3	107.6	108.4	108.2	108.9	109.4	104.4	107.1	107.3	107.7	107.6	108.8	109.3
Pet supplies and expense (12/77 = 100)	103.4	107.5	109.2	110.3	111.8	111.6	112.1	105.4	108.6	110.0	111.6	112.6	112.9	113.9
Entertainment services	179.1	187.6	187.9	188.6	189.4	190.2	190.8	178.9	188.5	188.8	190.1	190.7	191.8	193.5
Fees for participant sports (12/77 = 100)	106.0	111.6	111.6	111.9	112.3	113.0	113.2	106.4	111.6	111.5	112.1	112.3	113.4	114.9
Admissions (12/77 = 100)	107.5	113.2	113.3	114.3	114.7	115.2	115.7	107.9	113.9	113.2	115.3	115.9	116.3	116.8
Other entertainment services (12/77 = 100)	105.4	108.1	109.0	109.1	109.7	109.4	110.0	102.9	108.8	111.0	110.5	110.9	110.9	111.4
OTHER GOODS AND SERVICES	188.3	193.9	94.5	195.2	197.0	201.7	202.3	187.6	193.8	194.3	195.1	197.2	200.6	201.4
Tobacco products	181.0	186.3	186.4	186.8	189.9	190.9	191.3	180.8	186.3	186.5	186.9	190.1	190.9	191.2
Cigarettes	183.5	188.6	188.8	189.2	192.6	193.6	193.8	183.5	188.9	189.0	189.4	193.1	193.7	193.9
Other tobacco products and smoking accessories (12/77 = 100)	106.4	110.3	110.3	110.8	111.1	112.2	113.0	105.3	109.4	109.8	110.3	110.0	111.0	112.3
Personal care	185.6	193.9	195.0	196.4	197.5	199.0	199.8	185.0	193.7	194.6	196.0	197.6	198.4	199.4
Toilet goods and personal care appliances	180.1	187.3	187.9	188.6	189.7	191.4	192.5	179.0	187.7	187.8	188.1	190.2	191.0	191.6
Products for the hair, hairpieces and wigs (12/77 = 100)	103.9	107.1	108.8	109.4	111.1	111.6	111.9	102.0	107.0	108.9	108.5	110.5	110.6	111.1
Dental and shaving products (12/77 = 100)	106.2	111.5	112.6	113.2	113.6	114.3	114.1	105.9	110.7	110.2	111.0	112.1	112.5	112.7
Cosmetics, bath and nail preparations, manicure and eye makeup implements (12/77 = 100)	104.7	109.5	108.6	109.5	108.9	110.4	110.7	103.7	108.7	107.8	109.0	110.0	110.6	110.1
Other toilet goods and small personal care appliances (12/77 = 100)	103.7	107.1	106.9	106.2	107.6	108.6	110.9	104.9	110.4	109.8	108.8	109.7	110.3	111.7
Personal care services	191.0	200.4	202.0	203.9	205.0	206.4	207.0	191.1	199.8	201.4	204.0	205.0	205.8	207.3
Beauty parlor services for women	192.5	202.4	203.7	205.2	206.1	207.7	208.3	193.2	202.0	203.6	205.9	206.7	207.4	209.1
Haircuts and other barber shop services for men (12/77 = 100)	106.6	111.4	112.6	114.1	115.1	115.5	115.9	106.0	110.7	111.7	113.6	114.2	114.7	115.4
Personal and educational expenses	206.3	208.8	209.1	209.3	210.8	223.3	224.0	206.5	209.3	209.6	209.8	211.2	223.5	224.2
School books and supplies	187.8	191.6	191.6	191.6	192.6	201.5	202.3	189.7	194.2	194.2	194.2	195.2	205.0	205.8
Personal and educational services	211.0	213.2	213.6	213.8	215.4	228.6	229.4	210.9	213.4	213.7	214.0	215.5	228.4	229.0
Tuition and other school fees	108.4	108.7	108.8	108.9	109.4	117.7	118.1	108.3	108.6	108.7	108.8	109.4	117.9	118.2
College tuition (12/77 = 100)	108.6	108.9	109.1	109.2	109.7	116.9	117.3	108.6	108.9	109.1	109.2	109.7	116.8	117.3
Elementary and high school tuition (12/77 = 100)	107.5	107.5	107.5	107.5	108.3	120.9	120.9	107.4	107.4	107.4	107.4	108.4	120.7	120.7
Personal expenses (12/77 = 100)	107.4	112.3	112.6	113.0	114.8	115.1	115.8	107.5	112.3	112.6	113.0	114.4	114.4	114.9
Special indexes:														
Gasoline, motor oil, coolant and other products	200.4	245.1	261.9	276.6	288.2	297.1	299.8	200.5	245.8	263.1	277.5	289.5	298.3	301.2
Insurance and finance	244.9	264.5	268.2	272.8	278.7	283.5	288.9	244.3	264.4	267.9	272.5	278.3	283.1	228.5
Utilities and public transportation	203.0	208.8	212.7	215.3	217.0	219.3	220.7	203.3	209.3	213.2	215.8	217.4	219.5	220.7
Housekeeping and home maintenance services	254.0	267.1	270.2	272.5	274.4	276.6	278.7	252.5	267.8	271.4	273.7	275.3	277.8	279.9

24. Consumer Price Index for All Urban Consumers: Cross classification of region and population size class by expenditure category and commodity and service group

[December 1977 = 100]

Category and group	Size class A (1.25 million or more)			Size class B (385,000 - 1.250 million)			Size class C (75,000 - 385,000)			Size class D (75,000 or less)		
	1979			1979			1979			1979		
	June	Aug.	Oct.	June	Aug.	Oct.	June	Aug.	Oct.	June	Aug.	Oct.
	Northeast											
EXPENDITURE CATEGORY												
All items	113.2	115.0	117.3	115.3	117.3	120.2	117.2	120.2	123.0	115.5	116.9	119.2
Food and beverages	117.3	117.9	119.2	118.5	118.9	119.6	120.8	121.7	121.9	119.3	120.4	119.4
Housing	112.9	114.8	117.9	114.5	116.7	121.3	118.7	122.5	127.7	114.9	116.1	119.9
Apparel and upkeep	103.8	104.9	107.7	106.2	106.1	109.2	102.8	104.3	107.8	106.2	103.4	108.3
Transportation	115.6	119.6	121.1	119.6	123.4	125.0	119.1	123.6	124.9	118.5	122.5	124.5
Medical care	112.0	113.6	115.4	112.5	115.3	118.5	112.8	114.8	117.0	114.0	114.8	116.3
Entertainment	109.2	110.6	111.4	108.3	110.9	113.6	108.4	110.4	110.0	112.4	113.6	114.1
Other goods and services	107.1	108.3	111.7	110.0	111.4	114.1	111.4	113.0	115.6	108.5	109.2	112.5
COMMODITY AND SERVICE GROUP												
Commodities	114.7	116.6	118.6	116.7	119.0	121.8	117.6	120.8	122.8	116.0	117.7	120.0
Commodities less food and beverages	113.2	115.8	118.3	115.9	119.0	122.8	116.1	120.4	123.2	114.4	116.5	120.4
Services	111.2	113.0	115.6	112.9	114.6	117.8	116.5	119.1	123.3	114.8	115.7	117.9
	North Central											
EXPENDITURE CATEGORY												
All items	118.2	121.0	123.2	118.0	120.5	122.3	116.8	119.0	121.9	116.6	119.5	122.0
Food and beverages	120.0	120.2	121.2	117.6	118.6	119.2	120.2	120.4	121.6	121.4	122.0	122.8
Housing	121.8	125.8	128.7	121.2	124.1	125.7	117.3	120.3	124.5	115.9	120.5	124.0
Apparel and upkeep	101.7	102.8	105.3	104.0	104.6	109.9	104.0	105.3	107.4	103.7	104.0	110.0
Transportation	118.8	122.8	125.0	118.8	122.9	125.2	120.5	123.7	126.0	120.1	123.2	124.3
Medical care	112.9	115.0	115.9	114.5	117.2	118.6	114.1	116.4	117.5	115.7	117.5	119.1
Entertainment	110.8	111.9	112.6	108.2	109.2	110.7	110.9	110.5	112.7	110.8	111.3	112.7
Other goods and services	108.0	109.0	112.5	114.4	114.9	117.8	108.5	110.0	112.3	110.5	112.7	115.7
COMMODITY AND SERVICE GROUP												
Commodities	118.2	120.7	122.5	117.0	119.4	120.8	117.1	119.1	121.7	116.2	118.9	121.1
Commodities less food and beverage	117.3	120.9	123.0	116.7	119.7	121.5	115.8	118.5	121.7	114.0	117.6	120.4
Services	118.4	121.5	124.3	119.7	122.4	124.7	116.3	118.8	122.2	117.2	120.4	123.3
	South											
EXPENDITURE CATEGORY												
All items	116.9	118.7	120.7	117.5	120.1	122.4	117.5	119.9	122.1	115.6	118.5	120.6
Food and beverages	120.6	121.1	122.2	119.5	120.3	121.3	120.5	121.6	122.1	119.7	120.0	121.0
Housing	118.0	119.9	122.0	118.8	122.4	125.8	119.7	122.7	125.9	115.1	119.3	121.6
Apparel and upkeep	108.0	107.5	111.2	107.2	107.3	110.8	103.3	104.5	106.4	103.8	102.8	103.9
Transportation	118.7	122.6	124.2	119.8	123.5	124.5	118.2	121.8	123.2	118.2	122.4	124.4
Medical care	111.6	113.3	116.0	114.0	115.7	116.9	114.1	115.5	117.6	115.9	118.5	122.5
Entertainment	107.7	108.1	109.4	111.5	111.9	113.2	111.1	111.8	113.6	112.4	115.9	117.1
Other goods and services	110.2	111.5	114.4	109.9	110.8	114.0	109.6	111.4	114.2	111.7	114.3	117.3
COMMODITY AND SERVICE GROUP												
Commodities	117.3	118.9	120.5	117.1	119.3	121.2	116.9	119.3	120.7	115.9	118.6	120.2
Commodities less food and beverages	115.8	118.0	119.8	116.1	118.9	121.2	115.3	118.3	120.1	114.3	118.0	119.9
Services	116.5	118.4	121.0	118.1	121.2	124.3	118.5	120.8	124.2	115.1	118.5	121.1
	West											
EXPENDITURE CATEGORY												
All items	116.0	118.7	120.8	118.7	120.9	123.6	116.9	119.5	122.2	115.1	118.8	122.8
Food and beverages	119.8	119.4	121.2	121.6	121.4	123.1	119.6	120.1	121.1	119.2	121.6	121.5
Housing	115.3	119.0	121.2	119.5	122.4	126.2	117.4	120.5	124.8	112.6	117.8	124.8
Apparel and upkeep	106.0	104.8	107.9	108.3	108.8	111.0	103.4	103.9	104.4	109.4	109.5	114.0
Transportation	120.5	125.3	127.2	121.0	124.8	126.7	121.4	125.0	126.3	119.2	123.1	124.6
Medical care	114.7	116.8	119.8	114.6	116.6	117.8	113.8	116.5	118.4	116.9	119.0	120.7
Entertainment	108.2	109.3	109.3	113.2	114.4	115.6	109.9	112.6	113.8	114.5	115.7	117.8
Other goods and services	110.2	112.4	115.2	110.9	112.5	115.3	109.4	110.7	113.0	113.0	114.4	116.0
COMMODITY AND SERVICE GROUP												
Commodities	117.1	118.7	120.5	119.3	120.8	123.1	117.4	119.4	121.7	116.1	119.1	120.7
Commodities less food and beverage	116.0	118.3	120.2	118.3	120.6	123.1	116.5	119.1	121.9	114.8	118.0	120.4
Services	114.5	118.8	121.3	117.9	121.0	124.4	116.3	119.6	122.8	113.6	118.5	125.9

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25. Consumer Price Index—U.S. city average, and selected areas

[1967 = 100 unless otherwise specified]

Area[1]	All Urban Consumers							Urban Wage Earners and Clerical Workers (revised)						
	1978	1979						1978	1979					
	Oct.	May	June	July	Aug.	Sept.	Oct.	Oct.	May	June	July	Aug.	Sept.	Oct.
U.S. city average[2]	200.9	214.1	216.6	218.9	221.1	223.4	225.4	200.7	214.3	216.9	219.4	221.5	223.7	225.6
Anchorage, Alaska (10/67 = 100)	...	203.5	...	207.4	...	213.2	...	...	202.5	...	208.4	...	210.9	...
Atlanta, Ga.	198.6	...	212.6	...	216.9	...	220.8	198.3	...	214.5	...	219.0	...	223.5
Baltimore, Md.	...	215.3	...	221.0	...	224.9	...	...	216.0	...	221.4	...	224.9	...
Boston, Mass.	...	209.5	...	214.2	...	218.1	...	...	208.7	...	213.7	...	217.9	...
Buffalo, N.Y.	198.1	...	209.3	...	214.6	...	218.7	197.8	...	209.7	...	215.3	...	218.6
Chicago, Ill.-Northwestern Ind.	195.4	210.1	213.5	217.4	218.6	221.3	221.8	195.2	209.6	213.2	216.8	218.2	220.6	221.7
Cincinnati, Ohio-Ky.-Ind.	...	221.5	...	224.8	...	229.0	...	...	223.1	...	226.5	...	230.8	...
Cleveland, Ohio	199.9	...	219.9	...	221.4	...	224.7	200.5	...	221.2	...	222.6	...	225.5
Dallas-Ft. Worth, Tex.	199.8	...	217.5	...	222.9	...	228.2	200.1	...	218.0	...	223.0	...	228.0
Denver-Boulder, Colo.	...	231.1	...	236.5	...	240.8	...	...	233.2	...	239.3	...	243.6	...
Detroit, Mich.	200.9	213.9	215.4	219.5	222.2	223.7	227.2	200.7	214.1	215.5	219.8	222.6	223.5	226.9
Honolulu, Hawaii	188.8	...	204.4	...	207.2	...	210.5	188.7	...	203.6	...	207.2	...	211.1
Houston, Tex.	214.9	...	235.5	...	240.6	...	244.2	213.7	...	234.5	...	239.0	...	241.8
Kansas City, Mo.-Kansas	197.0	...	219.5	...	224.6	...	229.9	197.2	...	218.4	...	223.1	...	227.9
Los Angeles-Long Beach, Anaheim, Calif.	197.8	211.0	212.9	214.7	217.5	220.7	221.8	197.2	212.4	214.5	216.8	219.6	223.0	224.0
Miami, Fla. (11/77 = 100)	...	112.5	...	115.7	...	117.4	...	...	113.8	...	116.9	...	118.7	...
Milwaukee, Wis.	...	217.1	...	222.7	...	226.0	...	...	219.5	...	225.0	...	228.7	...
Minneapolis-St. Paul, Minn.-Wis.	206.2	...	222.3	...	227.0	...	231.2	206.1	...	223.4	...	228.5	...	233.0
New York, N.Y.-Northeastern N.J.	200.2	210.5	212.5	214.0	215.4	218.1	219.9	199.2	210.3	212.2	214.1	215.3	217.8	219.3
Northeast, Pa. (Scranton)	...	207.3	...	211.7	...	215.4	...	...	209.6	...	213.4	...	217.1	...
Philadelphia, Pa.-N.J.	198.4	210.6	213.8	216.1	217.7	219.5	220.1	196.9	211.4	214.5	216.9	218.1	220.3	221.3
Pittsburgh, Pa.	202.7	...	214.5	...	219.1	...	226.0	201.5	...	215.0	...	220.0	...	226.1
Portland, Oreg.-Wash.	...	220.7	...	227.4	...	232.2	...	...	221.9	...	227.9	...	232.6	...
St. Louis, Mo.-Ill.	...	211.1	...	216.9	...	222.2	...	...	210.3	...	217.4	...	222.5	...
San Diego, Calif.	...	228.3	...	236.1	...	240.4	...	...	226.1	...	233.1	...	237.7	...
San Francisco-Oakland, Calif.	203.2	...	212.5	...	218.3	...	221.5	202.6	...	213.7	...	218.6	...	220.8
Seattle-Everett, Wash.	...	212.4	...	217.5	...	222.6	...	...	210.9	...	215.9	...	221.0	...
Washington, D.C.-Md.-Va.	...	216.0	...	220.4	...	222.9	...	...	217.8	...	221.9	...	224.4	...

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[1] The areas listed include not only the central city but the entire portion of the Standard Metropolitan Statistical Area, as defined for the 1970 Census of Population, except that the Standard Consolidated Area is used for New York and Chicago.

[2] Average of 85 cities.

26. Producer Price Indexes, by stage of processing

[1967 = 100]

Commodity grouping	Annual average 1978	1978		1979										
		Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.
FINISHED GOODS														
Finished goods	194.6	200.3	202.5	205.4	207.7	209.1	211.4	212.7	213.7	216.2	217.3	220.4	223.7	225.9
Finished consumer goods	192.6	197.9	200.5	203.7	206.3	207.9	210.2	211.6	212.7	215.6	217.2	221.3	224.1	226.6
Finished consumer foods	206.7	211.7	215.8	220.2	225.1	226.3	227.8	226.6	223.6	224.9	223.2	227.8	226.7	230.5
Crude	215.5	220.8	232.1	236.7	257.2	244.6	241.8	226.7	227.1	224.9	231.6	213.9	215.4	228.0
Processed	204.1	209.0	212.5	216.9	220.5	222.8	224.6	224.4	221.3	222.8	220.5	226.8	225.4	226.6
Other nondurable goods	195.4	201.1	202.7	205.4	207.2	209.8	213.1	217.1	221.7	227.1	233.0	238.9	243.0	245.2
Durable goods	165.8	170.7	173.0	175.2	176.2	176.8	178.4	179.5	180.4	181.6	181.2	182.0	187.4	188.5
Capital Equipment	190.1	206.1	207.0	209.3	210.8	211.7	214.0	215.1	215.8	217.2	217.1	217.7	222.5	223.8
INTERMEDIATE MATERIALS														
Intermediate materials, supplies, and components	215.5	222.0	223.0	225.7	228.5	231.5	235.8	238.2	240.3	244.6	247.1	250.7	254.6	258.1
Materials and components for manufacturing	208.3	215.0	215.6	218.6	221.6	224.5	229.0	230.9	232.1	236.0	237.4	240.5	243.9	245.2
Materials for food manufacturing	202.3	207.9	210.7	214.4	217.3	219.6	222.2	222.5	222.3	226.7	225.1	228.6	225.3	227.7
Materials for nondurable manufacturing	195.8	201.0	201.2	203.2	205.3	208.7	213.7	216.7	218.1	222.5	224.5	227.3	231.2	233.1
Materials for durable manufacturing	237.2	245.9	246.4	252.0	256.8	260.0	266.0	267.2	268.9	273.3	274.8	278.7	284.5	284.2
Components for manufacturing	189.1	195.4	196.2	197.2	199.0	200.3	203.1	204.5	205.3	207.7	208.8	210.9	212.5	214.5
Materials and components for construction	224.4	232.1	232.5	236.1	239.0	241.3	244.5	245.2	245.6	247.4	249.0	251.6	254.4	253.8
Processed fuels and lubricants	296.4	297.6	300.4	302.0	304.8	312.9	323.9	336.8	349.5	364.8	384.1	399.4	410.5	416.5
Manufacturing industries	270.4	268.0	268.7	268.3	269.0	275.4	280.7	287.4	293.8	304.0	310.4	317.2	322.5	325.3
Nonmanufacturing industries	320.0	325.2	330.3	334.0	339.1	346.9	365.9	385.5	404.9	425.5	458.6	483.0	500.4	500.7
Containers	212.5	221.7	222.6	223.9	224.3	229.3	231.8	234.5	234.9	235.4	237.2	237.1	240.8	243.5
Supplies	196.9	204.0	206.1	207.4	209.6	211.1	212.8	213.7	216.1	219.6	219.1	220.8	224.4	226.0
Manufacturing industries	183.6	190.4	192.0	193.1	194.3	197.4	199.4	201.5	202.7	204.2	206.3	209.1	211.8	213.1
Nonmanufacturing industries	204.0	211.2	213.6	215.0	217.7	218.4	219.9	220.3	223.2	227.8	224.9	227.0	231.1	232.9
Manufactured animal feeds	200.2	209.1	216.9	215.9	221.6	219.3	219.5	214.6	226.2	241.3	221.1	224.3	229.2	227.3
Other supplies	201.9	208.6	209.7	211.6	213.6	215.0	216.8	218.3	219.2	221.5	222.5	224.3	228.1	230.7
CRUDE MATERIALS														
Crude materials for further processing	240.1	248.4	252.5	260.2	270.4	276.6	279.9	282.3	283.0	287.1	281.7	287.9	289.2	290.8
Foodstuffs and feedstuffs	215.3	220.9	224.8	233.0	243.7	247.4	251.5	251.9	248.2	254.1	243.6	248.7	247.1	246.4
Nonfood materials	286.7	300.2	304.6	311.5	320.7	331.6	333.3	339.6	348.7	349.3	353.5	362.1	368.9	374.8
Nonfood materials except fuel	235.4	246.6	249.6	255.6	264.7	275.5	276.5	276.6	286.6	285.2	288.1	293.3	298.6	304.6
Manufacturing industries	240.8	252.7	255.9	261.8	271.9	283.8	284.8	284.7	295.9	294.0	294.9	302.8	308.5	314.9
Construction	185.7	191.8	192.1	198.8	200.4	201.9	203.6	204.5	205.4	207.2	208.5	209.9	212.2	214.6
Crude fuel	463.7	485.0	495.1	504.3	513.9	525.2	529.2	556.8	583.1	570.7	586.0	599.4	611.4	618.8
Manufacturing industries	481.9	505.6	518.0	529.6	541.6	555.4	560.0	593.8	601.3	610.4	628.9	646.0	660.5	667.0
Nonmanufacturing industries	459.6	479.0	487.2	494.9	502.7	512.1	515.8	538.8	544.3	550.7	563.5	574.2	584.4	589.0
SPECIAL GROUPINGS														
Finished goods excluding foods	188.9	194.8	196.4	198.8	200.2	201.7	204.2	206.3	208.5	211.4	213.4	215.9	220.8	222.2
Finished consumer goods excluding Foods	183.7	189.1	191.0	193.3	194.9	196.7	199.3	202.1	205.2	208.4	212.1	215.9	220.6	222.4
Intermediate materials, supplies, and Components, excluding intermediate materials for food manufacturing and manufactured animal feeds	216.4	222.0	223.7	226.5	229.1	232.3	236.7	238.8	241.3	245.4	248.6	252.1	256.4	257.8
Intermediate foods and feeds	201.0	207.7	212.2	214.3	218.2	218.9	220.7	219.3	223.0	231.0	223.2	226.6	226.0	227.0
Crude materials for further processing excluding crude foodstuffs and feedstuffs, plant and animal fibers, oilseeds, and leaf tobacco	316.6	331.0	335.9	344.2	356.4	370.6	372.4	379.2	389.5	391.7	398.8	407.6	416.5	423.9

NOTE: Data for July 1979 have been revised to reflect the availability of late reports and corrections by respondents. All data are subject to revision 4 months after original publication.

27. Producer Price Indexes, by commodity groupings[1]

[1967 = 100 unless otherwise specified]

Code	Commodity group and subgroup	Annual average 1978	1978		1979										
			Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.
	All commodities	209.3	215.7	217.5	220.8	224.1	226.7	230.0	232.0	233.5	236.9	238.1	241.7	245.2	246.9
	All commodities (1957-59 = 100)	222.1	228.9	230.8	234.2	237.7	240.5	243.7	245.7	247.7	251.4	252.3	256.1	260.2	262.0
	Farm products and processed foods and feeds	206.6	212.3	216.2	221.1	227.2	229.0	244.0	230.8	229.0	232.2	227.3	231.7	230.6	232.3
	Industrial commodities	209.4	216.0	217.2	220.0	222.5	225.4	229.0	231.6	234.0	237.5	240.3	243.8	248.5	250.2
	FARM PRODUCTS AND PROCESSED FOODS AND FEEDS														
01	Farm products	212.5	218.2	222.7	230.4	240.9	242.8	223.3	245.4	242.8	246.8	238.5	241.0	239.5	240.2
01-1	Fresh and dried fruits and vegetables	216.5	207.0	221.6	233.7	283.0	235.7	234.7	228.2	226.4	226.7	241.6	208.2	217.8	216.4
01-2	Grains	182.5	189.0	184.7	184.4	189.3	192.0	198.3	210.3	218.7	247.4	229.1	224.4	229.0	226.6
01-3	Livestock	220.1	222.4	230.1	247.3	266.5	275.8	284.0	280.7	284.0	258.0	240.2	256.4	251.7	248.3
01-4	Live poultry	199.8	182.4	196.5	206.0	217.8	217.6	209.4	216.3	182.9	183.8	171.9	173.5	162.0	195.5
01-5	Plant and animal fibers	193.4	211.5	212.8	213.6	205.1	197.8	197.8	207.6	219.5	207.6	207.9	211.3	212.9	215.4
01-6	Fluid milk	219.7	235.8	241.2	241.8	244.6	243.7	242.4	242.0	243.8	247.6	250.0	258.5	258.5	262.5
01-7	Eggs	158.6	177.9	189.0	178.5	176.7	189.9	185.5	163.8	170.7	167.6	166.8	175.4	155.9	178.7
01-8	Hay, hayseeds, and oilseeds	215.8	227.7	234.0	240.1	246.1	249.5	248.3	240.7	258.4	260.1	251.9	240.6	236.1	229.8
01-9	Other farm products	274.9	285.9	271.0	269.7	253.6	254.6	256.1	264.1	281.0	311.9	310.8	315.9	317.6	318.3
02	Processed foods and feeds	202.6	208.2	211.8	215.2	218.9	220.5	222.3	222.0	220.6	223.3	220.3	225.7	224.8	227.1
02-1	Cereal and bakery products	190.3	196.2	196.8	197.2	199.1	200.1	203.0	204.9	206.3	212.4	215.1	217.7	219.2	222.3
02-2	Meats, poultry, and fish	217.1	220.9	229.2	240.3	248.5	250.6	253.0	250.4	241.4	237.7	225.5	230.8	234.4	238.5
02-3	Dairy products	188.4	190.6	202.8	200.5	200.2	204.9	207.1	207.9	208.4	209.0	215.2	218.3	218.2	219.0
02-4	Processed fruits and vegetables	202.6	216.3	218.4	218.5	219.5	219.6	220.5	221.4	221.5	223.6	224.4	225.0	223.3	222.5
02-5	Sugar and confectionery	197.8	202.6	204.5	204.8	208.4	208.4	208.7	207.6	211.1	215.7	218.3	217.3	218.6	222.7
02-6	Beverages and beverage materials	200.0	201.4	201.0	200.9	201.1	201.2	201.5	205.3	208.5	214.1	215.9	217.9	219.2	221.4
02-7	Fats and oils	225.3	227.6	227.6	229.7	237.5	238.6	248.2	241.8	243.6	253.2	251.9	253.5	246.2	242.1
02-8	Miscellaneous processed foods	199.0	203.8	204.1	206.7	206.0	217.5	219.3	220.2	211.1	212.7	217.6	218.8	220.6	222.1
02-9	Manufactured animal feeds	197.4	205.3	211.9	211.3	217.2	215.7	215.6	210.8	220.5	234.9	216.5	219.5	224.3	222.7
	INDUSTRIAL COMMODITIES														
03	Textile products and apparel	159.8	163.2	163.6	164.1	164.2	165.2	166.4	167.2	168.4	169.3	170.4	171.3	171.9	172.4
03-1	Synthetic fibers (12/75 = 100)	109.6	110.6	110.6	113.0	113.5	113.6	115.1	117.4	118.5	119.5	120.9	123.9	125.6	124.9
03-2	Processed yarns and threads (12/75 = 100)	102.4	105.3	104.7	105.3	105.3	107.0	106.8	107.8	108.6	109.5	110.3	111.7	112.2	113.0
03-3	Gray fabrics (12/75 = 100)	118.6	126.7	125.9	125.6	123.2	123.1	124.5	124.7	125.4	128.3	128.9	128.7	129.8	130.6
03-4	Finished fabrics (12/75 = 100)	103.8	104.8	106.0	103.5	104.1	105.4	105.9	107.0	107.6	108.2	108.9	109.0	108.7	108.5
03-81	Apparel	152.4	155.3	155.5	157.4	157.6	158.3	159.8	159.8	160.2	160.3	161.1	161.6	162.1	162.9
03-82	Textile housefurnishings	178.6	180.5	183.4	181.8	186.0	187.4	188.0	186.0	189.3	189.9	190.5	193.9	194.6	194.8
04	Hides, skins, leather, and related products	200.0	215.8	216.2	223.4	232.2	253.3	258.9	269.6	268.0	261.9	258.0	250.7	253.6	248.5
04-1	Hides and skins	360.5	417.0	401.3	452.8	497.8	639.6	642.2	666.9	611.0	566.5	511.9	455.3	478.6	447.6
04-2	Leather	238.6	278.7	279.6	282.8	309.2	371.9	393.6	429.4	414.6	385.2	365.9	330.0	343.6	319.8
04-3	Footwear	183.0	192.2	194.3	196.4	203.0	209.9	212.0	216.3	221.1	221.8	225.6	226.2	226.9	227.3
04-4	Other leather and related products	177.0	185.1	185.3	190.7	192.2	195.9	200.4	209.1	212.3	212.1	211.0	210.2	209.6	208.5
05	Fuels and related products and power	322.5	329.7	334.3	338.1	342.5	350.9	361.5	377.6	393.7	411.8	432.5	454.4	468.8	476.7
05-1	Coal	430.0	442.2	443.7	443.6	444.0	445.3	447.1	450.8	452.0	452.5	454.5	452.8	454.9	455.4
05-2	Coke	411.8	418.8	418.8	421.2	423.7	428.5	430.1	430.6	430.6	430.6	430.6	430.6	431.2	431.2
05-3	Gas fuels[1]	425.7	433.9	444.6	449.9	458.1	471.0	477.4	507.2	522.3	548.4	569.0	589.7	619.1	637.1
05-4	Electric power	250.6	250.3	250.7	251.0	251.1	257.3	260.6	265.9	269.9	274.8	279.0	280.5	283.6	282.1
05-61	Crude petroleum[2]	300.1	310.5	312.4	316.4	322.3	324.2	326.2	335.7	356.4	370.6	385.7	422.1	436.7	450.4
05-7	Petroleum products, refined[3]	321.0	331.9	338.2	343.9	350.0	360.3	378.6	400.0	423.6	448.8	482.8	513.6	534.4	544.9
06	Chemicals and allied products	198.8	202.3	202.3	205.0	207.3	209.9	215.1	218.0	219.2	225.0	227.3	230.3	233.5	235.6
06-1	Industrial chemicals[4]	225.6	227.4	229.1	234.0	237.4	239.7	248.2	255.6	259.3	270.4	275.6	278.9	284.2	287.2
06-21	Prepared paint	192.3	196.5	198.7	198.9	202.3	202.3	203.3	201.3	201.3	205.3	205.3	206.0	206.7	206.9
06-22	Paint materials	212.7	219.5	220.7	222.5	224.3	227.0	231.6	236.1	239.5	240.7	245.1	251.2	253.5	254.8
06-3	Drugs and pharmaceuticals	148.1	152.1	153.2	155.4	156.2	156.6	157.5	157.7	159.0	159.2	159.6	161.1	162.9	163.0
06-4	Fats and oils, inedible	315.8	361.2	332.9	336.1	367.9	398.5	448.7	418.3	374.1	381.6	376.4	379.9	368.9	344.3
06-5	Agricultural chemicals and chemical products	196.4	202.3	201.9	201.7	203.1	206.3	209.8	210.0	209.2	211.2	213.5	217.9	223.7	229.2
06-6	Plastic resins and materials	199.8	199.3	201.1	204.2	208.3	210.9	220.6	228.5	230.1	244.5	246.2	252.2	258.2	261.7
06-7	Other chemicals and allied products	181.8	184.3	182.3	184.3	184.7	186.5	186.9	188.9	190.5	191.8	193.9	195.8	196.5	199.3
07	Rubber and plastic products	174.8	179.4	179.7	180.8	183.2	185.9	188.8	190.8	193.1	195.5	197.9	200.3	202.4	204.3
07-1	Rubber and rubber products	185.3	182.5	182.8	184.7	187.6	189.4	201.2	202.6	204.8	209.5	212.4	216.7	219.7	223.3
07-11	Crude rubber	187.2	197.3	197.3	197.9	201.1	204.8	211.6	214.2	222.0	226.1	232.2	231.2	235.2	236.4
07-12	Tires and tubes	179.2	187.7	188.8	191.5	194.1	195.0	196.1	197.3	199.9	206.2	210.1	214.6	217.9	222.7
07-13	Miscellaneous rubber products	189.6	189.2	193.7	195.1	198.1	200.3	201.3	202.6	203.5	205.4	206.1	211.7	214.2	216.9
07-2	Plastic products (6/78 = 100)	.....	101.8	102.0	102.3	103.5	105.7	108.0	109.5	111.0	111.2	112.3	112.8	113.6	113.8
08	Lumber and wood products	276.0	290.0	288.6	290.2	293.9	300.5	304.9	302.8	299.6	300.1	304.4	309.7	308.8	299.0
08-1	Lumber	322.4	342.0	339.1	338.6	339.9	350.5	355.4	354.8	354.8	355.0	365.2	373.8	370.2	356.5
08-2	Millwork	235.4	241.4	241.6	244.5	251.5	257.8	260.0	261.6	258.9	252.5	249.2	250.9	256.6	252.3
08-3	Plywood	235.6	250.0	249.0	257.4	257.1	254.7	252.4	249.3	238.6	249.7	253.9	258.1	254.4	242.9
08-4	Other wood products	211.8	221.5	222.1	223.2	226.2	232.2	235.5	238.4	238.5	237.6	237.4	238.0	237.7	236.9

See footnotes at end of table.

27. Continued—Producer Price Indexes, by commodity groupings[1]

[1967 = 100 unless otherwise specified]

Code	Commodity groups and subgroups	Annual average 1978	1978		1979										
			Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.
	INDUSTRIAL COMMODITIES – Continued														
09	Pulp, paper, and allied products	195.6	203.9	205.2	207.0	208.8	212.3	215.0	216.2	216.6	218.3	221.9	222.8	227.2	229.3
09-1	Pulp, paper, and products, excluding building paper and board	195.6	204.2	205.7	207.7	209.5	213.2	216.0	217.2	217.8	219.6	223.2	224.1	226.6	230.9
09-11	Woodpulp	288.5	281.6	281.6	291.3	291.4	294.3	303.8	306.9	308.3	320.3	322.5	322.5	330.4	339.9
09-12	Wastepaper	181.2	191.5	192.2	192.9	194.1	203.2	206.5	206.2	207.2	207.9	206.6	206.7	206.7	220.0
09-13	Paper	206.1	214.0	214.6	217.9	221.2	223.3	226.3	227.2	227.5	228.2	229.6	230.6	239.0	242.1
09-14	Paperboard	179.6	186.9	187.4	188.5	190.2	192.9	197.9	199.2	199.8	201.7	205.0	209.5	211.2	212.8
09-15	Converted paper and paperboard products	185.6	195.3	197.4	198.3	199.8	204.1	205.8	207.0	207.6	209.0	213.7	213.9	216.5	218.4
09-2	Building paper and board	187.4	188.7	186.6	184.1	183.6	182.6	183.4	183.3	180.8	178.0	180.9	184.4	185.5	183.6
10	Metals and metal products	227.1	235.5	236.6	241.9	247.3	251.7	256.0	256.2	258.2	260.8	261.6	263.6	269.4	270.9
10-1	Iron and steel	253.6	261.7	263.2	272.4	274.9	279.9	280.2	279.5	283.2	286.8	285.9	285.3	289.0	291.6
10-13	Steel mill products	254.5	262.0	262.1	271.5	271.8	272.5	275.0	276.7	277.3	284.6	284.6	284.8	288.4	288.7
10-2	Nonferrous metals	207.8	218.2	219.0	223.5	239.2	246.6	250.6	258.2	259.7	262.3	262.3	269.3	282.8	283.7
10-3	Metal containers	243.4	254.5	254.4	256.8	256.8	264.5	270.1	268.5	267.3	267.2	267.7	267.0	276.7	280.7
10-4	Hardware	200.4	208.4	210.7	211.7	213.3	214.2	215.8	216.9	217.1	218.5	220.3	221.4	223.8	225.4
10-5	Plumbing fixtures and brass fittings	199.1	202.2	203.6	204.3	207.8	209.7	212.0	213.8	217.0	219.6	222.2	222.9	223.4	225.4
10-6	Heating equipment	174.4	177.2	179.1	180.1	180.9	183.4	183.8	185.7	185.2	186.0	187.9	191.3	191.9	192.7
10-7	Fabricated structural metal products	226.4	232.4	233.5	236.4	240.5	241.3	243.8	247.0	248.2	250.5	252.3	253.2	255.6	256.6
10-8	Miscellaneous metal products	212.0	219.9	220.8	222.0	223.4	225.2	227.0	228.5	230.1	231.8	236.3	237.4	239.1	239.4
11	Machinery and equipment	196.1	202.7	203.8	205.1	206.5	207.9	209.8	211.4	212.4	214.8	215.7	217.6	219.6	221.0
11-1	Agricultural machinery and equipment	213.1	220.6	221.9	222.8	223.9	224.8	226.4	228.3	229.4	231.2	232.4	236.6	236.8	241.4
11-2	Construction machinery and equipment	232.9	242.3	243.8	245.5	247.9	248.7	251.7	253.7	254.0	257.0	258.0	258.5	262.9	264.5
11-3	Metalworking machinery and equipment	217.0	226.3	228.2	230.4	232.0	233.0	235.3	237.6	239.1	241.4	243.2	246.1	249.1	251.4
11-4	General purpose machinery and equipment	216.6	223.8	225.1	226.3	227.7	230.4	232.6	234.0	235.1	237.1	237.8	239.6	242.1	243.7
11-6	Special industry machinery and equipment	223.0	232.8	233.9	236.2	237.0	239.1	243.4	245.1	246.1	249.8	250.8	251.5	253.9	256.3
11-7	Electrical machinery and equipment	164.9	169.6	170.5	171.2	172.8	173.8	175.0	176.5	177.6	179.9	181.0	182.7	184.1	185.0
11-9	Miscellaneous machinery	194.7	200.2	200.6	202.7	203.4	204.0	205.4	207.1	207.4	209.7	209.8	211.8	212.9	214.5
12	Furniture and household durables	160.4	163.5	164.6	166.6	167.9	168.3	168.7	169.6	170.2	170.7	170.7	171.7	174.1	175.6
12-1	Household furniture	173.5	178.6	179.3	181.0	181.3	181.8	182.7	184.8	185.3	185.8	186.2	188.0	189.3	192.4
12-2	Commercial furniture	201.5	204.9	207.3	214.4	221.2	221.2	221.7	221.9	221.8	222.7	222.7	222.7	223.3	223.3
12-3	Floor coverings	141.6	142.0	142.3	143.4	143.6	144.0	144.4	146.0	146.5	149.1	149.9	150.3	151.8	152.8
12-4	Household appliances	153.0	155.6	155.7	157.0	158.3	158.8	158.7	159.3	160.0	161.1	161.9	162.7	163.2	164.5
12-5	Home electronic equipment	90.2	91.5	92.3	92.2	92.3	92.3	92.3	92.4	92.8	90.2	87.7	87.8	87.8	87.9
12-6	Other household durable goods	203.1	208.7	212.3	216.0	216.6	217.9	218.6	219.5	220.6	223.7	224.8	227.4	244.1	246.6
13	Nonmetallic mineral products	222.8	230.0	231.1	238.3	240.5	240.8	243.4	245.6	246.9	249.5	249.6	252.2	255.6	257.1
13-11	Flat glass	172.8	174.0	178.7	181.1	183.1	183.1	183.1	183.1	184.0	184.1	184.1	184.5	184.7	185.4
13-2	Concrete ingredients	217.7	223.4	223.5	235.9	238.2	239.8	242.0	242.5	243.3	245.1	244.7	245.6	246.9	248.4
13-3	Concrete products	214.0	222.9	224.2	235.6	236.4	237.8	240.5	241.6	243.7	245.2	246.4	248.6	249.4	250.5
13-4	Structural clay products excluding refractories	197.2	204.4	206.5	209.7	210.7	212.8	214.8	215.7	216.5	220.3	222.4	223.8	221.1	221.1
13-5	Refractories	216.5	226.1	226.1	227.5	227.8	228.3	228.4	228.5	232.6	240.8	242.4	243.1	245.0	248.2
13-6	Asphalt roofing	292.0	305.2	305.2	306.8	317.8	303.1	316.4	317.9	323.0	328.4	322.2	332.7	334.0	345.9
13-7	Gypsum products	229.1	242.1	242.7	247.6	250.6	251.0	252.2	248.8	251.3	251.8	252.3	254.9	255.3	256.2
13-8	Glass containers	244.4	250.7	250.7	250.7	250.7	250.7	250.7	265.2	265.2	265.2	265.5	265.5	265.5	265.5
13-9	Other nonmetallic minerals	275.6	283.6	283.6	288.8	293.7	294.5	300.0	303.0	302.0	310.5	309.9	318.8	341.2	342.2
14	Transportation equipment (12/68 = 100)	173.5	180.1	180.5	182.7	183.5	183.8	186.8	187.2	187.5	188.4	187.2	186.2	193.6	194.4
14-1	Motor vehicles and equipment	176.0	182.5	182.8	185.0	185.9	186.1	189.4	189.8	190.1	190.8	189.2	188.1	196.3	197.0
14-4	Railroad equipment	252.8	261.5	261.8	266.4	268.0	268.9	271.7	271.8	274.7	280.6	280.9	281.6	286.3	288.2
15	Miscellaneous products	184.3	189.2	193.6	197.7	199.6	200.6	201.4	203.3	205.2	207.0	208.2	212.3	216.8	219.0
15-1	Toys, sporting goods, small arms, ammunition	163.2	165.3	164.8	170.4	171.0	171.5	173.2	174.3	174.7	176.9	177.9	179.9	181.2	181.7
15-2	Tobacco products	198.5	204.0	204.0	213.5	213.6	214.0	214.4	214.4	214.4	214.8	221.1	221.7	221.9	221.9
15-3	Notions	182.0	183.4	183.4	188.2	188.2	190.2	190.2	190.6	190.6	192.0	192.1	192.1	195.8	198.0
15-4	Photographic equipment and supplies	145.7	148.7	148.7	150.1	150.2	150.2	150.1	150.6	151.6	152.0	152.0	154.1	157.3	161.3
15-51	Mobile Homes (12/74 = 100)	126.4	130.3	130.6	131.7	132.5	133.8	135.2	137.2	137.9	138.2	137.7	139.5	142.5	143.5
15-9	Other miscellaneous products	210.6	218.7	234.8	237.8	244.0	245.5	246.1	250.6	255.8	259.8	260.1	270.5	280.9	284.9

[1] Prices for natural gas are lagged 1 month.

[2] Includes only domestic production.

[3] Most prices for refined petroleum products are lagged 1 month.

[4] Some prices for industrial chemicals are lagged 1 month.

[5] Not available.

NOTE: Data for July 1979 have been revised to reflect the availability of late reports and corrections by respondents. All data are subject to revision 4 months after original publication.

28. Producer Price Indexes, for special commodity groupings

[1967 = 100 unless otherwise specified]

Commodity grouping	Annual average 1978	1978		1979										
		Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.
All commodities — less farm products	206.4	214.8	216.3	219.3	222.0	224.7	228.0	230.1	232.0	235.4	237.3	241.0	244.9	246.7
All foods	206.4	211.7	215.5	219.9	225.0	225.9	227.7	226.4	223.8	225.4	224.5	228.2	226.8	229.0
Processed foods	206.7	211.9	215.7	219.8	223.5	225.6	227.8	227.5	224.7	226.4	224.5	230.6	228.9	231.8
Industrial commodities less fuels	197.2	203.6	204.6	207.3	209.6	211.9	214.7	216.0	217.0	219.0	220.1	221.6	225.4	226.4
Selected textile mill products (Dec. 1975 = 100)	108.8	110.0	110.9	109.1	110.8	111.6	112.3	112.8	113.5	114.0	115.0	115.7	116.0	116.1
Hosiery	106.3	109.1	106.7	110.1	109.9	110.5	112.5	112.5	112.7	114.1	113.0	112.7	113.0	114.6
Underwear and nightwear	158.9	160.3	162.5	164.6	166.3	167.1	167.3	167.7	168.3	168.5	170.8	170.8	171.2	171.6
Chemicals and allied products, including synthetic rubber and manmade fibers and yarns	190.5	193.1	193.6	196.3	198.0	200.0	204.1	207.6	209.5	215.0	217.4	220.5	223.7	226.0
Pharmaceutical preparations	140.6	144.7	145.8	148.1	149.0	149.4	150.0	150.1	151.7	151.7	152.0	153.6	155.6	155.4
Lumber and wood products, excluding millwork and other wood products	298.3	313.9	314.1	314.8	317.0	323.7	326.4	325.1	321.7	325.3	333.7	341.0	337.4	323.5
Special metals and metal products	209.8	217.1	217.9	220.0	225.6	228.2	232.7	232.4	233.7	235.5	235.4	236.1	242.9	244.2
Fabricated metal products	216.2	223.5	224.5	227.0	228.6	230.6	232.9	234.6	235.7	237.4	240.1	241.0	243.7	244.8
Copper and copper products	155.6	161.6	164.1	168.8	188.2	197.9	212.1	199.0	193.0	191.9	196.6	200.5	211.5	213.6
Machinery and motive products	190.4	196.8	197.7	199.6	200.8	201.7	204.1	205.3	206.0	207.7	207.7	208.3	212.8	214.0
Machinery and equipment, except electrical	214.3	221.7	223.0	224.9	226.1	227.7	230.0	231.8	232.6	235.1	235.9	237.8	240.2	242.0
Agricultural machinery, including tractors	216.3	224.2	225.2	227.6	228.5	229.6	230.8	232.1	233.8	235.8	237.1	242.6	244.7	247.9
Metalworking machinery	228.8	239.9	242.5	245.2	247.4	248.9	251.2	254.3	256.8	260.1	261.5	265.3	269.5	272.5
Numerically controlled machine tools (Dec. 1971 = 100)	179.1	186.2	186.3	188.9	190.9	192.6	192.7	195.7	195.8	202.2	204.4	206.6	208.7	209.0
Total tractors	228.7	236.9	238.3	240.8	242.5	243.1	245.4	247.7	248.2	251.2	252.5	254.8	259.4	260.9
Agricultural machinery and equipment less parts	212.7	220.1	221.2	223.5	224.4	225.5	226.7	228.1	229.5	231.4	232.5	237.5	239.5	242.4
Farm and garden tractors less parts	216.1	223.3	224.6	225.6	225.8	226.7	228.5	230.5	231.8	233.9	237.0	243.4	246.3	248.8
Agricultural machinery excluding tractors less parts	216.7	225.2	225.9	229.5	230.9	232.1	233.0	233.6	235.7	237.6	237.4	242.2	243.7	247.4
Industrial valves	232.3	239.1	240.7	245.4	247.8	249.5	252.4	255.0	255.8	257.0	257.0	259.1	260.3	261.1
Industrial fittings	232.7	244.5	244.5	249.9	249.9	252.0	255.5	259.3	260.4	260.8	260.8	262.8	271.7	276.8
Abrasive grinding wheels	208.1	220.2	220.2	220.2	220.2	220.3	220.3	221.6	222.8	222.8	224.6	224.6	235.3	235.3
Construction materials	228.3	236.3	237.0	241.4	244.1	246.9	250.0	250.3	250.3	252.3	254.1	256.6	258.2	256.5

NOTE: Data for July 1979 have been revised to reflect the availability of late reports and corrections by respondents. All data are subject to revision 4 months after original publication.

29. Producer Price Indexes, by durability of product

[1967 = 100]

Commodity grouping	Annual average 1978	1978		1979										
		Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.
Total durable goods	204.9	212.1	213.0	216.3	218.9	221.0	223.9	224.7	225.8	227.6	228.0	229.7	234.0	234.9
Total nondurable goods	211.9	217.5	219.9	223.4	227.3	230.4	234.1	236.9	238.8	243.7	245.5	250.8	253.5	256.0
Total manufactures	204.2	210.7	212.0	215.0	217.5	219.7	223.1	225.0	226.5	229.8	231.5	234.9	238.6	240.2
Durable	204.7	211.8	212.7	215.8	218.0	219.8	222.7	223.8	224.6	226.6	227.2	229.0	233.3	234.1
Nondurable	203.0	208.6	210.5	213.4	216.1	219.0	222.8	225.6	227.8	232.5	235.5	240.9	243.7	246.3
Total raw or slightly processed goods	234.6	240.5	244.3	250.2	258.5	263.3	266.1	268.2	269.7	274.3	271.8	276.6	278.6	281.1
Durable	209.6	220.0	225.0	235.4	253.9	273.6	272.5	262.9	272.8	265.4	259.8	255.7	259.0	265.8
Nondurable	235.6	241.2	244.9	250.4	258.0	261.6	264.7	267.6	268.5	274.0	271.8	277.2	279.1	281.3

NOTE: Data for July 1979 have been revised to reflect the availability of late reports and corrections by respondents. All data are subject to revision 4 months after original publication.

30. Producer Price Indexes for the output of selected SIC industries

[1967 = 100 unless otherwise specified]

1972 SIC code	Industry Description	Annual average 1978	1978		1979										
			Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.
	MINING														
1011	Iron ores (12/75 = 100)	121.9	127.3	127.3	127.3	127.3	127.3	131.9	131.9	136.0	136.0	138.8	138.1	140.2	140.2
1092	Mercury ores (12/75 = 100)	126.6	125.4	136.2	153.3	168.7	178.3	202.1	237.5	277.0	270.8	245.8	252.1	275.0	252.1
1211	Bituminous coal and lignite	430.2	442.6	441.0	444.0	444.4	445.7	447.5	451.3	452.5	453.1	455.1	453.2	455.4	455.8
1311	Crude petroleum and natural gas	358.2	373.9	380.6	388.2	397.2	403.8	407.6	427.2	444.1	457.5	475.8	506.8	522.0	533.5
1442	Construction sand and gravel	194.6	199.6	200.2	208.0	210.4	210.9	214.1	216.0	217.0	219.3	219.9	220.9	223.5	224.3
	Kaolin and ball clay (6/76 = 100)	111.8	123.2	123.2	125.4	125.4	125.4	125.4	125.4	125.5	125.5	125.5	125.5	126.7	114.7
	MANUFACTURING														
2011	Meat packing plants	216.7	218.6	226.8	243.6	250.8	256.6	265.0	259.2	249.1	243.8	229.3	247.2	238.1	241.6
2013	Sausages and other prepared meats	215.2	225.9	228.7	223.8	230.4	226.6	224.4	227.7	217.1	214.7	203.3	211.6	213.0	214.2
2016	Poultry dressing plants	192.5	187.0	192.1	194.6	204.6	206.1	199.7	203.5	177.8	178.4	169.6	171.2	163.1	188.3
2021	Creamery butter	205.2	225.3	227.0	211.9	211.1	216.1	224.7	225.3	225.3	227.5	237.9	240.6	240.1	241.7

See footnotes at end of table.

30. Continued — Producer Price Indexes for the output of selected SIC industries

[1967 = 100 unless otherwise specified]

1972 SIC code	Industry description	Annual average 1978	1978		1979										
			Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.
	MANUFACTURING — Continued														
2022	Cheese natural and processed (12/72 = 100)	169.6	182.9	184.4	184.2	179.4	182.5	166.8	185.2	185.6	186.3	195.4	200.8	196.8	193.4
2024	Ice cream and frozen desserts (12/72 = 100)	154.8	160.0	162.1	166.2	166.7	166.7	167.3	171.0	171.5	171.5	175.0	176.1	177.5	178.4
2033	Canned fruits and vegetables	193.2	201.3	202.8	203.3	204.4	205.2	206.2	207.2	207.5	209.9	210.5	211.9	213.0	212.4
2034	Dehydrated food products (12/73 = 100)	131.3	178.3	179.6	179.6	181.2	180.9	181.7	182.1	181.0	182.0	180.7	170.0	158.2	156.3
2041	Flour mills (12/71 = 100)	147.0	159.0	156.8	155.8	160.5	157.5	158.1	166.7	174.6	190.9	176.9	183.4	184.6	184.9
2044	Rice milling	207.6	166.0	168.6	163.6	166.6	171.0	206.8	206.8	206.8	206.8	218.7	223.5	227.3	231.8
2048	Prepared foods, n.e.c. (12/75 = 100)	107.3	110.8	114.7	115.6	118.4	118.3	117.5	115.2	118.9	128.1	119.7	121.2	123.9	124.6
2061	Raw cane sugar	190.7	193.0	196.2	191.6	196.2	195.7	197.5	195.6	207.0	209.0	216.8	216.7	224.3	223.3
2063	Beet sugar	188.5	194.3	194.4	197.0	197.0	198.6	199.3	199.7	199.7	202.0	199.2	200.2	202.6	209.6
2067	Chewing gum	218.0	222.7	241.5	241.6	242.5	242.5	242.6	242.2	242.2	242.9	242.9	242.9	242.9	262.2
2074	Cottonseed oil mills	183.1	192.3	196.4	198.7	204.5	202.8	198.5	192.5	210.4	224.5	214.1	217.9	214.9	204.7
2075	Soybean oil mills	225.6	224.0	237.7	233.1	241.2	242.0	244.7	237.7	251.1	262.8	250.0	248.4	244.8	242.6
2077	Animal and marine fats and oils	287.9	323.1	305.1	305.0	344.5	362.6	393.1	363.8	335.3	352.0	321.4	333.8	333.7	315.2
2083	Malt	181.5	180.7	190.8	190.8	190.8	190.8	190.8	190.8	201.4	201.4	201.4	201.4	214.9	228.2
2085	Distilled liquor, except brandy (12/75 = 100)	106.7	107.8	108.9	108.9	109.4	109.4	109.4	113.6	113.6	113.6	116.2	117.1	117.1	118.1
2091	Canned and cured seafoods (12/73 = 100)	136.4	137.2	137.4	137.3	137.9	138.5	139.2	140.9	142.1	148.5	146.1	150.8	151.1	155.6
2092	Fresh or frozen packaged fish	303.8	331.6	339.0	338.1	361.9	359.4	375.8	382.4	397.6	403.7	392.4	390.1	400.9	392.4
2095	Roasted coffee (12/72 = 100)	262.3	241.8	235.7	229.4	222.5	221.6	220.5	231.7	244.2	271.0	276.6	279.2	280.0	287.5
2098	Macaroni and spaghetti	176.9	184.7	184.7	184.7	184.7	184.7	184.7	186.6	188.6	203.5	195.7	190.5	210.4	221.5
2111	Cigarettes	204.6	210.7	210.7	221.1	221.2	221.3	221.4	221.4	221.4	221.5	228.9	229.1	229.2	229.2
2121	Cigars	141.4	142.0	141.7	142.8	143.0	145.0	145.4	145.4	145.3	149.8	147.6	147.6	147.4	147.2
2131	Chewing and smoking tobacco	222.0	224.7	225.1	235.3	236.4	240.9	245.9	245.9	245.9	246.4	246.4	255.8	260.4	260.8
2211	Weaving mills, cotton (12/72 = 100)	181.1	186.1	187.9	188.8	190.1	190.4	191.8	192.7	194.3	196.1	196.8	198.6	200.7	200.1
2221	Weaving mills, synthetic (12/77 = 100)	109.0	116.1	115.5	114.5	112.7	112.4	113.3	113.6	114.1	116.2	116.3	116.3	116.9	116.9
2251	Women's hosiery, except socks (12/75 = 100)	91.5	95.7	94.8	95.1	94.3	94.4	97.3	97.3	97.6	99.6	98.1	97.5	98.0	100.3
2254	Knit underwear mills	164.1	165.1	166.9	169.3	169.9	172.6	172.8	173.1	173.3	172.9	174.0	174.0	174.3	174.6
2257	Circular knit fabric mills (6/76 = 100)	98.5	98.8	99.2	91.2	91.7	93.9	93.2	94.1	95.8	96.1	96.3	96.0	96.4	96.4
2261	Finishing plants, cotton (6/76 = 100)	111.0	114.2	115.9	116.5	117.4	118.2	119.0	120.8	120.9	122.5	123.2	124.0	126.1	123.1
2262	Finishing plants, synthetics, silk (6/76 = 100)	101.4	104.1	105.4	104.6	105.0	105.2	105.9	106.3	107.0	107.5	107.9	108.3	109.2	108.9
2271	Woven carpets and rugs (12/75 = 100)	114.7	115.8	115.8	115.8	115.8	116.0	116.0	116.7	117.1	(¹)	(¹)	(¹)	(¹)	
2272	Tufted carpets and rugs	125.3	125.5	125.8	125.8	126.0	126.5	127.0	127.7	128.1	127.6	128.5	129.0	129.5	130.0
2281	Yarn mills, except wool (12/71 = 100)	167.4	170.6	170.5	170.9	171.4	172.3	173.1	174.5	175.7	177.5	177.2	179.4	181.2	182.9
2282	Throwing and winding mills (6/76 = 100)	99.2	103.3	101.7	103.1	102.7	106.0	104.4	106.3	107.5	108.5	108.8	111.3	111.0	111.0
2284	Thread mills (6/76 = 100)	114.6	119.1	119.2	120.3	120.3	120.3	120.4	120.4	120.4	120.5	125.7	128.1	128.3	128.4
2298	Cordage and twine (12/77 = 100)	99.3	98.4	98.4	98.5	98.6	98.6	101.7	102.8	105.4	105.4	113.5	115.1	114.9	114.9
2311	Men's and boys' suits and coats	194.3	202.5	200.5	199.3	199.6	199.9	203.9	204.2	204.5	205.8	206.4	206.4	206.6	208.8
2321	Men's and boys' shirts and nightwear	180.8	185.3	187.7	191.2	191.4	191.6	191.8	192.4	193.5	194.7	195.9	195.8	194.5	194.7
2322	Men's and boys' underwear	180.6	181.2	182.6	184.5	184.6	188.7	188.7	188.7	188.7	188.7	190.0	190.0	190.0	190.0
2323	Men's and boys' neckwear (12/75 = 100)	102.3	103.4	103.4	103.4	103.4	103.4	103.4	103.4	103.4	103.4	103.4	110.9	110.9	110.9
2327	Men's and boys' separate trousers	152.7	157.4	157.4	157.7	157.8	157.8	162.3	162.3	162.5	162.5	162.7	162.7	162.9	163.4
2328	Men's and boys' work clothing	195.2	195.4	195.7	198.5	199.8	200.0	206.5	206.5	209.0	208.9	210.5	210.7	213.1	218.9
2331	Women's and misses' blouses and waists (6/78 = 100)	. . .	102.2	102.3	102.6	99.1	99.2	99.1	100.3	100.5	102.6	102.7	102.8	103.0	105.9
2335	Women's and misses' dresses (12/77 = 100)	100.7	101.1	101.1	105.0	104.9	106.6	106.6	105.9	105.9	106.4	107.5	108.3	108.7	108.8
2341	Women's and children's underwear (12/72 = 100)	132.1	133.7	138.7	141.2	142.3	142.3	142.6	143.3	143.3	144.2	145.3	145.3	146.7	147.4
2342	Brassieres and allied garments (12/75 = 100)	111.7	112.4	112.5	113.5	116.0	116.0	116.1	116.2	117.5	117.5	117.8	117.8	117.8	117.8
2361	Children's dresses and blouses (12/77 = 100)	(¹)	105.7	105.4	105.4	105.4	105.5	106.7	106.7	102.1	102.4	102.4	103.7	105.7	105.7
2381	Fabric dress and work gloves	214.4	226.2	226.4	227.3	232.2	232.2	241.5	243.9	243.9	245.4	245.4	245.4	245.4	246.9
2394	Canvas and related products (12/77 = 100)	99.6	98.5	99.6	105.9	105.9	105.9	105.9	105.9	106.9	108.4	108.4	111.4	111.4	112.1
2396	Automotive and apparel trimmings (12/77 = 100)	106.3	107.1	107.1	107.1	107.1	107.1	107.1	107.1	114.3	114.3	114.3	114.3	114.3	114.3
2421	Sawmills and planing mills (12/71 = 100)	226.9	244.1	240.1	239.5	241.9	249.5	252.5	251.6	250.9	251.3	259.0	265.6	262.2	250.1
2436	Softwood veneer and plywood (12/75 = 100)	150.1	158.8	157.6	164.2	162.2	160.1	157.3	151.1	140.7	148.1	153.2	156.2	153.3	143.3
2439	Structural wood members, n.e.c. (12/75 = 100)	136.2	142.3	142.3	142.3	148.1	148.3	150.1	150.1	150.0	150.0	149.9	150.8	158.2	158.2
2448	Wood pallets and skids (12/75 = 100)	149.4	158.9	159.8	160.6	161.8	163.8	166.8	166.7	167.0	166.9	166.6	167.9	167.9	171.0
2451	Mobile homes (12/74 = 100)	126.5	130.3	130.8	131.8	132.5	133.8	135.3	137.3	138.0	138.2	137.7	139.6	142.5	143.5
2492	Particleboard (12/75 = 100)	159.7	150.0	146.9	143.0	141.9	142.7	143.8	141.6	137.4	134.3	134.7	138.5	139.6	136.9
2511	Wood household furniture (12/71 = 100)	152.4	158.4	158.5	160.3	160.3	160.9	162.7	164.6	164.0	164.5	164.6	167.1	168.1	171.3
2512	Upholstered household furniture (12/71 = 100)	143.1	145.7	145.8	146.9	146.9	147.6	147.4	149.2	149.4	150.0	150.3	151.6	151.8	153.9
2515	Mattresses and bedsprings	156.3	157.5	160.0	162.3	162.9	162.9	163.1	163.2	164.1	164.5	165.7	165.7	168.8	172.1
2521	Wood office furniture	194.4	200.4	200.5	207.2	213.1	213.1	214.2	214.3	214.2	216.8	216.8	216.8	217.6	217.6
2611	Pulp mills (12/73 = 100)	178.5	183.7	183.7	187.1	187.3	189.9	192.5	195.2	196.6	205.4	207.4	207.5	215.2	215.6
2621	Paper mills, except building (12/74 = 100)	115.7	121.2	121.5	123.7	124.7	126.0	128.5	129.3	129.5	130.2	131.2	131.6	136.2	136.7
2631	Paperboard mills (12/74 = 100)	106.4	110.8	111.1	112.0	112.9	114.4	117.1	118.1	118.5	119.7	121.4	123.6	125.4	126.4
2647	Sanitary paper products	251.4	262.9	267.3	267.4	267.6	269.2	270.8	271.7	271.9	276.4	283.6	283.6	286.4	286.5
2654	Sanitary food containers	170.8	175.5	177.1	178.8	179.4	179.5	184.1	189.1	189.1	189.6	189.6	191.0	195.8	196.1
2655	Fiber cans, drums, and similar products (12/75 = 100)	123.0	126.2	127.4	130.0	130.4	130.8	130.9	132.2	134.0	136.6	135.8	135.8	136.6	137.2
2812	Alkalies and chlorine (12/73 = 100)	198.8	202.2	203.0	202.4	203.2	201.8	203.7	204.9	206.3	209.5	211.7	212.2	213.6	216.5
2821	Plastics materials and resins (6/76 = 100)	103.8	103.7	104.5	106.0	106.9	109.2	113.8	117.7	118.6	124.9	126.0	129.0	132.5	133.9
2822	Synthetic rubber	180.5	185.8	187.8	189.4	191.4	192.7	196.5	200.9	206.6	214.2	222.5	222.8	224.4	227.0
2824	Organic fiber, noncellulosic	107.6	108.4	108.3	110.7	111.0	111.5	113.1	115.9	117.4	118.6	120.1	123.8	124.7	124.1
2873	Nitrogenous fertilizers (12/75 = 100)	96.6	95.5	95.3	95.4	96.6	98.0	101.5	101.9	101.4	102.8	103.5	106.1	107.9	111.7
2874	Phosphatic fertilizers	166.0	170.1	168.7	167.8	173.3	179.1	185.2	185.1	184.2	188.9	195.5	201.5	211.9	221.2
2875	Fertilizers, mixing only	181.9	184.0	185.2	185.2	187.5	192.8	197.3	197.8	197.8	198.1	205.6	210.7	218.4	229.9
2892	Explosives	217.3	225.9	226.3	226.6	227.1	226.9	227.9	230.0	239.3	240.1	240.5	250.1	250.6	251.8
2911	Petroleum refining (6/76 = 100)	119.6	123.3	125.4	127.3	129.3	132.8	138.8	145.6	155.1	165.5	176.5	188.4	196.3	200.9
2951	Paving mixtures and blocks (12/75 = 100)	117.1	120.4	120.2	123.5	124.8	125.9	128.5	130.1	131.2	134.4	134.9	138.3	145.5	145.6
2952	Asphalt felts and coatings (12/75) = 100)	128.2	134.0	134.0	134.7	139.3	132.8	138.6	139.3	141.6	143.6	141.1	145.7	146.1	151.8
3011	Tires and inner tubes (12/73 = 100)	154.0	161.0	161.8	164.0	166.2	167.1	168.0	169.2	170.6	176.8	179.9	183.9	186.5	190.9

30. Continued—Producer Price Indexes for the output of selected SIC industries

[1967 = 100 unless otherwise specified]

1972 SIC code	Industry description	Annual average 1978	1978		1979										
			Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.
3021	Rubber and plastic footwear (12/71 = 100)	158.7	164.1	164.1	168.7	169.0	169.0	169.0	169.5	169.6	171.0	173.2	173.4	173.4	173.4
3031	Reclaimed rubber (12/73 = 100)	154.3	155.4	158.4	161.3	161.3	162.1	164.5	167.6	169.1	169.2	167.3	170.5	171.7	177.1
3079	Miscellaneous plastic products (6/78 = 100)	...	101.8	102.0	102.1	103.4	105.4	107.5	109.0	110.7	111.4	112.4	112.9	113.9	114.1
3111	Leather tanning and finishing (12/77 = 100)	119.1	139.8	140.1	135.9	143.7	173.8	182.9	201.3	195.8	181.8	172.9	155.2	161.9	150.8
3142	House slippers (12/75 = 100)	122.5	127.2	127.1	129.6	134.7	136.3	136.3	138.5	142.0	135.0	136.2	136.2	136.9	137.0
3143	Men's footwear, except athletic (12/75 = 100)	127.1	133.9	133.9	135.2	141.0	145.6	147.6	152.8	155.4	155.4	158.2	159.0	159.3	159.2
3144	Women's footwear, except athletic	164.1	173.7	173.7	176.3	178.4	189.2	190.3	192.2	195.4	198.7	201.5	201.6	202.3	204.0
3171	Women's handbags and purses (12/75 = 100)	111.4	114.3	114.3	123.0	123.0	123.0	123.0	131.7	131.8	131.8	131.8	131.8	131.8	131.8
3211	Flat glass (12/71 = 100)	142.7	143.5	147.5	149.0	150.8	150.8	150.8	150.8	151.8	151.9	151.9	152.3	152.6	153.3
3221	Glass containers	244.3	250.9	250.6	250.7	250.7	250.7	250.7	265.2	265.2	265.2	265.4	265.4	265.4	265.5
3241	Cement, hydraulic	251.2	256.0	256.0	275.4	278.8	280.3	283.1	283.2	283.7	285.4	282.8	282.8	282.8	282.9
3251	Brick and structural clay tile	230.8	240.7	243.9	248.9	250.9	252.8	256.7	258.3	259.7	261.0	236.3	265.9	260.4	261.3
3253	Ceramic wall and floor tile (12/75 = 100)	107.7	111.5	111.5	111.6	111.6	113.0	113.0	113.0	113.0	120.2	120.2	120.2	120.1	120.2
3255	Clay refractories	221.4	231.7	231.7	233.4	233.2	234.1	234.4	234.6	236.9	246.5	248.1	248.5	251.7	254.4
3259	Structural clay products, n.e.c.	176.3	179.4	179.6	184.1	184.4	186.7	186.8	186.8	187.8	188.2	192.5	192.5	193.2	192.6
3261	Vitreous plumbing fixtures	189.7	192.6	194.3	195.1	198.6	198.9	201.6	204.6	206.4	210.1	212.4	212.8	214.5	215.7
3262	Vitreous china food utensils	268.8	284.1	284.4	284.4	290.6	290.6	290.6	290.6	290.6	297.5	297.5	297.5	297.9	305.3
3263	Fine earthenware food utensils	228.1	237.1	242.4	242.4	237.0	237.1	237.1	237.1	236.4	238.8	238.6	238.6	245.8	246.9
3269	Pottery products, n.e.c. (12/75 = 100)	122.2	127.9	129.6	129.6	129.2	129.2	129.2	129.2	129.0	131.0	130.9	130.9	133.2	135.0
3271	Concrete block and brick	202.0	211.8	211.9	223.0	223.1	227.0	230.8	232.6	232.7	232.7	235.7	237.8	240.0	240.0
3273	Ready-mixed concrete	217.6	225.9	227.7	240.0	241.1	241.7	244.5	245.2	247.5	249.6	250.5	252.2	253.0	254.5
3274	Lime (12/75 = 100)	129.5	131.6	133.1	136.2	136.6	137.5	139.9	139.8	140.1	141.8	142.9	144.3	144.7	144.4
3275	Gypsum products	229.5	242.5	243.1	248.1	251.1	251.5	252.7	249.4	251.9	252.3	252.8	255.4	255.9	256.8
3291	Abrasive products (12/71 = 100)	172.3	178.9	178.9	181.1	182.2	182.4	184.0	185.1	185.8	187.7	188.6	190.3	193.9	194.7
3297	Nonclay refractories (12/74 = 100)	133.6	139.0	139.0	139.8	140.3	140.4	140.5	140.5	143.9	148.1	149.1	149.7	150.1	152.3
3312	Blast furnaces and steel mills	262.3	270.5	270.7	279.9	280.3	281.1	283.5	285.3	285.8	292.8	292.9	293.2	296.3	297.0
3313	Electrometallurgical products (12/75 = 100)	94.8	98.3	98.4	103.5	104.0	104.0	106.8	111.7	112.3	116.5	118.5	116.0	116.2	117.5
3316	Cold finishing of steel shapes	241.0	247.4	247.4	258.1	258.3	258.4	259.1	259.8	261.3	270.6	271.0	271.0	271.9	273.2
3317	Steel pipes and tubes	255.2	258.6	258.7	265.0	265.1	265.8	265.0	264.5	264.5	271.9	270.2	271.4	272.8	272.8
3321	Gray iron foundries (12/68 = 100)	233.5	240.0	240.0	244.9	244.7	249.4	253.9	253.3	254.5	253.9	252.6	253.6	265.6	266.0
3333	Primary zinc	223.2	243.2	243.2	243.2	260.6	260.9	274.2	274.5	275.2	281.4	265.1	264.2	265.2	257.0
3334	Primary aluminum	217.4	220.3	220.3	220.3	226.1	232.4	235.8	237.4	238.5	244.9	244.2	248.2	256.0	263.2
3351	Copper rolling and drawing	170.2	177.2	179.0	184.2	199.9	211.0	220.1	215.6	211.7	211.2	213.4	216.8	223.3	222.7
3353	Aluminum sheet plate and foil (12/75 = 100)	137.6	142.4	143.2	145.8	146.4	146.5	148.0	148.7	148.8	149.6	149.7	150.0	150.8	151.5
3354	Aluminum extruded products (12/75 = 100)	134.3	137.3	138.6	141.1	141.6	142.5	146.1	147.5	147.6	150.3	151.8	152.2	153.5	157.3
3355	Aluminum rolling, drawing, n.e.c. (12/75 = 100)	119.7	121.9	122.8	125.2	126.5	127.5	129.6	131.5	131.6	132.7	132.2	133.5	136.8	139.9
3411	Metal cans	238.5	248.3	248.3	252.7	253.9	260.9	264.4	263.8	262.2	262.2	263.1	261.5	270.2	273.8
3425	Hand saws and saw blades (12/72 = 100)	147.9	153.8	155.5	157.7	157.8	157.9	159.6	161.9	162.5	162.8	165.7	166.2	166.9	169.4
3431	Metal sanitary ware	209.1	213.0	214.1	214.7	217.4	219.2	220.8	222.2	224.1	226.4	228.9	229.2	230.1	231.7
3465	Automotive stampings (12/75 = 100)	118.8	123.0	123.0	123.6	125.0	125.7	126.2	127.0	127.1	127.8	131.2	131.9	132.7	132.7
3482	Small arms ammunition (12/75 = 100)	119.5	121.2	124.2	129.3	129.3	125.9	126.3	130.4	131.4	134.0	138.3	138.3	137.5	137.9
3493	Steel springs, except wire	204.6	210.6	210.7	210.9	212.6	216.7	218.1	218.7	220.5	221.6	222.1	222.7	223.5	223.9
3494	Valves and pipe fittings (12/71 = 100)	185.5	192.8	193.4	196.1	197.6	199.0	201.4	203.6	204.2	205.3	205.0	206.4	209.5	211.6
3498	Fabricated pipe and fittings	265.5	276.4	276.4	276.6	276.7	276.8	284.9	288.2	290.7	294.8	294.8	294.9	297.0	297.4
3519	Internal combustion engines, n.e.c.	220.1	288.5	228.4	232.7	233.8	234.0	237.1	239.0	239.2	242.3	244.6	249.5	252.8	253.7
3531	Construction machinery (12/76 = 100)	114.0	118.5	119.2	120.0	121.1	121.6	123.0	123.9	124.0	125.6	126.0	126.3	128.4	129.0
3532	Mining machinery (12/72 = 100)	209.5	217.5	218.1	222.5	223.4	224.2	228.0	228.4	226.4	231.2	231.4	232.7	233.1	234.7
3533	Oilfield machinery and equipment	246.2	274.6	275.6	279.5	281.4	281.8	283.5	288.4	290.0	292.0	293.2	296.7	300.5	301.3
3534	Elevators and moving stairways	204.2	210.8	211.5	211.7	214.1	213.4	213.8	213.6	214.2	215.4	214.6	216.5	216.8	220.6
3542	Machine tools, metal forming types (12/71 = 100)	213.6	225.5	228.8	231.6	233.3	234.1	237.9	238.8	240.6	244.6	245.0	247.9	249.6	253.5
3546	Power driven hand tools (12/76 = 100)	111.1	114.1	114.4	115.4	116.3	116.9	117.7	117.8	118.7	119.2	119.9	120.3	121.9	122.7
3552	Textile machinery (12/69 = 100)	179.9	184.7	186.4	189.0	189.6	190.4	191.5	191.7	192.6	195.0	196.8	198.2	199.2	200.6
3553	Woodworking machinery (12/72 = 100)	168.1	173.9	174.1	177.9	177.3	179.2	181.0	183.2	184.5	185.9	188.1	189.4	193.0	193.1
3576	Scales and balances, excluding laboratory	179.7	185.3	188.4	188.8	191.1	191.1	191.3	192.8	193.7	194.8	195.3	195.4	192.9	196.6
3592	Carburetors, pistons, rings, valves (6/76 = 100)	128.2	133.7	134.3	135.0	135.7	136.9	137.6	138.6	138.7	139.2	139.2	140.3	141.5	143.5
3612	Transformers	158.3	164.1	163.1	163.2	165.4	167.0	168.5	168.0	168.5	167.9	167.8	168.6	171.4	170.5
3623	Welding apparatus, electric (12/72 = 100)	179.1	182.6	184.0	184.8	186.0	186.6	187.3	191.5	191.9	193.5	193.8	194.9	196.2	197.9
3631	Household cooking equipment (12/75 = 100)	114.8	117.9	118.3	119.1	119.2	120.2	120.3	120.7	120.9	122.0	123.3	124.2	124.3	125.8
3632	Household refrigerators, freezers (6/76 = 100)	109.6	110.7	110.7	111.4	112.5	112.7	111.8	111.9	112.6	113.6	114.0	114.7	114.8	115.3
3633	Household laundry equipment (12/73 = 100)	141.0	144.4	144.4	145.4	146.3	146.9	146.9	147.0	147.2	148.8	151.1	151.8	152.1	153.5
3635	Household vacuum cleaners	135.5	137.5	137.6	138.1	138.1	140.4	140.4	141.2	141.5	141.6	141.6	141.9	144.3	144.7
3636	Sewing machines (12/75 = 100)	111.2	115.4	115.4	119.8	119.8	119.8	121.1	121.1	121.1	121.8	121.6	121.6	122.0	122.0
3641	Electric lamps	214.7	226.1	226.1	226.6	226.8	227.1	229.8	229.8	229.7	240.8	244.4	242.7	244.8	240.8
3644	Noncurrent-carrying wiring devices (12/72 = 100)	185.8	193.9	195.4	196.1	197.1	199.0	200.4	202.6	203.0	203.0	206.9	211.4	212.8	214.2
3646	Commercial lighting fixtures (12/75 = 100)	112.7	117.2	117.2	117.6	119.6	121.2	124.3	126.8	127.4	127.9	128.4	129.5	130.3	132.0
3648	Lighting equipment, n.e.c. (12/75 = 100)	114.6	118.3	118.3	121.2	121.9	122.3	123.5	124.0	124.6	127.6	127.7	128.3	129.3	129.8
3671	Electron tubes receiving type	200.9	210.5	210.6	210.8	210.9	211.0	211.2	211.3	226.4	226.5	226.6	227.2	227.2	227.3
3674	Semiconductors and related devices	85.3	84.2	84.4	84.1	84.2	84.4	84.7	84.7	84.7	84.2	83.9	84.4	84.7	85.0
3675	Electronic capacitors (12/75 = 100)	111.5	112.6	112.2	112.7	114.4	115.9	119.8	120.1	122.1	126.7	129.1	133.6	134.0	134.9
3676	Electronic resistors (12/75 = 100)	118.3	122.6	122.7	122.7	122.8	123.1	123.2	123.2	123.2	124.0	128.6	130.2	127.8	127.8
3678	Electronic connectors (12/75 = 100)	118.9	123.7	123.6	123.7	125.4	125.6	125.8	126.6	126.9	137.4	134.1	137.6	138.4	140.7
3692	Primary batteries, dry and wet	162.0	162.1	162.1	162.4	162.7	164.8	167.9	172.1	172.7	172.8	172.8	172.8	173.1	173.1
3711	Motor vehicles and car bodies (12/75 = 100)	115.9	119.8	120.2	122.0	122.3	122.3	124.5	124.6	124.8	125.1	123.6	122.3	129.6	129.8
3942	Dolls (12/75 = 100)	100.2	104.5	104.5	107.6	109.0	108.6	109.3	109.3	109.3	111.8	112.9	112.9	112.9	112.9
3944	Games, toys, and children's vehicles	172.3	174.0	174.0	177.3	178.8	179.2	179.6	182.3	183.1	183.5	184.0	184.7	185.7	186.3
3955	Carbon paper and inked ribbons (12/75 = 100)	105.1	108.1	108.2	109.3	114.3	115.5	119.6	120.2	116.7	117.1	118.2	118.7	121.5	125.5
3995	Burial caskets (6/76 = 100)	113.0	115.8	117.8	117.8	120.8	120.9	121.0	121.7	121.7	123.3	123.8	124.8	124.8	124.8
3996	Hard surface floor coverings (12/75 = 100)	118.3	117.0	117.0	120.7	120.7	120.7	120.7	123.7	124.5	128.3	128.3	128.3	131.0	134.1

[1] Not available.

NOTE: Data for July 1979 have been revised to reflect the availability of late reports and corrections by respondents. All data are subject to revision 4 months after original publication.

PRODUCTIVITY DATA

PRODUCTIVITY DATA are compiled by the Bureau of Labor Statistics from establishment data and from estimates of compensation and output supplied by the U.S. Department of Commerce and the Federal Reserve Board.

Definitions

Output is the constant dollar gross domestic product produced in a given period. Indexes of **output per hour of labor input**, or labor productivity, measure the value of goods and services produced per hour of labor. **Compensation per hour** includes wages and salaries of employees plus employers' contributions for social insurance and private benefit plans. The data also include an estimate of wages, salaries, and supplementary payments for the self-employed, except for nonfinancial corporations, in which there are no self-employed. **Real compensation per hour** is compensation per hour adjusted by the Consumer Price Index for All Urban Consumers.

Unit labor cost measures the labor compensation cost required to produce one unit of output and is derived by dividing compensation by output. **Unit nonlabor payments** include profits, depreciation, interest, and indirect taxes per unit of output. They are computed by subtracting compensation of all persons from the current dollar gross domestic product and dividing by output. In these tables, **Unit nonlabor costs** contain all the components of unit nonlabor payments except unit profits. **Unit profits** include corporate profits and inventory valuation adjustments per unit of output.

The **implicit price deflator** is derived by dividing the current dollar estimate of gross product by the constant dollar estimate, making the deflator, in effect, a price index for gross product of the sector reported.

The use of the term "man-hours" to identify the labor component of productivity and costs, in tables 31 through 34, has been discontinued. **Hours of all persons** is now used to describe the labor input of payroll workers, self-employed persons, and unpaid family workers. **Output per all-employee hour** is now used to describe labor productivity in nonfinancial corporations where there are no self-employed.

Notes on the data

In the private business sector and the nonfarm business sector, the basis for the output measure employed in the computation of output per hour is Gross Domestic Product rather than Gross National Product. Computation of hours includes estimates of nonfarm and farm proprietor hours.

Output data are supplied by the Bureau of Economic Analysis, U.S. Department of Commerce, and the Federal Reserve Board. Quarterly manufacturing output indexes are adjusted by the Bureau of Labor Statistics to annual estimates of output (gross product originating) from the Bureau of Economic Analysis. Compensation and hours data are from the Bureau of Economic Analysis and the Bureau of Labor Statistics.

Beginning with the September 1976 issue of the *Review*, tables 31–34 were revised to reflect changeover to the new series—private business sector and nonfarm business sector—which differ from the previously published total private economy and nonfarm sector in that output imputed for owner-occupied dwellings and the household and institutions sectors, as well as the statistical discrepancy, are omitted. For a detailed explanation, see J. R. Norsworthy and L. J. Fulco, "New sector definitions for productivity series," *Monthly Labor Review*, October 1976, pages 40–42.

31. Indexes of productivity and related data, selected years, 1950–78

[1967 = 100]

Item	1950	1955	1960	1965	1970	1971	1972	1973	1974	1975	1976	1977	1978
Private business sector:													
Output per hour of all persons	61.0	70.3	78.7	95.0	104.2	107.7	111.4	113.6	110.1	112.4	116.4	118.6	119.2
Compensation per hour	42.4	55.8	71.9	88.7	123.1	131.4	139.7	151.2	164.9	181.3	197.2	213.0	231.2
Real compensation per hour	58.9	69.6	81.1	93.8	105.8	108.3	111.5	113.6	111.7	112.5	115.6	117.3	118.3
Unit labor cost	69.6	79.4	91.3	93.3	118.2	122.0	125.4	133.1	149.8	161.3	169.4	179.6	194.0
Unit nonlabor payments	73.2	80.5	85.5	95.9	105.8	113.0	119.0	124.9	130.4	150.4	158.0	165.6	174.3
Implicit price deflator	70.8	79.8	89.3	94.2	113.9	118.9	123.2	130.3	143.1	157.5	165.5	174.8	187.2
Nonfarm business sector:													
Output per hour of all persons	66.9	74.3	80.9	95.9	103.0	106.2	110.1	112.0	108.5	110.5	114.4	116.2	116.8
Compensation per hour	45.4	58.7	74.2	89.4	121.7	129.9	138.4	149.2	162.8	178.9	193.8	209.3	227.3
Real compensation per hour	63.0	73.2	83.7	94.6	104.6	107.1	110.4	112.1	110.2	111.0	113.7	115.3	116.3
Unit labor cost	67.9	79.1	91.7	93.2	118.1	122.3	125.7	133.2	150.0	161.8	169.4	180.1	194.5
Unit nonlabor payments	71.5	80.1	84.5	95.8	106.0	113.1	117.5	117.8	124.7	146.0	156.0	163.9	166.9
Implicit price deflator	69.1	79.4	89.2	94.1	114.0	119.2	122.9	127.9	141.4	156.4	164.8	174.5	186.1
Nonfinancial corporations:													
Output per hour of all employees	(1)	(1)	80.2	96.8	103.5	107.0	110.5	112.8	108.5	111.9	115.5	116.8	117.9
Compensation per hour	(1)	(1)	75.7	90.0	121.5	129.0	136.7	147.5	161.4	177.4	192.2	207.6	224.8
Real compensation per hour	(1)	(1)	85.4	95.3	104.4	106.4	108.1	110.8	109.3	110.1	112.7	114.4	115.0
Unit labor cost	(1)	(1)	94.3	93.0	117.4	120.6	123.7	130.7	148.8	158.6	166.4	177.7	190.6
Unit nonlabor payments	(1)	(1)	90.8	100.1	103.5	111.1	114.8	116.8	124.8	148.1	156.8	164.4	170.6
Implicit price deflator	(1)	(1)	93.1	95.5	112.5	117.2	120.5	125.8	140.2	154.9	163.0	173.0	183.5
Manufacturing:													
Output per hour of all persons	65.0	74.1	78.9	98.3	104.5	110.1	115.7	118.8	112.6	118.2	123.4	127.2	129.0
Compensation per hour	45.1	60.5	77.1	91.0	121.8	129.5	136.6	146.4	161.1	180.2	195.1	212.0	229.5
Real compensation per hour	62.5	75.4	87.0	96.3	104.7	106.7	109.0	110.0	109.1	111.8	114.5	116.8	117.5
Unit labor cost	69.4	81.6	97.7	92.6	116.5	117.6	118.1	123.2	143.1	152.4	158.2	166.6	179.4
Unit nonlabor payments	82.4	86.6	92.4	103.3	98.2	105.0	107.4	108.4	106.6	128.4	129.6	147.4	152.4
Implicit price deflator	73.3	83.8	96.1	95.9	110.3	113.7	114.8	118.0	131.6	145.1	152.5	160.7	171.1

[1] Not available.

32. Annual percent change in productivity and related data, 1968–78

Item	Year											Annual rate of change	
	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1950-78	1960-78
Private business sector:													
Output per hour of all persons	3.3	0.2	0.7	3.3	3.5	1.9	−3.0	2.1	3.5	1.9	0.5	2.6	2.2
Compensation per hour	7.6	6.6	7.1	6.7	6.3	8.2	9.1	9.8	8.8	8.0	8.5	5.8	6.8
Real compensation per hour	3.3	1.4	1.1	2.4	2.9	1.9	−1.7	.7	2.8	1.5	0.8	2.6	2.1
Unit labor cost	4.1	6.6	6.4	3.3	2.8	6.2	12.5	7.7	5.0	6.0	8.0	3.2	4.5
Unit nonlabor payments	3.5	1.0	1.2	6.8	5.2	5.0	4.4	15.3	5.1	4.8	5.3	2.8	4.0
Implicit price deflator	3.9	4.7	4.7	4.4	3.6	5.8	9.8	10.1	5.0	5.6	7.1	3.1	4.3
Nonfarm business sector:													
Output per hour of all persons	3.2	−.3	.1	3.1	3.7	1.7	−3.1	1.9	3.5	1.6	0.5	2.2	2.0
Compensation per hour	7.3	6.3	6.7	6.7	6.5	7.8	9.1	9.9	8.3	8.0	8.6	5.5	6.5
Real compensation per hour	3.0	.9	.7	2.3	3.1	1.5	−1.7	.7	2.4	1.4	0.9	2.3	1.9
Unit labor cost	4.0	6.7	6.5	3.5	2.8	6.0	12.7	7.9	4.7	6.3	8.0	3.2	4.5
Unit nonlabor payments	3.9	.4	1.6	6.7	3.8	.3	5.9	17.1	6.9	5.0	3.7	2.8	3.9
Implicit price deflator	4.0	4.5	4.9	4.5	3.1	4.1	10.5	10.6	5.4	5.9	6.6	3.1	4.3
Nonfinancial corporations:													
Output per hour of all employees	3.3	.3	−.1	3.4	3.3	2.1	−3.8	3.1	3.2	1.1	1.0	([1])	2.0
Compensation per hour	6.8	6.7	6.7	6.2	5.9	7.9	9.4	10.0	8.3	8.0	8.3	([1])	6.3
Real compensation per hour	2.5	1.2	.7	1.9	2.5	1.6	−1.4	.7	2.4	1.5	0.6	([1])	1.7
Unit labor cost	3.4	6.3	6.8	2.7	2.5	5.7	13.8	6.6	4.9	6.8	7.3	([1])	4.2
Unit nonlabor payments	3.0	0	.5	7.3	3.3	1.8	6.8	18.7	5.8	4.9	3.8	([1])	3.4
Implicit price deflator	3.3	4.1	4.6	4.2	2.8	4.4	11.5	10.5	5.2	6.1	6.1	([1])	3.9
Manufacturing:													
Output per hour of all persons	3.6	1.1	−.3	5.3	5.1	2.7	−5.2	4.9	4.4	3.1	[r].6	2.6	2.6
Compensation per hour	7.0	6.4	6.9	6.3	5.5	7.2	10.1	11.8	8.3	8.6	[r]8.3	5.4	6.3
Real compensation per hour	2.7	1.0	.9	[r]2.0	2.1	.9	−.8	2.4	2.4	2.0	[r].6	2.2	1.6
Unit labor cost	3.3	5.2	7.2	.9	.4	4.3	16.1	6.6	3.8	5.3	7.7	2.7	3.6
Unit nonlabor payments	3.9	−4.4	−3.2	9.2	2.3	−1.0	−.7	21.6	8.8	5.5	3.4	1.8	2.3
Implicit price deflator	3.5	2.3	4.2	3.1	1.0	2.6	11.5	10.2	5.1	5.4	6.5	2.5	3.3

[1] Not available.

33. Indexes of productivity, hourly compensation, unit costs, and prices, seasonally adjusted

[1967 = 100]

Item	Annual average		Quarterly indexes										
			1977				1978				1979		
	1977	1978	I	II	III	IV	I	II	III	IV	I	II	III
Private business sector:													
Output per hour of all persons	118.6	119.2	118.5	117.9	119.4	118.8	[r]118.4	119.0	119.7	119.8	118.9	118.2	[r]118.0
Compensation per hour	213.0	231.2	207.7	210.8	215.3	218.5	[r]224.2	228.5	233.6	238.4	244.8	250.3	[r]255.6
Real compensation per hour	117.3	118.3	117.2	116.7	117.6	117.9	[r]118.7	118.1	118.2	[r]118.0	118.0	116.9	[r]115.8
Unit labor cost	179.6	194.0	175.2	178.8	180.2	183.8	[r]189.4	192.1	195.2	199.0	205.9	211.7	[r]216.6
Unit nonlabor payments	165.6	174.3	161.4	164.7	167.9	168.6	[r]164.8	173.9	177.0	181.3	180.8	183.7	[r]185.5
Implicit price deflator	174.8	187.2	170.5	173.9	176.0	178.6	180.9	185.8	188.9	192.9	197.2	202.0	[r]205.9
Nonfarm business sector:													
Output per hour of all persons	116.2	116.8	116.4	115.8	116.7	116.3	116.0	116.5	117.3	117.6	116.6	115.4	[r]115.2
Compensation per hour	209.3	227.3	204.1	207.3	211.2	214.8	220.6	224.6	229.4	234.3	240.2	244.8	[r]249.8
Real compensation per hour	115.3	116.3	115.2	114.7	115.4	115.9	116.8	116.1	116.1	116.0	115.8	114.3	[r]113.2
Unit labor cost	180.1	194.5	175.4	179.0	180.9	184.7	190.2	192.7	195.6	199.3	206.0	212.1	[r]216.9
Unit nonlabor payments	163.9	169.9	159.1	163.2	167.1	166.0	161.1	169.2	173.0	176.1	174.3	177.6	[r]180.4
Implicit price deflator	174.5	186.1	169.8	173.6	176.2	178.3	180.2	184.7	187.8	191.4	195.1	200.3	[r]204.4
Nonfinancial corporations:													
Output per hour of all employees	116.8	117.9	116.8	116.5	117.4	116.7	116.7	117.8	118.4	118.8	118.1	117.3	117.5
Compensation per hour	207.6	224.8	202.5	205.7	209.5	212.8	218.5	222.3	226.9	231.3	237.4	242.1	247.1
Real compensation per hour	114.4	115.0	114.3	113.8	114.5	114.8	115.7	114.9	114.8	114.5	114.5	113.1	111.9
Total unit costs	181.8	193.3	177.7	180.5	182.4	186.3	190.8	191.6	194.0	196.8	202.3	208.0	212.6
Unit labor cost	177.7	190.6	173.4	176.6	178.4	182.3	187.3	188.7	191.5	194.8	201.0	206.4	210.3
Unit nonlabor costs	194.3	201.8	191.0	192.4	194.8	198.7	201.5	200.8	201.6	203.1	208.5	213.2	219.9
Unit profits	122.7	127.2	114.1	123.3	130.9	122.2	107.1	129.2	132.7	138.7	130.3	129.2	129.0
Implicit price deflator	173.0	183.5	168.3	172.0	174.7	176.8	178.3	182.3	184.9	188.2	191.6	196.3	200.2
Manufacturing:													
Output per hour for all persons	127.2	128.0	125.4	127.3	128.4	127.8	125.7	127.2	129.2	129.8	129.0	130.0	131.0
Compensation per hour	212.0	229.5	206.4	209.7	214.1	217.5	223.2	226.6	231.4	236.5	242.4	248.2	[r]253.1
Real compensation per hour	116.8	117.5	116.5	116.1	117.0	117.4	118.1	117.1	117.0	117.1	116.9	115.9	114.6
Unit labor cost	166.6	179.4	164.6	164.7	166.7	170.2	177.5	178.1	179.1	182.2	187.9	190.9	193.1

34. Percent change from preceding quarter and year in productivity, hourly compensation, unit costs, and prices, seasonally adjusted at annual rate

[1967 = 100]

Item	Quarterly percent change at annual rate						Percent change from same quarter a year ago					
	I 1978 to II 1978	II 1978 to III 1978	III 1978 to IV 1978	IV 1978 to I 1979	I 1979 to II 1979	II 1979 to III 1979	II 1977 to II 1978	III 1977 to III 1978	IV 1977 to IV 1978	I 1978 to I 1979	II 1978 to II 1979	III 1978 to III 1979
Private business sector:												
Output per hour of all persons	2.0	2.4	0.3	−3.0	−2.2	r −.7	0.9	0.2	0.8	0.4	−0.6	r −1.4
Compensation per hour	7.9	9.2	8.5	11.1	9.3	r 8.8	8.4	8.5	9.1	9.2	9.5	9.4
Real compensation per hour	−2.1	.3	−.7	.1	−3.8	r −3.6	1.2	0.4	.1	−.6	−1.0	r −2.0
Unit labor cost	5.8	6.6	8.1	14.6	11.8	r 9.6	7.4	8.3	8.3	8.7	10.2	r 11.0
Unit nonlabor payments	24.0	7.4	9.9	−1.0	6.5	r 4.0	5.6	5.4	7.5	9.7	5.6	4.8
Implicit price deflator	11.2	6.9	8.7	9.3	10.1	r 7.8	6.8	7.4	8.0	9.0	8.7	9.0
Nonfarm business sector:												
Output per hour of all persons	1.9	2.7	.8	−3.2	−4.1	r −.7	.6	5	1.1	r +.5	−1.0	r −1.8
Compensation per hour	7.5	8.8	8.8	10.4	7.9	r 8.5	8.4	8.7	9.1	8.9	9.0	r 8.9
Real compensation per hour	−2.5	.0	−.4	−.6	−5.0	r −3.9	1.2	.6	.1	−.8	−1.5	r −2.5
Unit labor cost	5.4	6.0	8.0	14.0	12.5	r 9.3	7.7	8.1	7.9	8.3	10.1	r 10.9
Unit nonlabor payments	21.5	9.4	7.3	−4.0	7.8	r 6.4	3.7	3.5	6.1	8.2	5.0	r 4.3
Implicit price deflator	10.2	7.0	7.8	8.1	11.0	r 8.4	6.4	6.6	7.3	8.3	8.5	r 8.8
Nonfinancial corporations:												
Output per hour of all employees	4.1	2.0	1.1	−2.1	−2.8	0.7	1.2	0.8	1.8	1.3	r −.5	−.8
Compensation per hour	7.2	8.4	8.1	11.0	8.0	8.5	8.1	8.3	8.7	8.7	8.9	8.9
Real compensation per hour	−2.7	−.4	−1.0	.0	−4.9	−3.9	0.9	.2	−.3	−1.0	−1.6	−2.5
Total unit costs	1.8	5.1	5.9	11.7	11.8	9.2	6.2	6.4	5.6	6.1	8.6	9.6
Unit labor costs	2.9	6.2	6.9	13.4	11.2	7.8	6.8	7.4	6.8	7.3	9.4	9.8
Unit nonlabor costs	−1.3	1.7	2.9	6.8	13.5	13.3	4.3	3.5	2.2	2.5	6.2	9.1
Unit profits	111.3	11.4	19.5	−22.1	−3.4	−0.7	4.7	1.4	13.6	21.7	0	−2.8
Implicit price deflator	9.3	5.7	7.3	7.6	10.2	8.2	6.0	5.8	6.4	7.5	7.7	8.3
Manufacturing:												
Output per hour of all persons	4.8	6.3	2.0	−2.4	2.9	r 3.3	−1	.6	1.6	2.6	2.2	1.4
Compensation per hour	6.3	8.7	9.3	10.3	9.8	r 8.1	6.0	8.1	8.7	8.6	9.5	9.4
Real compensation per hour	−3.5	−.1	0	−.6	−3.4	r −4.2	.9	0	−3	−1.1	r −1.0	−2.1
Unit labor cost	1.4	2.2	7.1	13.0	6.7	r 4.7	8.1	7.4	7.1	5.9	7.2	7.8

LABOR-MANAGEMENT DATA

MAJOR COLLECTIVE BARGAINING DATA are obtained from contracts on file at the Bureau of Labor Statistics, direct contact with the parties, and from secondary sources. Additional detail is published in *Current Wage Developments*, a monthly periodical of the Bureau. Data on work stoppages are based on confidential responses to questionnaires mailed by the Bureau of Labor Statistics to parties involved in work stoppages. Stoppages initially come to the attention of the Bureau from reports of Federal and State mediation agencies, newspapers, and union and industry publications.

Definitions

Data on wage changes apply to private nonfarm industry agreements covering 1,000 workers or more. Data on wage and benefit changes *combined* apply only to those agreements covering 5,000 workers or more. **First-year wage settlements** refer to pay changes going into effect within the first 12 months after the effective date of the agreement. **Changes over the life of the agreement** refer to total agreed upon settlements (exclusive of potential cost-of-living escalator adjustments) expressed at an average annual rate. **Wage-rate changes** are expressed as a percent of straight-time hourly earnings, while **wage and benefit changes** are expressed as a percent of total compensation.

Effective wage-rate adjustments going into effect in major bargaining units measure changes actually placed into effect during the reference period, whether the result of a newly negotiated increase, a deferred increase negotiated in an earlier year, or as a result of a cost-of-living escalator adjustment. Average adjustments are affected by workers receiving no adjustment, as well as by those receiving increases or decreases.

Work stoppages include all known strikes or lockouts involving six workers or more and lasting a full shift or longer. Data cover all workers idle one shift or more in establishments directly involved in a stoppage. They do not measure the indirect or secondary effect on other establishments whose employees are idle owing to material or service shortages.

35. Wage and benefit settlements in major collective bargaining units, 1973 to date
[In percent]

Sector and measure	Annual average						Quarterly average					
	1973	1974	1975	1976	1977	1978	1978			1979		
							II	III	IV	I	II	III
Wage and benefit settlements, all industries:												
First-year settlements	7.1	10.7	11.4	8.5	9.6	8.3	6.8	7.2	6.1	2.5	10.6	9.0
Annual rate over life of contract	6.1	7.8	8.1	6.6	6.2	6.3	6.0	5.9	5.2	5.2	7.7	6.0
Wage rate settlements, all industries:												
First-year settlements	5.8	9.8	10.2	8.4	7.8	7.6	6.9	7.5	7.4	4.8	9.0	6.6
Annual rate over life of contract	5.1	7.3	7.8	6.4	5.8	6.4	6.2	6.4	5.9	6.6	7.0	4.8
Manufacturing:												
First-year settlements	5.9	8.7	9.8	8.9	8.4	8.3	7.1	8.4	9.5	8.7	9.9	6.2
Annual rate over life of contract	4.9	6.1	8.0	6.0	5.5	6.6	5.8	7.2	7.4	8.6	8.1	4.6
Nonmanufacturing (excluding construction):												
First-year settlements	6.0	10.2	11.9	8.6	8.0	8.0	7.7	7.4	6.4	2.3	8.5	9.1
Annual rate over life of contract	5.4	7.2	8.0	7.2	5.9	6.5	6.9	5.8	5.1	5.6	5.7	5.8
Construction:												
First-year settlements	5.0	11.0	8.0	6.1	6.3	6.5	6.4	7.0	8.4	11.0	9.1	10.4
Annual rate over life of contract	5.1	9.6	7.5	6.2	6.3	6.2	6.0	7.2	7.1	7.7	8.2	9.1

36. Effective wage adjustments going into effect in major collective bargaining units, 1973 to date

[In percent]

Sector and measure	Average annual changes						Average quarterly changes							
	1973	1974	1975	1976	1977	1978	1977	1978				1979		
							IV	I	II	III	IV	I	II	III
Total effective wage rate adjustment, all industries	7.0	9.4	8.7	8.1	8.0	8.2	1.1	1.3	2.6	2.7	1.4	[1]1.4	[1]2.4	2.9
Change resulting from —														
Current settlement	3.0	4.8	2.8	3.2	3.0	2.0	.5	.5	.6	.5	.4	.2	[1]1.0	.9
Prior settlement	2.7	2.6	3.7	3.2	3.2	3.7	.3	.6	1.4	1.2	.5	.6	[1].9	1.0
Escalator provision	1.3	1.9	2.2	1.6	1.7	2.4	.3	.3	.6	1.0	.5	[1].6	.5	1.0
Manufacturing	7.3	10.3	8.5	8.5	8.4	8.6	1.4	1.4	2.2	2.9	1.9	1.4	[1]2.2	2.6
Nonmanufacturing	6.7	8.6	8.9	7.7	7.6	7.9	.8	1.3	2.9	2.5	1.1	[1]1.4	2.6	3.2

NOTE: Because of rounding and compounding, the sums of individual items may not equal totals.

37. Work stoppages, 1947 to date

Month and year	Number of stoppages		Workers involved		Days idle	
	Beginning in month or year	In effect during month	Beginning in month or year (thousands)	In effect during month (thousands)	Number (thousands)	Percent of estimated working time
1947	3,693	....	2,170	....	34,600	.30
1948	3,419	....	1,960	....	34,100	.28
1949	3,606	....	3,030	....	50,500	.44
1950	4,843	....	2,410	....	38,800	.33
1951	4,737	....	2,220	....	22,900	.18
1952	5,117	....	3,540	....	59,100	.48
1953	5,091	....	2,400	....	28,300	.22
1954	3,468	....	1,530	....	22,600	.18
1955	4,320	....	2,650	....	28,200	.22
1956	3,825	....	1,900	....	33,100	.24
1957	3,673	....	1,390	....	16,500	.12
1958	3,694	....	2,060	....	23,900	.18
1959	3,708	....	1,880	....	69,000	.50
1960	3,333	....	1,320	....	19,100	.14
1961	3,367	....	1,450	....	16,300	.11
1962	3,614	....	1,230	....	18,600	.13
1963	3,362	....	941	....	16,100	.11
1964	3,655	....	1,640	....	22,900	.15
1965	3,963	....	1,550	....	23,300	.15
1966	4,405	....	1,960	....	25,400	.15
1967	4,595	....	2,870	....	42,100	.25
1968	5,045	....	2,649	....	49,018	.28
1969	5,700	....	2,481	....	42,869	.24
1970	5,716	....	3,305	....	66,414	.37
1971	5,138	....	3,280	....	47,589	.26
1972	5,010	....	1,714	....	27,066	.15
1973	5,353	....	2,251	....	27,948	.14
1974	6,074	....	2,778	....	47,991	.24
1975	5,031	....	1,746	....	31,237	.16
1976	5,648	....	2,420	....	37,859	.19
1977	5,506	....	2,040	....	35,822	.17
1978: September	453	854	448	551	4,446	.25
October	389	740	106	205	2,277	.12
November	290	591	63	135	1,776	.10
December	157	408	49	139	1,440	.08
1979: January	301	405	101	177	1,810	.09
February	326	528	105	251	1,665	.09
March	447	664	169	260	1,501	.06
April	553	822	411	520	5,153	.28
May	596	919	157	370	3,766	.18
June	543	873	162	277	3,335	.17
July	554	900	202	324	3,138	.16
August	493	899	135	286	3,423	.16
September	513	842	174	282	2,683	.15
October	436	776	225	329	3,429	.17
November	333	622	104	266	3,395	.18

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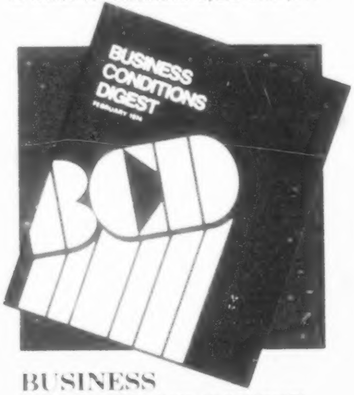

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U.S. Department of Labor
Bureau of Labor Statistics
February 1980

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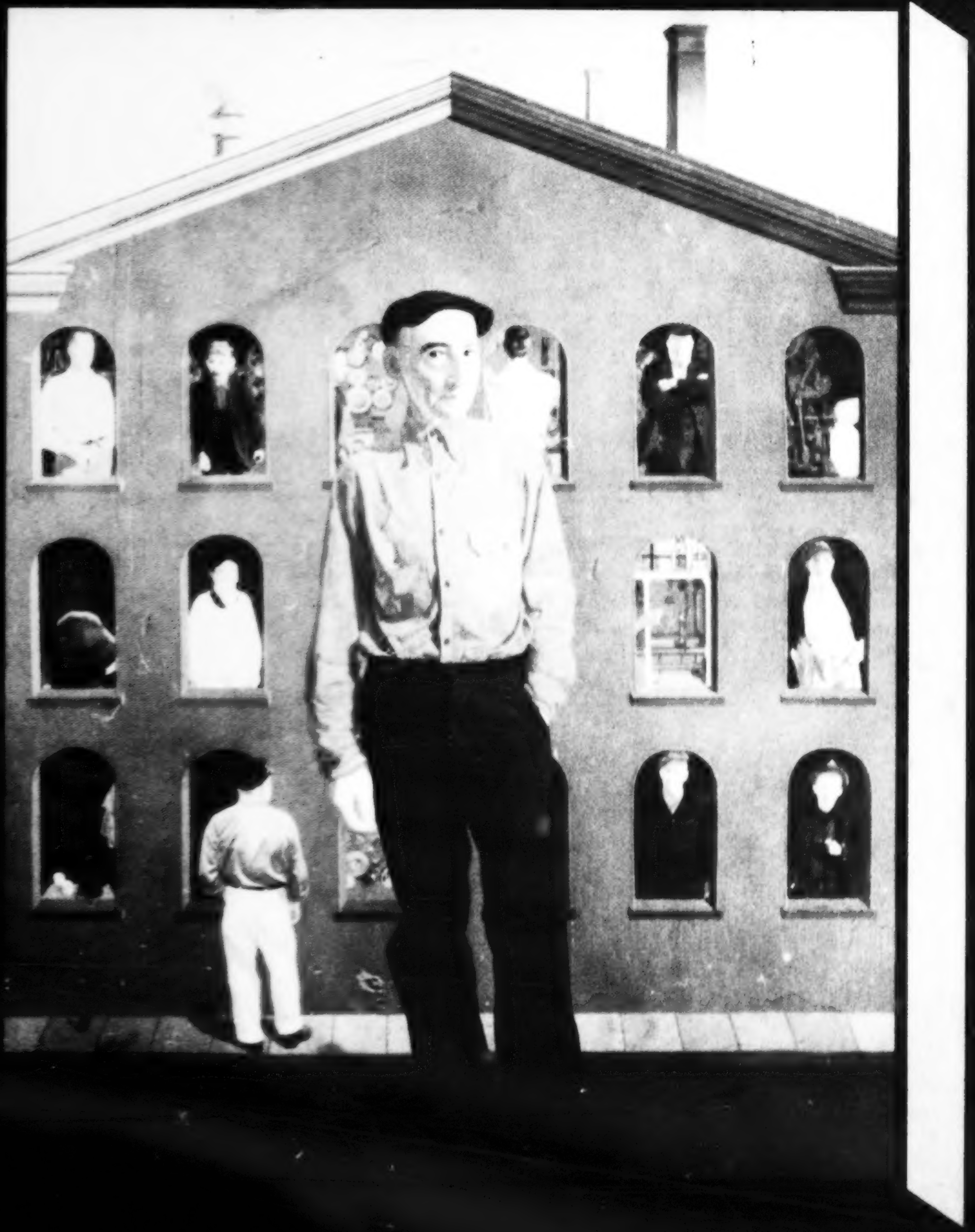

U.S. DEPARTMENT OF LABOR
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Labor Month In Review

CPI CONTROVERSY. A frequent criticism of the Consumer Price Index is that the CPI overstates the cost of living because the index is based on a fixed market basket and therefore does not reflect continuing changes consumers make in their buying habits. Commissioner of Labor Statistics Janet L. Norwood addressed that and other issues at a Jan. 21 meeting of the National Association of Government Labor Officials, in Washington, D.C. Excerpts:

The market basket. The CPI is based on a fixed market basket. That is, the weights for the mix of goods and services purchased during the base period are held constant from year to year until a major revision occurs. We keep the market basket constant deliberately because we want to keep fixed the living standard represented by that market basket. Our purpose, to the extent possible, is to isolate price changes from other changes which may occur in living standards.

BLS economists, of course, know that consumers shift their purchases in response to changes in relative prices. What we do not know, however, is whether such changes in consumption patterns result in a living standard that is higher or lower than that in the base period. If the market basket were changed whenever prices change—without knowing whether the consumer is equally satisfied with the shift—we would not know whether a change in the index was caused by a change in prices or by a change in the market basket. Because a market basket change could amount to a change in living standards, those whose income payments are adjusted by the CPI would not be assured that their living standards would remain at the same level. The purpose of such CPI cost-of-living adjustment (indexation) has traditionally been to permit people to purchase in today's prices the bundle of goods and services they purchased in the base period, thereby leaving them at least as well off as they were then.

The following example will illustrate my point. If, in adjusting to higher prices, a family decides to forgo its weekly restaurant dinner, the family is both changing its market basket and lowering its satisfaction or standard of living. If the objective of indexation is to ensure purchasing power necessary to preserve living standards, a measure used to index income should not reflect this kind of a market basket change.

Special purpose indexes. Users of the CPI should be aware of the many subindexes which are produced as a part of the CPI system. These are published prominently in the monthly CPI news release, are used for analytical and other purposes, and, in some cases, are used for indexation. Among these subindexes, for example, is an index for "All Items minus mortgage interest costs" and another for "All Items less energy."

BLS also can produce other indexes if they are required. Special indexes may be needed when government pursues social goals which—at least in the short run—may raise prices. Should it be considered socially desirable to reduce energy consumption by raising gasoline prices, consumers would pay more for gasoline and the index measuring the rate of inflation would and should go up. It might be useful to policymakers, in such a case, to create a special index which could exclude such increases or which could treat other policy-directed price changes, such as changes in interest rates, in a special way. Some also have suggested the desirability of a special index—for use in pension escalation—that would represent the expenditure experience of persons receiving retirement benefits.

The BLS is a service agency. Given the resources and time necessary, the Bureau can produce special consumer price indexes for particular needs. We should not, however, permit these other needs to weaken the ability of the present CPI to fulfill the objective for which it was intended.

Homeownership. Commissioner Norwood also introduced five alternative—and experimental—ways of measuring the CPI's most controversial component, the cost of homeownership. She announced that BLS will publish these measures monthly, but will make no change in the official index at this time. (An article about measuring costs of owner-occupied housing appears on pages 31-35 of this issue.) The full text of Commissioner Norwood's discussion of the CPI is available from the Bureau of Labor Statistics, Washington, D.C. 20212. □

Employment and unemployment during 1979: an analysis

Labor force and employment growth slowed from the rapid pace of the previous 3 years; the unemployment rate showed virtually no movement

CAROL BOYD LEON AND PHILIP L. RONES

The Nation's employment situation in 1979 was highlighted by a slowdown in the rate of job growth. Employment and labor force growth, while still fairly strong at about 2 million each, was considerably slower than during the previous 3 years. The unemployment rate, which ended the year at 5.9 percent, remained in the range of 5.8–5.9 percent for 5 consecutive quarters.[1]

Adult women,[2] who had made up about half of the total employment increase between 1976 and 1978, accounted for about two-thirds of the gain in 1979. Adult men made up the remainder of the over-the-year job growth, as teenagers experienced a slight decline.

Most of the major population groups experienced little change in their rate of joblessness. Adult men posted a 0.2-percentage point rise in their unemployment rate, while the rates for adult women and teenagers showed little change. Movements in several series which are influenced by the business cycle suggested a weakening in some sectors of the job market. For instance, the unemployment rate advanced about a point in the manufacturing industries, and employment in this sector was only slightly above its year-earlier level. In addition, the number of unemployed persons on layoff and the number of persons working part time for economic reasons each increased by about a quarter of a million.

Nonfarm payroll employment—as measured by the survey of business establishments—increased by 2.4 million in 1979.[3] While manufacturing employment showed virtually no over-the-year increase, employment growth was strong in construction and mining as well as in several of the service-producing divisions. The service-producing sector accounted for three-quarters of the overall employment gains.

Slower employment growth

Employment growth slowed considerably in 1979, after 3 consecutive years of rapid advances. Civilian employment in late 1979 totaled 97.7 million, 2.0 million higher than a year earlier. (See table 1.) In contrast, employment had grown by 3.3 million in 1978. The employment level in 1979 exhibited disparate movements throughout the year: relatively strong advances were registered in both the first and third quarters, but growth was slower in the fourth quarter and the number of jobholders held about steady in the second quarter.

Although employment growth among adult women was 75 percent of the previous year's increase, the proportion of the total employment gain attributable to women was even higher than it had been during the previous year. The increase in jobholding among women—1.4 million in 1979—accounted for most of the over-the-year growth in employment. This growth occurred without any lessening of unemployment because

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Table 1. Employment and unemployment highlights, fourth quarter 1977 through fourth quarter 1979, seasonally adjusted

Selected categories	1977	1978				1979			
	IV	I	II	III	IV	I	II	III	IV
Total employment (in millions)	92.1	93.0	94.1	94.7	95.7	96.4	96.5	97.2	97.7
Adult men	50.4	50.7	51.1	51.3	51.7	52.1	52.1	52.4	52.4
Adult women	33.8	34.5	35.0	35.4	35.9	36.2	36.4	37.0	37.3
Teenagers	7.8	7.8	8.0	8.1	8.1	8.1	8.0	7.9	8.0
Total unemployment (in millions)	6.5	6.2	6.0	6.0	5.9	5.9	5.9	6.0	6.1
Adult men	2.5	2.4	2.2	2.2	2.1	2.2	2.2	2.3	2.3
Adult women	2.4	2.2	2.3	2.3	2.2	2.2	2.2	2.2	2.2
Teenagers	1.5	1.6	1.5	1.6	1.6	1.5	1.5	1.5	1.5
Unemployment rates:									
All workers	6.6	6.2	6.0	6.0	5.8	5.8	5.8	5.8	5.9
Adult men	4.7	4.5	4.2	4.1	4.0	4.0	4.0	4.2	4.2
Adult women	6.7	6.0	6.1	6.1	5.7	5.7	5.7	5.6	5.7
Teenagers	16.5	16.9	16.0	16.2	16.2	15.9	16.1	16.2	16.1
White	5.7	5.4	5.2	5.2	5.0	5.0	5.0	5.1	5.1
Black and other	13.2	12.4	12.0	11.8	11.5	11.4	11.5	10.9	11.2
Black only	14.1	13.1	12.8	12.4	12.2	12.3	12.4	12.0	12.0
Married men, spouse present	3.3	3.0	2.8	2.7	2.5	2.6	2.8	2.9	2.9
Married women, spouse present	6.2	5.5	5.5	5.6	5.4	5.3	5.2	5.0	5.0
Women who head families	8.9	8.2	9.3	8.6	7.7	8.2	8.6	7.9	8.4
Full-time workers	6.1	5.8	5.5	5.5	5.2	5.2	5.2	5.3	5.4
Part-time workers	9.2	9.0	9.1	8.9	9.0	9.0	8.9	8.5	8.5
Median duration of unemployment (weeks)	6.9	6.4	5.9	5.9	5.6	5.8	5.5	5.6	5.4
Nonfarm payroll employment (in millions)[1]	83.9	84.8	86.3	86.9	87.8	88.7	89.4	89.8	90.2
Goods-producing industries	24.7	24.9	25.6	25.7	26.1	26.5	26.6	26.6	26.6
Service-producing industries	59.2	59.9	60.7	61.1	61.7	62.2	62.7	63.1	63.6
Average workweek[1] (in hours):									
Total private nonfarm	36.0	35.7	35.9	35.8	35.8	35.8	35.5	35.6	35.7
Manufacturing	40.5	40.0	40.5	40.5	40.6	40.6	39.8	40.2	40.2
Manufacturing overtime	3.5	3.6	3.6	3.5	3.7	3.7	3.2	3.2	3.2

[1] Data for the fourth quarter are preliminary.

NOTE: Comparisons of 1978 household survey data with earlier data are affected by the introduction of an expansion in the sample and revisions in the estimation procedure which raised total employment by roughly a quarter of a million. Unemployment was essentially unchanged.

the female labor force expanded considerably. The number of employed adult men rose by about 700,000, about half the group's increase in the prior year.

In contrast to the preceding year, teenagers did not share in the 1979 employment growth. After an advance of 200,000 in 1978, teenage jobholding was about unchanged in 1979, in part, because the teenage population started to drop off as the "baby boom" generation was moving out of the teen years. Also, there was a slight drop in the labor force participation rate of teenagers which may have contributed to their lack of employment growth.

Employment-population ratios, which measure the proportion of a population group that is employed, help to delineate trends among various demographic categories. While the employment-population ratio increased slightly for all workers during 1979, the ratio for women rose while that for men declined. (See table 2.) Modest declines occurred among all major age categories of men, except those 25 to 34 years, whose ratio was unchanged. Generally, the employment increases among men were too small to keep pace with population growth. The largest decline took place among men 55 and over. While most age groups of women posted increases in employment-population ratios, women age 20 to 24 years experienced a decline. (The ratio for these women advanced substantially in 1978 and earlier years.) But the growth among women age 25 and over continued to be rather strong, especially among those age 35 to 44, whose ratio advanced by nearly 3 points to about 63 percent. These women have the highest female employment-population ratio.

Industry developments. Nonfarm payroll employment rose by 2.4 million over the year to 90.2 million. The payroll employment level increased in each quarter, but the increases in the early quarters were larger than those later in the year.

Over the year, each nonfarm industry division showed some job growth. More than three-fourths of the growth took place in the service-producing sector. About half of that increase was in the services division, which absorbed 1 of 3 additional jobs, followed by the wholesale and retail trade divisions, with 1 of 5. In terms of relative growth, services again was on top, followed by finance, insurance, and real estate; transportation and public utilities; and wholesale trade. The other service-producing divisions—retail trade and government—grew at a slower pace than the overall economy.

Within the goods-producing sector, the number of payroll jobs in manufacturing changed little. It should be noted that manufacturing was the first industry division to experience employment losses during the 1974–75 recession, followed by construction. However, in 1979, construction and mining showed the greatest relative growth of all nonfarm divisions.

Within manufacturing, the durable goods industries—which had posted strong job growth in the prior

Table 2. Employment-population ratios for selected age groups, by sex, 1975–79

Categories	Annual averages					Seasonally adjusted quarterly averages				
						1978	1979			
	1975	1976	1977	1978	1979	IV	I	II	III	IV
Total, 16 years and over	55.3	56.1	57.1	58.6	59.3	59.0	59.3	59.1	59.3	59.3
Men, 16 years and over	69.7	70.1	70.9	71.9	72.1	72.1	72.4	72.1	72.0	71.8
16 to 19 years	45.2	46.0	48.5	50.5	50.2	50.5	50.7	50.3	49.9	50.1
20 to 24 years	66.5	69.1	70.7	72.4	73.4	73.2	73.8	73.7	73.3	73.0
25 to 54 years	86.8	87.4	88.0	88.9	89.1	89.0	89.3	89.1	89.2	88.9
55 years and over	47.2	46.8	45.6	46.3	45.4	45.9	46.0	45.3	45.4	44.9
Women, 16 years and over	42.0	43.2	44.4	46.3	47.5	47.0	47.2	47.1	47.6	47.8
16 to 19 years	38.4	40.5	41.9	44.6	45.4	45.6	46.2	45.1	44.7	45.7
20 to 24 years	55.7	58.9	58.7	61.0	62.1	62.0	62.4	62.0	62.1	61.8
25 to 54 years	50.8	52.8	54.6	57.2	58.9	58.1	58.2	58.4	58.5	58.7
55 years and over	21.9	21.9	21.9	22.3	22.5	22.3	22.5	22.4	22.4	22.5

3 years—showed only small advances, as the employment level grew rapidly in the first quarter, held steady during the middle quarters, and ended the year under moderate contraction. Substantial over-the-year gains did take place in a few of the durables industries, but an overall weakness was evidenced by the lack of growth in consumption levels for durables and an actual drop in constant dollars.[4] A noteworthy development during 1979 occurred in the transportation equipment industry: despite the loss of more than 100,000 jobs in the motor vehicles and equipment and travel trailers and campers industries, there was a smaller overall employment drop as that decline was partially offset by significant gains in other transportation equipment industries—especially aircraft and parts.

Also within the manufacturing division, nondurables experienced a year of no job growth. Despite an extremely large increase in consumer outlays on gasoline and oil (in current dollars), there was little reflection of this in refining and processing employment. Only printing and publishing exhibited fairly strong growth, continuing its postrecession upward trend.

Occupational changes. Employment increased in all major white-collar occupations during 1979, but declined in most other occupations. (See table 3.) The fastest-growing occupations were salesworkers, managers and administrators and professionals. The rate of growth among clerical workers was somewhat slower, but because of their numbers, that group accounted for one-fourth of the overall employment increase; managerial and professional workers together contributed one-half of the total advance. The remaining 25 percent of total employment growth was accounted for by craft workers and salesworkers. Employment was unchanged for operatives and service workers, dropped modestly for farm workers, and dropped substantially for nonfarm laborers.

The occupational employment changes in 1979 contrasted markedly with those of the previous several years, when blue-collar jobs generally grew faster than white-collar positions. Managerial jobs had grown less than any occupation, except farmworkers. Blue-collar employment generally is more sensitive to economic cycles; it declined substantially during the 1975 recession and posted strong increases during the recovery years of 1976–78. The lessening of economic growth in 1979 resulted in the smaller total employment increase being concentrated among white-collar occupations, which had remained fairly stable during the recession and had grown steadily, but less spectacularly than blue-collar jobs, during the recovery years.

Full- and part-time workers. As occurred in 1978, virtually all of the increase in employment in 1979 took place among full-time workers.[5] Persons employed full time posted a gain of 1.5 million, of which 1.1 million were adult women; the remainder were adult men, as teenagers registered almost no change in full-time employment. The demographic pattern was similar among voluntary part-time workers, except that teenage employment dropped substantially.[6]

Although most women work full time, more than half of all persons working part time by choice were women. There also were substantial proportions of men and teenagers among the part-timers, as shown in the following percentage distribution of 1979 annual employment averages:

	Full time	*Voluntary part time*	*Part time for economic reasons*
Total employed (percent)	100	100	100
Adult men	60	18	36
Adult women	35	55	45
Teenagers	5	27	19

As the tabulation shows, there is a third group of workers—persons employed part time for economic reasons. These are persons who want full-time jobs but are working part time because of slack work, inability to find full-time work or other economic reasons. In late 1979, there were 3.4 million such persons in nonfarm industries. In other words, about 1 of 5 persons working part time was doing so for economic reasons. After declining by 100,000 in 1978, the number of persons at work part time for economic reasons increased by more than 200,000 in 1979, and much of the advance occurred in the fourth quarter.[7] Generally, persons working part time for economic reasons do so because they are unable to find a full-time job, but in 1979, most of the increase was among persons who usually work full time, but whose hours had been curtailed. This was the first time since the 1974–75 recession that the number of persons employed part time for economic reasons failed to decline. While the number of persons on full-time schedules or voluntarily employed part time each increased by about 2 percent, the level of total part-time employment for economic reasons advanced by 8 percent. Growth in voluntary part-time employment generally is interpreted as a favorable development, but this is not true of those employed part time for economic reasons.

Hours and earnings

Average weekly hours of production or nonsupervisory workers on private nonfarm payrolls were 35.7 in late 1979, down from 35.8 a year earlier. (See table 1.) The manufacturing workweek was shortened by about one-half hour during 1979, with an even larger reduction occurring in the second quarter and only partial recov-

Table 3. Employment in major occupations and industries, fourth quarter 1979, seasonally adjusted, and over-the-year employment changes, 1977–79

[Numbers in thousands]

Occupation or industry	Employment IV 1979	Over-the-year employment change[1]					
		1977		1978		1979	
		Number	Percent	Number	Percent	Number	Percent
Occupation[2]							
Total, all occupations	97,865	3,884	4.4	3,320	3.6	2,039	2.1
White-collar workers	49,854	1,888	4.2	1,704	3.6	1,927	4.0
Professional and technical	15,153	479	3.5	457	3.2	643	4.4
Managers and administrators, except farm	10,597	449	4.7	112	1.1	477	4.7
Sales workers	6,323	135	2.4	366	6.3	277	4.5
Clerical workers	17,780	825	5.2	767	4.6	530	3.0
Blue-collar workers	32,206	1,408	4.8	1,420	4.6	182	.6
Craft and kindred workers	12,989	696	6.1	527	4.4	353	2.8
Operatives, except transport	10,891	302	3.0	639	6.1	−47	−.4
Transport equipment operatives	3,619	202	6.1	140	4.0	6	.2
Nonfarm laborers	4,607	208	4.9	115	2.6	−131	−2.8
Service workers	12,935	564	4.7	318	2.5	−5	([3])
Farmworkers	2,702	3	.1	−121	−4.6	−64	−2.4
Industry[4]							
Total nonagricultural wage and salary	90,172	3,797	4.7	3,963	4.7	2,384	2.7
Goods-producing	26,609	1,209	5.1	1,413	5.7	504	1.9
Mining[5]	987	1	.1	122	15.4	70	7.6
Construction	4,722	388	10.5	478	11.7	298	6.6
Manufacturing	20,900	820	4.3	813	4.1	135	.6
Durable goods	12,636	622	5.5	690	5.8	131	1.0
Nondurable goods	8,264	198	2.5	123	1.5	4	([3])
Service-producing	63,564	2,588	4.5	2,550	4.3	1,880	3.0
Transportation and public utilities	5,223	157	3.4	267	5.6	189	3.7
Wholesale and retail trade	20,282	959	5.3	934	4.9	478	2.4
Wholesale trade	5,229	208	4.5	261	5.4	179	3.5
Retail trade	15,053	751	5.5	672	4.7	301	2.0
Finance, insurance, and real estate	5,043	229	5.3	262	5.8	221	4.6
Services	17,319	908	6.2	872	5.6	769	4.7
Government	15,697	335	2.2	215	1.4	223	1.4
Federal	2,776	−1	([3])	24	.9	20	.7
State and local	12,921	336	2.7	191	1.5	203	1.6

[1] Over-the-year employment changes represent a comparison between the fourth quarter of the previous year and the fourth quarter of the year shown, using not seasonally adjusted data. The 1978 change allows for the changes in the CPS introduced in January 1978.

[2] Occupational employment estimates are derived from the CPS.

[3] Less than 0.05 percent.

[4] Industry estimates are from the BLS survey of establishments. Data for 1979 are preliminary.

[5] The uneven growth pattern in mining primarily results from a major strike affecting the employment level in the fourth quarter of 1977.

ery in the following quarter. Most of the decline was in the more cyclically-sensitive durable goods manufacturing. Other industry divisions also recorded over-the-year declines, and only mining showed a modest advance.

The aggregate hours index—a comprehensive measure which takes into account both the number of production or nonsupervisory employees on nonfarm payrolls and their weekly hours—rose 2.2 percentage points to 126.3 (1967=100). This gain was entirely due to the over-the-year rise in employment. Manufacturing was the only industry division to experience a drop in aggregate hours index in 1979.

Average hourly earnings of production or nonsupervisory workers on private nonfarm payrolls were $6.33 in the last quarter of 1979, compared with $5.88 a year earlier—a rise of about 8 percent. Gross average weekly earnings posted a similar percentage increase, advancing by $16 over the year to $226. In constant dollars (1967=100), weekly earnings decreased by about 5 percent in 1979.

Unemployment stable

The Nation's unemployment rate remained at about the late-1978 level throughout 1979, as quarterly rates were 5.8 percent, except for the fourth quarter, which was 5.9 percent. The rates for adult women (5.7 percent in the fourth quarter of 1979), and teenagers (16.1 percent) each were about unchanged between late 1978 and 1979, while the rate for adult men (4.2 percent) rose several tenths of a point. The number of unemployed persons, 6.1 million, was up by about 200,000, with adult men and women each representing about 2.3 and 2.2 million of the unemployed. Table 1 shows recent trends in unemployment for major labor force groups.

The slight increase in joblessness over the year appeared to be affecting many families which were already experiencing some unemployment. The number of families with both spouses unemployed was relatively small—about 100,000 in the fourth quarter of 1979—but was about 25 percent above its year-earlier figure. An indication that unemployment often runs in families was that about 1 of 10 jobless husbands had a wife who also was unemployed, while only about 1 of 40 wives in the population was unemployed.

Reasons for unemployment. The reasons cited by unemployed persons for their joblessness often serve as an indicator of cyclical activity. An increase in unemployment caused by unusually rapid labor force growth, for instance, would be less a sign of economic weakness than an increase of the same magnitude resulting from employee layoffs. The proportion of persons who cited a job loss as their reason for unemployment increased over the year, from 41 to 45 percent; during the 1974–75 recession, that proportion rose to as high as 57 percent. (See table 4.)

The rate of unemployment due to job loss is about the same for men and women. However, proportionally fewer unemployed women than men give this as their reason for unemployment. The difference is a result of the overall higher unemployment rate of women, which reflects their greater likelihood of experiencing unemployment due to labor force reentry. Most of the recent expansion in the number and proportion of unemployed who had lost their last job could be attributed to persons who had been laid off, even though that group makes up only about a third of all job losers. (Most job losers are those whose jobs have been terminated and who do not expect to be recalled.)

Table 4. Unemployment by reasons and duration, selected quarters, seasonally adjusted

[Percent distribution]

Reasons and duration	1973	1975	1978	1979			
	I	II	IV	I	II	III	IV
Total unemployed (in thousands)	4,335	8,214	5,885	5,890	5,890	6,008	6,084
Reasons							
Percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Job losers	39.2	57.3	40.9	41.6	41.4	43.6	44.8
On layoff	11.0	24.0	12.0	13.1	13.5	14.3	15.6
Other job losers	28.2	33.3	28.9	28.5	28.0	29.3	29.1
Job leavers	14.7	10.0	14.4	14.6	15.0	14.2	13.6
Reentrants	31.2	23.4	30.4	29.7	30.0	29.6	28.6
New entrants	15.0	9.4	14.3	14.1	13.6	12.6	13.1
Duration							
Percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Less than 5 weeks	49.0	35.7	47.4	47.0	48.3	49.0	48.3
5 to 14 weeks	30.1	32.1	31.5	31.8	31.6	31.9	31.9
15 weeks and over	20.9	32.2	21.1	21.3	20.2	19.0	19.9
15 to 26 weeks	12.0	18.6	12.1	12.1	11.5	10.7	11.3
27 weeks and over	8.9	13.6	9.0	9.2	8.7	8.3	8.6
Median duration, in weeks	5.5	8.9	5.6	5.8	5.5	5.6	5.4

There was also a slight decline (both absolute and relative) among unemployed persons who left their last job and those who reentered the labor force and an even larger drop among the unemployed who were looking for their first job. The latter two categories reflect both the smaller population of teenagers (who make up most of the new entrant group) and their labor force declines, as well as the overall slowing of labor force growth during 1979.

Data on labor turnover rates in manufacturing generally support the trends cited above. Layoffs, for instance, occurred at a rate about 50 percent higher during the second half of 1979 than a year earlier. Concurrently, the rate of new hires declined slightly.

Duration. The duration of unemployment also can be a cyclical indicator; historically, movements in the median duration of unemployment have closely paralleled the overall unemployment rate. However, changes in the components of duration—that is, in the levels of short- and long-term unemployment—may be subject to different interpretations, depending on movements of other job market indicators.

The median duration of unemployment was 5.4 weeks in the fourth quarter of 1979, a small drop from 1978. A slightly larger proportion of the total unemployed were short-term unemployed (less than 15 weeks) than a year earlier. Often, this trend reflects improvements in the job market; however, early in an economic downturn, it may reflect an increase in recent layoffs and, thus, might precede a period of increasing duration. As noted earlier, data on reasons for unemployment lend support to this interpretation.

Men tend to experience a longer period of job search than do either women or teenagers. In the fourth quarter, the median duration for these three groups was 6.5, 5.5, and 4.4 weeks. One explanation for the relatively short spells of unemployment for women and teenagers is that these groups are more likely to terminate a period of joblessness by withdrawing from the labor force, at least temporarily, to devote more time to school or family responsibilities.

Jobseekers. About 8 of 10 unemployed persons were looking for full-time work in late 1979, an increase of several percentage points from a year earlier. About 9 of 10 jobless men, 8 of 10 jobless women, and 6 of 10 teenagers cited a preference for full-time work. Unemployment rates have always been lower among those seeking full-time work than among those seeking part-time jobs. In late 1979, the rates were 5.4 and 8.5 percent. Those looking for part-time work tend to be disproportionately young people and women; with greater propensity for frequent movements into and out of the labor force, these groups tend to have higher rates of unemployment than do adult men. Interestingly, the unemployment rate for adult men looking for part-time work is slightly higher than that for women. This can be explained by the predominance of younger persons among male part-time jobseekers, as the vast majority of prime working-age unemployed men seek full-time jobs. Unemployment rates for full-time workers tend to rise faster during a downturn than do those for part-time workers, since the most cyclically sensitive industries, such as manufacturing and construction, provide primarily full-time jobs.

Insured unemployed. Initial unemployment compensation claims during the last quarter of 1979 were about 400,000 per week (seasonally adjusted), 60,000 higher than during the same period of 1978. About 2.6 million persons claimed benefits, 300,000 more than in 1978. The number of unemployment compensation recipients as a percent of covered employment stayed at about 3 percent throughout 1979. During the 1974–75 recession, weekly initial claims rose as high as 570,000 a week, and claimants reached a peak of 4.7 million persons.

Status of blacks and Hispanics

Black employment growth slows. Employment among blacks[8] grew more slowly in 1979 than during each of the previous 2 years. Their over-the-year increase in employment was about 200,000, or 2.2 percent, compared with approximately 4.5 and 6.0 percent in 1977 and 1978. Employment among whites had been growing less rapidly than employment among blacks since the 1974–75 recession and continued this pattern in 1979, increas-

Table 5. Employment levels and unemployment rates by race, sex, and age, fourth quarter, 1978 and 1979, seasonally adjusted

[Numbers in thousands]

Selected groups	Employed		Unemployment rate	
	1978	1979	1978	1979
	IV	IV	IV	IV
White, total	84,930	86,640	5.0	5.1
Men, 20 years and over	46,383	46,971	3.5	3.7
Women, 20 years and over	31,179	32,350	5.0	5.0
Men, 16 to 19 years	3,918	3,879	14.0	13.9
Women, 16 to 19 years	3,451	3,439	13.8	14.1
Black,[1] total	9,074	9,266	12.2	12.0
Men, 20 years and over	4,477	4,563	8.8	9.0
Women, 20 years and over	4,017	4,158	10.8	10.4
Men, 16 to 19 years	309	281	35.0	35.5
Women, 16 to 19 years	270	263	38.6	39.1

[1] These data refer only to blacks. According to the 1970 Decennial Census, they account for about 89 percent of the "black and other" population group.

ing by only 2.0 percent. The ratio of employment to population edged up slightly only for whites. As shown in the following tabulation, the ratio for blacks had not regained its prerecession level by the end of 1979 (seasonally adjusted data for fourth quarter):

	White	*Black*
1973	58.6	55.0
1974	57.9	52.2
1975	56.7	49.9
1976	57.7	50.8
1977	59.3	51.9
1978	60.5	54.0
1979	60.8	53.9

Black adults experienced modest employment advances over the year, while the employment of black teenagers edged down. (See table 5.) Part of the teenage reduction can be traced to a slight decline in population, but a more important factor was a drop in their labor force participation. The number of unemployed black teens was about unchanged in 1979, so that similar reductions occurred in their labor force and employment level.

Overall, the level of unemployment among blacks changed little in 1979. Similarly, their jobless rate was fairly stable, remaining in the range of 12.0–12.4 percent for each quarter. The rate for black teenagers was unchanged; the rates for black women and men also showed almost no change. The jobless rates for whites followed a similar pattern of very small movements. Blacks experienced somewhat longer periods of joblessness than did whites; the median duration of unemployment at yearend for nonwhites was 7.1 weeks, compared with 5.0 weeks for whites.[9]

The ratio of black-to-white unemployment rates remained at about 2.4-to-1 in 1979. An even larger differential existed between the rates for black teenagers and white teenagers. The unemployment rates for both groups of teenagers rose during the last recession, but only the rate for whites declined perceptibly during the recovery period. Although blacks appeared to be starting to benefit from an improving job market in 1978, the relatively stagnant labor market situation throughout the economy in 1979 resulted in no further gains.

Job gains for Hispanics. The job situation for persons of Hispanic origin improved slightly in 1979. The annual average labor force participation rate in 1979 was 63.5 percent, compared with 62.8 percent in the previous year. Additionally, the unemployment rate moved from 9.1 to 8.3 percent on an annual basis, while employment advanced by 240,000 to 4.6 million. (Persons of Hispanic origin represent about 1 in 20 workers, nationwide.)

Unemployment rates for adult Hispanic men (5.7 percent), women (8.9 percent), and teens (19.1 percent) fell between the corresponding rates for whites and blacks. Among Hispanics, persons of Puerto Rican origin experienced the highest rate of joblessness, 13.2 percent; persons of Mexican and Cuban origin had unemployment rates of about 8 percent. About two-thirds of the working-age persons of Mexican and Cuban origin were in the labor force in 1979, while only slightly more than one-half of all persons of Puerto Rican origin participated in the labor force.

The occupational distribution of Hispanics was similar to that for blacks in that both groups were underrepresented in the higher skilled, particularly white-collar, occupations. A smaller proportion of Hispanics than black workers were employed in blue-collar occupations. (See table 6.)

Table 6. Employment of whites, blacks, and persons of Hispanic origin, by occupational group, 1979 annual averages

[Numbers in thousands]

Occupation	Total[1]	White	Black[1]	Hispanic origin
Employed	96,945	86,025	9,160	4,604
Percent distribution:	100.0	100.0	100.0	100.0
White-collar workers	50.9	52.5	35.2	32.6
Professional and technical	15.5	15.9	10.5	7.6
Managers and administrators, except farm	10.8	11.6	4.6	6.0
Sales workers	6.4	6.8	2.4	3.9
Clerical workers	18.2	18.2	17.6	15.1
Blue-collar workers	33.1	32.6	38.4	47.3
Craft and kindred workers	13.3	13.8	9.6	13.9
Operatives, except transport	11.3	10.8	15.4	21.5
Transport equipment operatives	3.7	3.6	5.3	4.0
Nonfarm laborers	4.8	4.5	8.1	7.8
Service workers	13.2	12.0	24.3	16.3
Private household workers	1.1	0.8	3.8	1.5
Other service workers	12.1	11.1	20.5	14.8
Farmworkers	2.8	2.9	2.1	3.8

[1] Detail by race and ethnicity do not add to employment total because races other than white or black are included only in the total, and because most persons of Hispanic origin are also included in the data for whites.

NOTE: Percent distribution may not add to 100.0 percent because of rounding.

Table 7. Civilian labor force participation rates by sex and age, selected years, 1949 to 1979 annual averages

Sex and age	1949	1954	1959	1964	1969	1974	1979
Both sexes, 16 years and over	58.9	58.8	59.3	58.7	60.1	61.2	63.7
16 to 19 years	52.2	48.3	46.7	44.5	49.5	54.9	58.1
20 to 24 years	64.9	61.6	64.3	66.3	68.2	74.0	77.6
25 to 54 years	65.1	67.0	68.7	69.6	71.6	73.5	77.8
55 years and over	43.1	41.7	41.1	39.5	39.3	35.2	33.6
Men, 16 years and over	86.4	85.5	83.7	81.0	79.8	78.7	77.9
16 to 19 years	62.8	58.1	55.8	52.4	55.9	60.7	61.7
20 to 24 years	86.6	87.0	88.8	86.1	82.8	86.0	86.6
25 to 54 years	96.5	97.3	97.1	96.8	96.1	94.8	94.4
55 years and over	69.5	65.8	61.7	57.4	56.1	50.7	46.7
Women, 16 years and over	33.1	34.6	37.1	38.7	42.7	45.6	51.0
16 to 19 years	42.4	39.4	38.2	37.1	43.3	49.2	54.5
20 to 24 years	45.0	45.1	45.1	49.4	56.7	63.0	69.1
25 to 54 years	35.7	38.7	42.4	44.5	49.1	53.8	62.2
55 years and over	18.0	19.7	23.1	24.3	25.5	23.0	23.2

Persons in and out of the labor force

The overall civilian labor force for persons age 16 and over grew by 2.2 million in 1979, to 103.7 million persons. Over the previous 3 years, however, labor force growth had averaged 2.9 million. Adult women made up two-thirds of the labor force growth; the teenage labor force declined by about 100,000, due, in part, to a drop in population.

Labor force participation rates—the percentage of the civilian population that is employed or unemployed—provide the clearest picture of labor force movements for specific groups, because the rates account for changes in population levels as well as absolute labor force changes. The overall participation rate was 63.8 percent in the fourth quarter of 1979, three-tenths of a point below a year earlier.

Over the past 3 decades, participation rates for women of all ages have increased dramatically, with their overall rate moving from slightly above 30 percent in the late 1940's to more than 50 percent in the late 1970's. (See table 7.) Among the major influences on rising participation rates have been a lowering of the birth rate; increases in age at first marriage; a desire to maintain or increase the household's standard of living and the effect of inflation on a family's buying power; growth in those industries (particularly the service sector) and occupations which traditionally employ women; and, of course, the growing social acceptance of work for women. Until the latter half of the 1970's, there also had been a protracted decline in labor force participation of men. This drop had been concentrated in the oldest age groups and had resulted almost exclusively from the improved financial ability of men to retire at an earlier age. This ability to retire was partially related to the increased labor force activity of wives, who provided either additional income or retirement benefits to support the labor force withdrawal of their husbands.

The labor force participation rate for adult women had advanced a percentage point a year for each of the previous 6 years and followed this pattern again in 1979, increasing from 50 to 51 percent. The greatest gains were registered by women 35 to 44 years, whose rate increased from 62 to almost 65 percent. No significant gains were shown for women over age 55. Conflicting forces have affected the recent labor market decision of these women. Improved social security, private pension and disability benefits may have allowed some working women to retire earlier than had previously been possible. On the other hand, the increased social acceptability of work for women, the recent amendments to the Age Discrimination in Employment Act, and, perhaps most importantly, the recent high rates of inflation and economic uncertainty have all worked to induce older women to remain in, or to reenter, the labor force.

The overall labor force participation rate for adult men, 79.6 percent at yearend, was 0.2 point below that of a year earlier and has remained at about that level for 4 years. (During the same period, the rate for adult women rose almost 5 points.) The rates for prime working-age men—those 25 to 54 years of age—were virtually unchanged over the year; however, rates for older men declined slightly following 2 years of little movement. While the one point over-the-year decline for older men might have been unexpected in view of the recent high rates of inflation and legislation protecting workers from age discrimination through age 70, it is too early to conclude that 1979 began a return to the groups' long-term trend of labor force decline.

The number of persons outside of the labor force—that is, neither working nor looking for work—grew by slightly less than 500,000 over the year to 58.8 million, following 2 years of declines which totaled about 0.8 million persons. There was an increase of 470,000 in the number of adult men outside the labor force, a 50,000-decline in the number of adult women in this

Table 8. Job desire of persons outside the labor force, by sex, 1979 annual averages

[Numbers in thousands]

Labor force status	Total	Men	Women
Civilian noninstitutional population, 16 years and over	161,532	76,449	85,083
Civilian labor force	102,908	59,517	43,391
Not in labor force	58,623	16,931	41,692
Do not want job now	53,328	15,248	38,079
Current activity (percent distribution)	100.0	100.0	100.0
Going to school	11.2	19.5	7.8
Ill, disabled	8.5	16.1	5.5
Keeping house	54.4	1.9	75.4
Retired	18.6	49.0	6.4
Other	7.3	13.5	4.9
Want a job now	5,293	1,682	3,613
Reason not looking (percent distribution)	100.0	100.0	100.0
School attendance	27.0	42.6	19.7
Ill health, disability	14.0	19.7	11.4
Home responsibilities	23.4	2.6	34.3
Think cannot get job	14.2	16.6	13.1
Job-market factors	9.4	5.9	4.2
Personal factors	4.7	10.6	8.9
Other reasons	21.4	18.4	21.6

status, and no change in the number of teenagers. In each of the past 4 years, the number of women outside the labor force declined while the number of men grew by a total of about 1.4 million. (See table 8.)

More than 90 percent of the persons classified as not in the labor force did not want a job. The majority of them were women who cited housekeeping duties as their major nonwork activity; most of the others were students, retirees, and the ill or disabled. Among the 5.3 million persons who said that they would like a job "now," most cited school attendance, ill health, or home responsibilities as the factors which keep them from looking for work. At the end of 1979, about 740,000 persons were not looking for work because they felt they would be unable to find a job. These "discouraged workers" are not classified as unemployed because they do not meet the labor market test of having searched for work during the month prior to the Current Population Survey. Typically, about a third of them cite personal factors such as age or lack of education as the reason they feel they would not be able to find work; the remainder cite job market factors. The size of the latter group tends to respond to cyclical pressures, while the former usually shows little cyclical movement. ☐

FOOTNOTES

[1] Except where noted, labor force, employment, and unemployment data in this article were derived from the Current Population Survey (CPS), a monthly survey of about 56,000 households conducted by the Bureau of the Census for the Bureau of Labor Statistics. As most analysis in this article is on a quarterly basis, "yearend" and "late 1979" refer to the fourth quarter. Over-the-year changes in employment and labor force for 1978 were adjusted to take account of the January 1978 revisions to the CPS estimates. All over-the-year comparisons are calculated from unadjusted quarterly averages, although all *numbers* cited for a quarter are seasonally adjusted. Over-the-year changes for 1978 cannot be calculated directly from the tables provided; see "Revisions in the Current Population Survey in January 1978," *Employment and Earnings*, February 1978, pp. 7–10.

[2] In this article, the term "adult" refers to persons age 20 and over.

[3] Data on nonfarm payroll employment, hours of work, and earnings are based on payroll reports from a sample of establishments which together employ more than 30 million workers. The data reflect March 1978 benchmark levels and seasonal adjustment revisions instituted in September 1979 for all seasonally-adjusted series since January 1974. For an explanation of these changes, see "BLS estimates revised to March 1978 benchmark levels," *Employment and Earnings*, October 1979, p. 7–13.

[4] Based on U.S. Department of Commerce's preliminary data on consumer expenditures for the fourth quarter of 1979.

[5] For purposes of this analysis, full-time employment includes all jobholders on full-time schedules. Part-time employment consists of voluntary part-time workers and persons working part time for economic reasons.

[6] For a discussion of part-time workers in terms of the probability of their part-time status in relation to socioeconomic and labor market influences, see R. W. Bednarzik, *A micro model of labor supply for part-time workers using matched CPS data*, Staff Paper 10 (Bureau of Labor Statistics, 1979).

[7] These data on parttimers refer only to nonfarm part-time employment for economic reasons.

[8] This section deals only with blacks; they account for about 89 percent of the "black and other" population group, according to the 1970 Decennial Census. The employment-population ratios in this section were calculated using civilian noninstitutional population levels, as quarterly total noninstitutional population levels are not available for blacks.

[9] Data on duration of unemployment are available only for the "black and other" group.

Industrial relations in 1979: inflation still holds spotlight

Voluntary 7-percent ceiling on wage increases loses labor support as price surge continues, but unions agree to help Administration devise new anti-inflation program; Meany steps down; worker safety and anti-bias efforts pressed

GEORGE RUBEN

Inflation continued to be a major concern of Americans in 1979. Workers experienced a loss of purchasing power as prices rose at an even faster rate than in 1978.

Late in 1978, the Carter Administration had adopted a plan to restrain wage and price increases through the voluntary cooperation of labor and management. It called for a 7-percent ceiling on price and wage increases. But with the Consumer Price Index rising at an annual rate exceeding 13 percent in the fall of 1979, the Administration tried a new approach. The Government and organized labor signed a "national accord," under which a board composed of representatives of labor, management, and the public would advise the President on anti-inflation actions, including a new wage guideline.

Employment continued to grow in 1979, but there were major layoffs in the steel and automobile industries, with Chrysler Corp. facing bankruptcy. Unemployment also increased in the construction industry, as the Federal Reserve Board tightened credit, sending interest rates to record highs.

Collective bargaining activity was heavy in 1979 as settlements were negotiated in a number of major industries. The unions generally focused on obtaining more money for their members by pressing for larger "set" wage increases or more liberal wage escalator clauses.

In the automobile industry, another major goal of the Auto Workers was to win larger pensions for current and future retirees to counter the erosion of purchasing power that had occurred since the industry last bargained on pensions in 1973. In the trucking talks, the Teamsters also sought substantial increases in employer payments in order to maintain employee benefit plans.

The most significant development in union affairs was the change in leadership of the AFL-CIO, as George Meany retired and Lane Kirkland succeeded him. (A report on the AFL-CIO convention appears on pp. 58-62.) Meany's decision, announced on September 28, ended months of speculation that centered on the deteriorating health of the 85-year-old leader. Meany had headed the federation since its formation in 1955. Lane Kirkland, whom Meany nominated, indicated that he would follow the same general policies as Meany. There also was continuing turmoil involving the United Mine Workers, and there were several important union mergers.

Developments in occupational safety and health included new court rulings on workplace standards established by the Department of Labor's Occupational Safety and Health Administration to protect employees.

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There also were important developments in the area of equal employment opportunities, as two of the Nation's largest retailers were involved in disputes with the Federal Government over their employment practices.

The Department of Labor also issued an important ruling permitting greater diversifications of pension fund investments, which now total about $250 billion.

Union wage increases

For the first 9 months of 1979, settlements involving 1,000 workers or more provided for first-year wage adjustments that averaged 7.5 percent, compared with 7.6 percent for all 1978 settlements.[1] Total wage adjustments (excluding cost-of-living increases) averaged 6.1 percent when converted to an annual rate, compared with 6.4 percent for 1978 settlements.

As expected, the 1979 settlements that did not contain cost-of-living escalator (COLA) clauses generally provided for larger specified wage increases than those that did. First-year negotiated wage adjustments in contracts without COLA provisions averaged 9.1 percent, compared with 6.3 percent for contracts with such clauses. For 1978, the figures were 8.0 and 6.9 percent. When specified wage adjustments are averaged over the life of the contract, the annual rates were 4.6 percent for contracts with COLA clauses and 8.1 percent for those without, compared with 5.3 and 7.1 percent in 1978.

When benefits are combined with wages (in settlements for 5,000 workers or more) the average adjustment was 9.1 percent in the first contract year and 6.7 percent a year over the contract term, compared with 8.4 and 6.3 percent in 1978. Settlements that included COLA clauses provided for wage and benefit increases averaging 8.6 percent for the first year and 6.0 percent a year over the contract term, compared with 10.2 and 8.2 percent for those without COLA clauses. For the full year 1978, the figures for settlements with COLA provisions were 6.7 for the first year and 5.3 a year over the term and the figures for those that did not provide for COLA clauses were 9.6 for the first year and 7.2 a year over the term.

The major settlements during the first 9 months of 1979 covered 2.6 million workers in 414 bargaining units in the private nonfarm sector. The settlements did not result in any increase in the number of workers covered by COLA provisions, partly because 1.5 million of the workers involved in the bargaining already were covered by COLA clauses. The eight settlements (for 15,700 workers) that established COLA clauses and the seven settlements (for 82,500 workers) that terminated clauses brought the total coverage to 5.5 million or 59 percent of the 9.4 million workers in bargaining units of 1,000 or more.

During the first 11 months of 1979, labor-management disputes led to about 5,100 work stoppages, involving about 1.9 million workers. This was about the same as during the same period of 1977, but higher than in 1978. There were 33.1 million days of idleness, or 0.16 percent of the estimated working time, compared with 35.6 million (0.18 percent) and 30.8 (0.16 percent) in the corresponding periods of 1978 and 1977. These data cover work stoppages involving six workers or more and lasting a full day or shift or longer.

Anti-inflation program

The general 7-percent wage guideline and other provisions of the voluntary anti-inflation plan President Carter announced in October 1978 were revised at the end of that year. Alfred Kahn, chairman of the Council on Wage and Price Stability, said the changes were triggered by complaints from business and labor that the standards were too rigid. The revisions in wage guidelines—

—exempted any cost increases needed to maintain existing levels of pension benefits from counting toward the 7-percent guideline limit for annual increases in compensation;

—specified that only the first 7 percent of any increase in health insurance premiums required to maintain benefits would count toward the guideline;

—exempted from the guideline any increases in labor costs required to comply with Federal statutes;

—suspended the 7-percent guideline when necessary to counter specific labor shortages; and

—revised the methods of assessing compensation increases for nonunion workers to make it similar to that for union-represented workers.

The President's proposal to provide "real-wage insurance" for employees who conform to the 7-percent guideline encountered resistance in Congress, as the House Ways and Means Committee ended March hearings on the proposal without reporting out a bill. The proposal, which was generally opposed by organized labor, was not presented for reconsideration later in 1979.

In February, the General Accounting Office, the investigative arm of Congress, declared that it would be illegal for the Administration to withhold Federal purchase contracts from firms that failed to comply with the wage and price guidelines. The Administration nevertheless initiated the requirement for all contracts worth $5 million or more, beginning February 15, and subsequently won a court test in which the AFL-CIO and some member unions challenged the legality of the sanctions.

The first major test of the wage guidelines came in January, when the Oil, Chemical and Atomic Workers settled with the major petroleum refiners for 60,000 employees. The parties and the Council on Wage and Price Stability agreed that the 2-year contract met the guidelines but the union late in the year announced that it would not be bound by the guidelines when the contract was reopened in January 1980.

In April, the Teamsters settled with the trucking industry on a 3-year contract. Alfred Kahn, chairman of the Council, said that the accord met the guideline limit of 7 percent a year for increases in compensation, but the parties valued it at about 10 percent a year.[2]

In June, the Council announced that a settlement between United Airlines and the International Association of Machinists was in "probable noncompliance" with the wage guidelines. The 3-year agreement, which was valued at 35 percent over the term by United, was subsequently upheld by the Council, which approved an "undue hardship" exception to the guidelines based on company data indicating that "adherence to the pay standard would seriously have threatened the financial viability of the company."

Mid-year settlements with the major rubber companies also were questioned by the Council but were later approved after the firms agreed to offset the excess part of the increase in compensation by restraining their profits.

In August, the Council began soliciting union and management views on its proposals for changes in the anti-inflation plan to become effective October 1, the beginning of the second year of the plan. In a policy shift, the AFL-CIO indicated that it could live with voluntary guidelines if they underwent a "wholesale revamping" that would loosen the wage standard and clamp down on prices. It proposed the formation of a committee from labor, business, and the general public which would establish and modify pay guidelines in accord with the "broad concept that wage increases should be based upon changes in the Consumer Price Index, plus changes in the long-term rate of increase in manufacturing productivity." The Federation also suggested the creation of a committee of consumer, business, and public representatives to oversee price increases.

This led to negotiations between the Administration and the AFL-CIO, the Auto Workers, and the Teamsters that resulted in a national accord aimed at fighting inflation. In conjunction with the accord, which was announced on September 28, the parties also agreed on the establishment of a 15-member (later increased to 18) Pay Advisory Committee with equal representation from the general public, labor, and business to "provide public participation and advice to the Council on Wage and Price Stability on encouraging anti-inflationary pay behavior by private industry, employers, and labor."[3]

The national accord committed the parties to support fiscal restraints; "countercyclical" actions to alleviate the effects of a downturn in the economy; reduced dependence on petroleum (particularly from foreign producers), increased U.S. exports, and prompt assistance to American workers displaced by imports; and continued efforts to assure safe living and working conditions.

AFL-CIO Secretary-Treasurer Lane Kirkland headed the labor team that negotiated the accord with the Administration. The accord was approved by the AFL-CIO's Executive Council and by the Teamsters and Auto Workers unions.

Although the President was delaying his decision on pay guidelines until the Pay Advisory Committee formulated its recommendations, there was one immediate change. In October, the Council ruled that employees whose wages are not subject to wage escalator adjustments could receive up to 8 percent increases in compensation during the second year of the program, if they had not exceeded the 7-percent standard during the preceding 12 months. The Council on Wage and Price Stability estimated that the 8-percent guideline would apply to 78 million nonunion employees and 12 million represented by unions but not covered by COLA clauses.

In November, the Council informed General Motors Corp. and Ford Motor Co. that their settlements with the Auto Workers were in probable noncompliance with the guidelines. Chairman Kahn said that even with the most liberal (low) assessment, the contracts were several percentage points above the 22.5-percent guideline for a 3-year period. The Council later approved the GM accord, after the company agreed to conform to the price limitations. Talks between the Council and Ford continued into 1980.

The less costly accord at Chrysler Corp. also was questioned by Kahn but he subsequently indicated that the agreement would not have to be renegotiated to meet the guidelines. Despite this, bargaining was reopened at year end to comply with a legislated requirement that the cost of the UAW settlement be cut an additional $243 million before Chrysler could receive Federal aid. (The resulting January 6 settlement provided for further delays of general wage increases and a still lower number of paid personal holidays than at GM and Ford.)

Bargaining issues

Wages. The unions' drive for large wage increases in 1979 settlements was generally accomplished by winning larger specified wage increases or more liberal wage escalator clauses. Contracts that provided for more liberal escalator clauses usually provided for specified wage increases similar to those in the just-expired contracts. The liberalizations of COLA clauses usually took the form of reducing the amount of movement in the Consumer Price Index required to trigger an escalator adjustment but a few settlements increased the frequency of possible adjustments or eliminated restrictions on the size of adjustments.

The Rubber Workers' 3-year settlements with the various rubber manufacturers provided for quarterly escalator adjustments at the rate of 1 cent an hour for each 0.26 point movement in the CPI-W (1967=100), beginning in the second year. The later settlements between the Auto Workers and General Motors Corp., Ford Motor Co., and Chrysler Corp. also provided for a formula of 1 cent for each 0.26 point movement but the auto accords continued to call for use of a 1967=100 composite index derived from the U.S. and Canadian government indexes. Another difference was that the escalator formula in rubber provided for "advances" of 20 cents at the beginning of the first year and 15 cents at the beginning of the second and third years. However, 5 cents was to be withheld from some regular quarterly adjustments to offset the advances. Unlike the rubber contracts, the auto agreements provided for the permanent diversion of a total of 14 cents from quarterly COLA adjustments to help meet the cost of the settlements.

The rubber contracts provided for a total of 72 cents an hour in "set" general wage increases and an additional 40 cents for skilled workers. Under their 1976 agreements, workers received $1.35 in general increases plus 40 cents to skilled workers, and 93 cents in COLA adjustments. The new auto agreements provided for general wage increases of 3 percent plus 24 cents an hour, effective immediately, and 3 percent on both the first and second anniversaries. This matched the general increases in the 1976 contract, except that it provided for an initial increase of 3 percent plus 20 cents. COLA adjustments totaled $1.37 during the 1976 contracts.

In the trucking industry, the 3-year settlement between the Teamsters and Trucking Management, Inc., and other employer groups provided for continuation of the COLA formula of 1 cent an hour for each 0.3 point movement in the CPI-W (1967=100) but adjustments were to be made semiannually instead of annually. An unusual feature of the new COLA clause provided that the final semiannual adjustment will be effective on April 1, 1982, the day after the contract expires. As a result, that adjustment will apparently count as part of the cost of the 1982 settlement, rather than the 1979 settlement, for determining conformity with wage guidelines.

The 1979 trucking accord provided for a total of $1.50 an hour in set wage increases, compared with $1.65 under the 1976 settlement. COLA adjustments totaled 62 cents under the 1976 contract.

In the electrical equipment industry, settlements between various unions and the General Electric Co. and Westinghouse Electric Corp. provided for semiannual adjustments of 1 cent an hour for each 0.2 percent movement in the index; previously, employees received annual adjustments of 1 cent for each 0.3 percent movement in the index during the preceding 12 months, with no credit for that portion of the rise between 7 and 9 percent.

Specified wage increases in the new contracts totaled 82.5 cents an hour, compared with about $1.10 under the 1976 contracts, which also resulted in 50 cents in COLA adjustments.

In the airlines industry, settlements negotiated by the Machinists union with United Airlines, Inc., TWA, and other companies generally reduced the movement in the CPI required for a COLA adjustment but continued to limit the maximum size of the adjustments. At United, for example, the 3-year contract provided for three annual adjustments of up to 13 cents an hour each, calculated at 1 cent an hour for each 0.3 point rise in the index; the previous formula provided for three annual adjustments of 1 cent an hour for each 0.4 point movement, up to 12 cents a year, which was the amount employees actually received.

One industry that retained the same escalator clause was meatpacking. The settlements between the United Food and Commercial Workers and John Morrell & Co., Wilson Foods Corp., George Hormel & Co. and other companies provided for continuation of semiannual escalator adjustments calculated at 1 cent an hour for each 0.3 point movement in the CPI-W (1967=100). These firms, which have been facing problems of plant obsolescence and intense competition from new companies using new processing and distribution methods, also settled for the same total of set wage increases as in the 1976 contracts—60 cents an hour over three years. COLA adjustments totaled $1.50 an hour in the 1976 contracts.

Two other major industries that settled in 1979 continued their practice of not using a COLA clause. In petroleum refining, the Oil, Chemical and Atomic Workers and the various companies partly countered the problem of forecasting future price movements by again limiting their agreements to a 2-year term. In addition, they agreed to a relatively large set wage increase of 73 cents an hour at the beginning of the agreements and agreed to reopen bargaining at midterm on the possibility of raising the 5-percent deferred wage increase scheduled for that time, as well as on improving certain benefits.

The prior agreements in this industry, negotiated in 1977, provided for a 9-percent initial wage increase and a 75 cents-an-hour increase at mid-term.

Automatic COLA clauses also were not adopted in Ladies Garment Workers settlements for 250,000 employees of outerwear manufacturers. The contracts did continue to provide for reopening bargaining on wages if the CPI rises a specified amount (an unspecified amount, in some contracts) but the union has not initiated such reopenings in recent years because of the generally unfavorable financial condition of the industry. These contracts provided for set wage increases of 5-, 5-, 8-, and 7-percent over the 3-year term, compared with 5-, 5-, 7-, and 6-percent during the previous contracts.

Pensions and other issues. Although wages drew the most attention in 1979 bargaining, other issues also were important and usually reflected union attempts to counter inflation.

In the trucking industry, employers agreed to increase their financing of pension and insurance plans by $30 a week to maintain existing levels of benefits. The Teamsters union was one of the leaders in the successful effort to persuade the Council on Wage and Price Stability to exclude part of the increase in employer insurance financing and all of the increase in pension financing from counting toward guideline calculations in cases where the additional money was needed to maintain existing benefits. The union claimed that if all such costs were counted toward the value of a settlement package that met the guidelines, there would be no money left for wage increases and other benefits.

In the automobile industry, pensions were a particularly important issue, as the Auto Workers sought to win benefit increases to offset the reduction in purchasing power since the 1973 pension agreement. Originally, the union sought a system under which benefits would be adjusted according to the movement of the CPI but it later settled for a multi-step increase for current and future retirees over the 3-year contract term. (The number of steps was less at Chrysler, but the final benefit levels were to match those at General Motors and Ford.)

Another important issue in this industry was the number of paid personal holidays, which was increased to 26 over the 3-year term, compared with 12 during the last 2 years of the prior contract. (Chrysler employees were to receive a total of 20 such holidays under their October accord, but the number was reduced to three as a result of the January 6 modifications.) This was another step toward the union's goal of a 4-day workweek. The increase in paid personal holidays, combined with other paid time off, also tends to moderate layoffs in the industry, which exceeded 100,000 workers in December.

In the electrical equipment industry, financing of pensions was a major issue in the 6-week strike against Westinghouse Electric Corp. by several unions. The company had pressed for conversion to a contributory pension plan contending that this was necessary to bring its labor costs into line with those at the General Electric Co., which had a contributory plan. The company later withdrew this demand and benefit rates were increased, but not to the same levels as at GE, where the employee contribution was increased.

An unusual new contract provision negotiated in 1979 was a Ladies Garment Workers "tax" on imported garments. Under the provision, intended to stem a loss of jobs resulting from increased imports, employers will be required to pay the union an amount equal to 1.5 percent of the cost of garments purchased abroad.

Previously, the ILGWU had the right to seek "liquidated damages" in such cases, which amounted to as much as 25 percent of the cost. However, the union used this penalty selectively, because it could have wiped out employers of its own members. The ILGWU indicated that the new tax will be applied equally, not selectively, and that any resulting money will be used primarily for its union label campaign.

In the rubber settlements, the Rubber Workers won assurances (except from Goodyear) that the companies would not interfere with union efforts to organize new plants. The union has been experiencing difficulty in organizing the plants, particularly those in areas where other industries usually are not organized.

Representation of workers at new plants also was an issue in the Auto Workers negotiations with General Motors, as the company agreed to permit UAW members in its employ to transfer to new GM plants with full seniority, if the new plant manufactures items that are similar to those in plants where the UAW holds representation rights. Previously, such transfers were permitted only when the opening of new plants resulted in layoffs at existing UAW plants.

In a related matter, GM agreed to be neutral in any UAW effort to organize its plants, ending a dispute that flared up at the start of the negotiations.

Government salaries

The California Supreme Court declared invalid a State law that had, in effect, precluded any salary increases for local government workers. The law was enacted in 1978 to help counter the drop in revenue resulting from Proposition 13, the Statewide initiative that rolled back levels of property taxes and restricted future increases. The law had provided for the distribution of surplus State tax funds to affected local units only if salary increases for their employees during the fiscal year were held at or below the increase for State employees. State employees did not receive an increase, which meant that these local employees also could not receive an increase. Employee organizations had charged that local government units had violated valid contracts by failing to pay scheduled increases.

As a result of the ruling, hundreds of thousands of local government workers received retroactive pay increases and they were also free to bargain on current or future increases.

State employees received a 1978 increase, after all, as the legislature in July 1979 enacted a two-part salary increase for them—14.5 percent effective July 1, 1979, and 7 percent retroactive to October 1978.

At the Federal level, 1.4 million white-collar employees and 2.1 million members of the Armed Forces received a 7-percent salary increase in October. (Federal employees are not permitted to bargain on salaries and benefits, but white-collar and blue-collar workers may join unions and bargain on working conditions and other matters.) Early in the year, President Carter had indicated that he would propose a 5.5-percent increase to Congress but later decided the larger increase was warranted because of the higher rate of inflation.

Members of Congress were automatically eligible for the 7-percent increase, but they turned it down and put into effect a 5.5-percent increase they had declined in 1978. Federal judges and various officials also received the 5.5-percent increase.

Pay rates for the 530,000 trades workers are adjusted at various times during the year based on comparisons with comparable occupations in the private economy. However, special legislation and a Presidential order limit their increase to 7 percent during the fiscal year that began October 1.

Other union developments

One of the challenges facing the new leaders of the AFL-CIO, and leaders of individual unions, was indicated by BLS figures which showed that union members comprised 26.6 percent of the nonfarm workforce in 1977, down from 28.5 percent in 1975. The number of union members actually increased during the 2-year period, to 22.8 million, but this was more than offset by an 8-percent increase in nonfarm employment, to 85.8 million.

In the complex 4-year contest between the Teamsters union and the Government over management of the Central States Pension Fund, the trustees voted to draw up a list of charges against Equitable Life Assurance Society of the United States and Victor Palmieri & Co., the two current managers of the fund; this action came immediately after the trustees had almost voted to fire the firms. The list of charges was to be presented to the Department of Labor, which had in 1977 successfully pressed for the resignation of the trustees then in control and for the hiring of the firms. The trustees' October 1979 decision came in the midst of a continuing series of court cases over operation of the fund, including six cases in the Chicago Federal District Court alone.

The United Mine Workers union continued to be beset by difficulties, internal and external. Its chief of staff resigned after only 3 months of service, claiming he was hampered by conflicts with other officials. Women coal miners accused some union members and mine owners of discriminatory job actions. The union encountered new setbacks in its efforts to organize new or expanding mines in the West and Appalachia. The Consolidation Coal Co. withdrew from the Bituminous Coal Operators Association, indicating it would bargain with the UMW on an individual basis. Also, the steel company members of the association were pressing for a larger role in bargaining.

In November, UMW President Arnold Miller resigned, after his third heart attack. The executive board designated Miller president emeritus and selected Vice President Sam Church to fill the remaining 2 years of Miller's term.

Among union mergers:

—The Retail Clerks and the Meat Cutters unions joined to form the United Food and Commercial Workers, the largest union in the AFL-CIO. William W. Wynn, who had been president of the Retail Clerks, was elected to head the new union.

—The Lathers union affiliated with the Carpenters, in a move to expand job opportunities and reduce jurisdictional disputes.

—The Auto Workers gained 50,000 members when the Distributive Workers affiliated with the UAW.

Equal employment opportunity

The year was marked by a number of major administrative, judicial, and legislative developments involving efforts to erase job discrimination.

The Federal Government found the American Telephone and Telegraph Co. to be operating in compliance with the antibias provisions of a 1973 consent decree and joined the company in persuading the Federal District Court in Philadelphia to let the decree lapse. The Government's analysis showed that AT&T had made significant progress in a number of areas, including the hiring and promotion of women, blacks, and Hispanics.

In February, the Equal Employment Opportunity Commission announced that it had reduced its backlog of discrimination cases to 119,000. Eleanor Holmes Norton, head of the Commission, which is responsible for enforcing antidiscrimination provisions of Title VII of the Civil Rights Act of 1964 in private industry and Federal agencies, noted that when the drive to reduce the backlog began in January 1978, there were 135,000 cases on file and that 75,000 cases had been added in subsequent months. Norton indicated that the case reduction process centered on—

—Assigning new cases to investigators instead of clerks and by scheduling conciliation meetings between employer and employees within 30 days.

—If the parties do not accept the agency's settlement within 60 days after proposal, the case is referred to commission headquarters for a decision on whether to initiate a court action.

Norton said that as the backlog of cases is eliminated, the commission will be shifting its focus from individual cases to situations dealing with broad patterns of discrimination.

Sears, Roebuck and Co. charged that the Federal Government's various equal employment laws conflict and were impossible to comply with and that the Government's own policies have resulted in a work force dominated by white men. The Sears action was apparently prompted by the EEOC's January decision to terminate 6 years of negotiations with the retailer on its employment practices.

In May, Federal District Judge June L. Green dismissed the Sears claim because it was "not sufficiently concrete."

This ruling was still in the appeal process when the EEOC filed five separate actions against Sears in which it charged the company with discriminating against women in recruitment, hiring, training, promotions, and pay around the Nation, and against blacks and Hispanics in some regions.

The EEOC also filed a suit against Montgomery Ward and Co., charging that the company's store in Glendale, Ariz., paid female department heads less than male department managers with the same responsibility. The EEOC also asserted that the company has violated a 1976 agreement with the Department of Labor in which it promised to equalize pay for men and women in equal jobs in all of its 2,200 stores.

In another development, the Department of Labor announced that Uniroyal Inc. had agreed to a $5.2 million settlement of a sex discrimination dispute. The Department had barred the company from obtaining any new Government contracts because it had allegedly failed to comply with a 1965 Executive Order requiring Government contractors to cooperate in any investigations of discrimination complaints. Overall, a total of 750 past or present women employees of Uniroyal's Mishawaka, Ind., plant will share the $5.2 million. The accord also restored other benefits lost as a result of the discrimination.

The Supreme Court held that employers and unions with no proven history of discrimination can adopt quotas to overcome racial imbalances in "traditionally segregated job categories." The case was initiated by Brian F. Weber, a white worker at a Kaiser Aluminum and Chemical plant in Louisiana, who was denied admission to a special job training program in which half of the places were reserved for blacks. Weber had more seniority than some of the blacks accepted, and he therefore contended that his exclusion amounted to discrimination in violation of the Civil Rights Act of 1964. Although the law outlaws discrimination against individuals, the court ruled that Congress had not meant to forbid private employers from correcting racial imbalances caused by societal discrimination.

Occupational safety and health

The rate of occupational illnesses and injuries in the private sector in 1978 was essentially the same as in 1977, but the occupational fatality rate declined, according to Bureau of Labor Statistics' data released last year.

The number of occupational illnesses and injuries actually increased by 6 percent in 1978, but there was a rise in the number of workers and their hours on the job. As a result, the incidence rate of 9.4 injuries and illnesses per 100 full-time workers was about the same as for 1977.

Some key results of the illness and injury portion of the survey:

—There were 5.66 million work-related injuries in 1978, about the same as in 1977.

—The number of injuries involving lost worktime increased to 2.4 million, while the number of injuries that did not result in lost worktime increased by 66,000.

—About 38.2 million workdays were lost to work-related injuries, which amounted to 62.1 days for each 100 workers. The figures for 1977 were 35.2 million days, or a 60.0 rate.

—Lost-time injury rates increased in 1978 in seven of the eight industry divisions. The exception was finance, insurance, and real estate, where the rate did not change.

—The largest change in the injury incidence rate for an industry division was in construction, where the rate rose to 15.9, from 15.2 in 1977. However, the rate of lost workdays declined to 108.1 from 109.7.

—Recognized occupational illnesses totaled 143,500 in 1978 compared with 162,000 in 1977.

—Job-related deaths declined to 4,590 in 1978, from 4,760 in 1977, a decrease of 4 percent, despite a 5-percent increase in employment. In relation to hours worked, the fatality rate fell to 0.82 per 10,000 full-time workers, from 0.91 in 1977.

Leading causes of death:

—Over-the-road car and truck accidents accounted for 29 percent of fatalities, and aircraft crashes accounted for 7 percent.

—Thirteen percent of deaths resulted from falls, with one-half occurring to construction workers.

—Nine percent of the fatalities resulted from industrial vehicles and equipment accidents.

—Heart attacks accounted for 9 percent of fatalities.

—The construction industries, employing 5 percent of all workers, accounted for 20 percent of the fatalities. The services industries, representing 21 percent of all workers, accounted for only 8 percent of the deaths and nearly half of those resulted from over-the-road motor vehicle accidents or aircraft crashes.

—Of the 4,500 fatalities, nearly 500 were illness-related, primarily due to heart attacks.

The Government moved into a new area of occupational health and safety in October, when the Occupational Health and Safety Administration ordered the American Cyanamid Co. to end practices at its Willow Island, W. Va., plant that the agency claimed posed a threat to the ability of women employees to bear children. OSHA also fined the company $10,000 for violations of health and safety standards.

The problems at the plant emerged in 1978, when four women disclosed that they had been voluntarily sterilized in order to retain their jobs in the lead pigment production area. The company has admitted that it excluded women from certain work areas because exposure to chemicals might harm fetuses or affect fertility, but it also said that it offered them transfers to other jobs, possibly at lower pay.

At year-end, the company closed the plant's lead pigment department, resulting in the layoff of about 60 employees. The four women who filed the complaint were not affected.

The Federal Court of Appeals for the District of Columbia upheld OSHA's standard for employee exposure to cotton dust. OSHA had published the standard in June 1978, but it was not put into effect because of a court test by the American Textile Institute, which contended that engineering controls were too costly, that OSHA had not performed a required cost-benefit analysis, and that the agency did not have the authority to order the transfer of certain employees to less hazardous work at equal pay. Several unions also contested the standard, contending it was too lax.

Consolidating the various challenges to the standard, the appeals court ruled that the textile industry could not prove that it was protecting workers from brown lung disease through periodic physical examinations and arrangements for job transfers. The court also said that the use of individual respirators by workers was inadequate protection and even presented additional safety and health hazards.

The cotton standard provides for graduated steps toward final limits to be attained within 4 years by installation of engineering controls. The final limits are 200 micrograms of cotton dust per cubic meter of air in yarn manufacturing, 750 micrograms in slashing and weaving, and 500 micrograms in cotton waste processing, and in warehousing. Employers are permitted to furnish employees with respirators until the engineering controls are installed.

Eula Bingham, Assistant Secretary of Labor for Occupational Safety and Health, said she was pleased with the ruling because it "vindicates our regulatory approach favoring engineering controls over personal protective equipment."

There was speculation that the ruling could influence the same court's pending decision on whether the lead industry must use engineering controls to attain the standard it had already permitted OSHA to begin enforcing. Another standard, for benzene, was under review by the Supreme Court. ☐

FOOTNOTES

[1] This BLS information on the size of collective bargaining settlements is of limited use in any attempts to determine the effect of President Carter's anti-inflation plan because the BLS procedures for evaluating settlements differ from those of the Council on Wage and Price Stability, which administers the plan. Unlike the BLS, the Council:

—Includes estimates of potential cost-of-living escalator adjustments.

—Excludes increases in the cost of maintaining existing health benefits in excess of 7 percent.

—Excludes increases in the cost of maintaining existing pension benefits levels.

—Excludes the cost of legally-required social insurance programs.

One reason for the differences was that Kahn estimated future wage escalator increases based on the assumption that the CPI would rise 6 percent a year, which was the amount the guidelines program specified should be used in calculating the cost of settlements.

[2] Its specific responsibilities were to

—Submit by Oct. 31, 1979, its recommendations for (1) changes in the basic 7-percent pay standard, (2) the inflation assumption to use for evaluating automatic wage escalator contract clauses, (3) the threshold for the low-wage exemption, (4) the treatment of increments and tandem collective bargaining relationships, and (5) the proper standard for workers not covered by wage escalator clauses.

—Recommend possible changes in pay exception and noncompliance decisions of the Council on Wage and Price Stability.

—Make other recommendations and new or revised interpretations of the pay standard.

—Make recommendations to assure that individual decisions are fair and consistent with the objectives of the program.

In addition, a new Price Advisory Committee of five members from the general public was to recommend modifications of the price standard, new or revised interpretations of the price standard, and any needed changes in the anti-inflation program.

Workers' compensation laws—key amendments of 1979

All but three of the States increased temporary total disability benefits; some also sought to cut costs by investigating medical bills, offsetting benefits by other transfer payments, and reducing the effect of disabilities through rehabilitation programs

LAVERNE C. TINSLEY

The legislatures of 49 States and Puerto Rico enacted 220 amendments to workers' compensation laws during 1979. A review of these amendments indicates that States are continuing to improve benefits for covered workers, while seeking to control costs through better administration. Many States have shifted their focus from meeting the essential recommendations of the National Commission on State Workmen's Compensation Laws to dealing with other issues addressed by the commission, including rehabilitation and administration.

All but three States and Puerto Rico increased weekly payments for temporary total disability. Connecticut and Florida increased benefits across the board up to 100 percent of the State average weekly wage. (See table 1.)

Half a dozen States revised provisions for handling medical expenses. Maine and Texas strengthened disclosure requirements for health care providers, and Minnesota will establish criteria for excessive medical costs. Seven States updated rehabilitation provisions for injured workers. Minnesota and Montana now withhold benefits in whole or in part for failure to participate in such programs; Arkansas prohibited such withholding.

Florida approved a major revision of its law by incorporating a "wage loss" system for compensating permanent partial disability. In addition, watts telephone lines were authorized Statewide to facilitate communication among all parties involved in workers' compensation matters. Michigan provided that certain State employees, if victims of workplace assaults, will receive supplemental benefits that, combined with workers' compensation, could equal their full salaries.

Twenty-one States were concerned with revising coverage provisions. Ten legislatures approved amendments which exempt or provide for elective coverage of sole proprietors, partners, and corporate officers. Idaho exempted members of volunteer ski patrols; North Carolina exempted members of the Civil Air Patrol and reduced numerical exemptions from fewer than five employees to fewer than four. The remaining States primarily expanded coverage for State and emergency service personnel.

Among other jurisdictions that amended benefit provisions, Kansas raised maximum weekly benefits from 66 2/3 percent to 72 percent of the State average weekly wage. Arkansas established a three-step monetary increase from a weekly maximum of $87.50 to $112 (currently payable) to $126 by March of 1980. Arkansas, Indiana, Mississippi, Missouri, Nebraska, New

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Table 1. Jurisdictions that increased maximum weekly temporary total disability benefits during 1979[1]

Jurisdiction	Former maximum	New maximum
Alabama	$128.00	$136.00
Alaska	$607.65	$654.30
Arkansas	$ 87.50	$112.00
Colorado	$173.60	$222.74
Connecticut	$204.00, plus $10 for each dependent under 18 years of age not to exceed 75 percent of employee's wage	$222.00, plus $10 for each dependent under 18 years of age not to exceed 75 percent of employee's wage
Delaware	$154.50	$164.71
District of Columbia	$396.78	$426.26
Florida	$130.00	$195.00
Hawaii	$189.00	$200.00
Idaho	$109.80 to $164.70 according to number of dependents, plus 7 percent of SAWW for each child up to 5	$115.80 to $173.70 according to number of dependents plus 7 percent of SAWW for each child up to 5
Illinois	$329.82	$342.19
Indiana	$120.00	$130.00
Iowa	$265.00	$352.00
Kansas	$129.06	$148.00
Kentucky	$112.00	$121.00
Louisiana	$141.00	$149.00
Maine	$231.72	$306.23
Maryland	$202.00	$220.00
Massachusetts	$211.37, plus $6 for each dependent; aggregate not to exceed worker's average weekly wage	$227.31, plus $6 for each dependent; aggregate not to exceed worker's average weekly wage
Michigan	$142.00 to $171.00, according to number of dependents	$156.00 to $185.00, according to number of dependents
Minnesota	$209.00	$226.00
Mississippi	$ 91.00	$ 98.00
Missouri	$115.00	$125.00
Montana	$188.00	$198.00
Nebraska	$155.00	$180.00
Nevada	$212.02	$229.71
New Hampshire	$180.00	$195.00
New Jersey	$146.00	$156.00
New Mexico	$172.46	$186.38
New York	$180.00	$215.00
North Carolina	$178.00	$194.00
North Dakota	$180.00, plus $5 for each dependent child; aggregate not to exceed worker's net wage after taxes and social security	$196.00, plus $5 for each dependent child; aggregate not to exceed worker's net wage after taxes and social security
Ohio	$216.00	$241.00
Oklahoma	$132.00	$141.00
Oregon	$224.16	$241.70
Pennsylvania	$213.00	$227.00
Rhode Island	$183.00, plus $6 for each dependent; aggregate not to exceed 80 percent of worker's average weekly wage	$199.00, plus $6 for each dependent; aggregate not to exceed 80 percent of worker's average weekly wage
South Carolina	$172.00	$185.00
South Dakota	$155.00	$175.00
Tennessee	$100.00	$107.00
Texas	$105.00	$119.00
Utah	$197.00, plus $5 for dependent spouse and each dependent child up to 4, but not to exceed 100 percent of SAWW	$210.00, plus $5 for dependent spouse and each dependent child up to 4, but not to exceed 100 percent of SAWW
Vermont	$181.00, plus $5 for each dependent under 21 years of age	$192.00, plus $5 for each dependent under 21 years of age
Virginia	$187.00	$199.00
Washington	$175.30	$186.88
West Virginia	$224.00	$237.00
Wisconsin	$202.00	$218.00
Wyoming	$224.98	$239.59

[1] Benefit increases are based on the applicable State's average weekly wage, and for the District of Columbia, the national average weekly wage. However, 10 States (Arizona, Arkansas, California, Georgia, Indiana, Mississippi, Missouri, Nebraska, New York, and Tennessee) and Puerto Rico prescribe statutory amounts; three States (Arizona, California, and Georgia) and Puerto Rico are not listed since no increases for temporary total disability were legislated during 1979.

York, North Dakota, Tennessee, and Washington increased statutory amounts for both disability and death. Offset provisions were created or revised in Florida, Maine, North Dakota, Ohio, Oregon, Utah, and Washington. Burial allowances were increased in Nevada. Colorado equalized entitlement to compensation for residents and nonresidents; and New York and Tennessee established the same rights for widowers as those existing for widows.

Long-term recipients of workers' compensation were given increases in Nevada, North Dakota, Pennsylvania (occupational disease cases), Utah, and West Virginia.

Following is a summary of 1979 enactments by State pertaining to coverage and benefits, as well as rehabilitation, administration, and other aspects of State workers' compensation.

Alabama

Sole proprietors and partners are now permitted to elect coverage for themselves. Previously, such employers could not elect coverage for themselves for benefit purposes.

Alaska

Political subdivisions may now elect coverage for their volunteer ambulance attendants and volunteer police.

Arizona

Coverage for volunteer firefighters now includes those in both private protection squads and fire departments in unincorporated communities.

Arkansas

For coverage purposes, the definition of employee now includes full-time sole proprietors and partners. A three-step increase retroactive to March 2, 1978, will raise the maximum weekly benefits for all disabilities and for death from $87.50 to $126.00 by March 1, 1980. The maximum awards for other than both permanent total disability and death will also increase to $56,700 on March 1, 1980. The discount rate in computing lump sum settlements was increased from 4 to 7 percent. An employer's obligation for additional vocational rehabilitation expenses was limited to 60 weeks; but no employee is required to participate in a vocational rehabilitation program without his or her consent. Employers cannot be held responsible for unauthorized medical expenses.

A claimant's failure to give notice within the required 60 days does not bar a claim if the employee had no knowledge that the disability arose out of and in the course of employment. A lump sum payment of attorney fees is now permitted even if the award is to be paid in installments.

Various rules, regulations, and procedures regarding Second Injury Funds and appeals were established or revised. The employer will only be liable for the specific disability resulting from the last injury in both permanent partial and permanent total disability claims. Any principal officer, director, stockholder, or partner acting in the capacity of an employer assumes employers' exemption from liability under common law; the negligent acts of an employee cannot be imputed to the employer.

Self-insured employers are allowed to enter into pooling agreements with other employers in the same type of business. When established that failure to file a claim for compensation was induced by fraud, the claim may be filed within 1 year from the date of discovery of the fraud.

All authority related to the filing, processing, and payment of public employee claims has been transferred from the Workers' Compensation Commission to the Public Employee Claims Division of the Arkansas Insurance Department.

California

Volunteer workers for public agencies or nonprofit organizations who receive no remuneration other than meals, transportation, lodging, or reimbursement for incidental expenses are excluded from coverage, provided such persons are included under Title II of the Domestic Volunteer Service Act of 1973.

The revolving Compensation Insurance Fund was changed to a Public Enterprise Fund, which is exempt from certain State provisions. References to "widow" have been changed to "spouse" throughout the law.

Colorado

Death benefits for nonresident dependents are now the same as for resident dependents in deaths that occurred on or after July 1, 1979.

Under nonmedical treatment, chiropractic care must now be paid by self-insured employers.

A penalty of $500 or 60 days imprisonment, or both, may be assessed against any person, company, or corporation who fails to provide or maintain insurance coverage for the term of the contract when performing services on a farm or ranching operation.

Connecticut

The law was redesignated as the Workers' Compensation Act, and references to "workmen's" were changed to "workers'" throughout the law.

Elective coverage was extended to sole proprietors and business partners.

Benefits for both disability and death were increased from 85 to 100 percent of the State average weekly wage.

A 12-percent interest rate, formerly 6 percent, will be applied as additional compensation in cases where benefit payments are unduly delayed.

The number of compensation commissioners was increased from seven to eight. Appellate procedures were revised with the creation of the Compensation Review Division to hear appeals, testimony, or evidence. The Division's decision may be appealed to Superior Court.

Delaware

A Workmen's Compensation Commission was established to study workers' compensation insurance and to make recommendations for improving the law. A sum of $50,000 was appropriated to the commissioner for administrative use.

Florida

The law was renamed the Workers' Compensation Act, and references to "workmen's" were replaced by "workers'" throughout the law.

Officers of a corporation who elect to be exempt from coverage are excluded from the definition of employee. The definition of independent contractor now includes musicians and other entertainers who are not otherwise covered.

Maximum weekly benefits for both disability and death were increased from 66 2/3 percent to 100 percent of the State average weekly wage. The percentage of the employee's wage upon which benefits are based was increased from 60 to 66 2/3 percent for both temporary and permanent total disability. Payment for temporary partial disability was increased from 60 percent to 66 2/3 percent of the difference between preinjury and postinjury income. A wage loss approach for payment of permanent partial disability was established, and the scheduled payment periods for such disability eliminated.

Compensation for dependents will now be offset by the amount of any social security benefits received. The law also was changed to bar compensation for both temporary and permanent total disability when unemployment compensation is being received.

All attorney fees are now to be paid out of the claimant's award except under certain circumstances. Medical and hospital fees will be closely regulated, and peer review of medical care has been established.

The reporting procedures regarding an injury were changed. When an injury occurs, the employer is required to notify both the Division of Workers' Compensation and the employee, as well as the insurance carrier.

The penalty for a late payment of compensation was reduced from 20 to 10 percent of that payment.

Compromise and release of future medical benefits are now prohibited. Lump sum settlements cannot be considered until 6 months after the worker has reached maximum medical improvement.

The full responsibility for rehabilitation of injured workers rests with both the employer and the carrier.

The Bureau of Workmen's Compensation has been abolished and the Division of Workers' Compensation created to assume an active and forceful role in the administration of the act. Watts lines have been set up in the State to assist the resolution of workers' compensation matters.

Hawaii

A corporate officer who performs voluntary services in a corporation in which he or she is at least a 25-percent stockholder is excluded from coverage.

The State Department of Labor and Industrial Relations is authorized to set maximum employer liability for medical care and supplies using the Consumer Price Index for the Honolulu region.

A 2-year filing limit was set for benefit claims involving asbestosis or other mineral substance with carcinogenic properties. Initial judicial review of claims was changed from the State Supreme Court to the Appellate Court.

Idaho

Members of volunteer ski patrols were exempted from compulsory coverage.

Illinois

Any employee receiving compensation for work-related injuries now must be notified of his or her rights to rehabilitation care and services.

By amendment, "workmen's" was changed to "workers'" in the title and throughout the act.

Indiana

Coverage was extended to volunteer firefighters and to sole proprietors and partners actually engaged in a business.

The maximum weekly benefit for both total disability and death was raised in two steps: effective July 1, 1979, it was raised to $195; on July 1, 1980, it will increase to $210. On the same two dates, the maximum aggregate amount first changed from $60,000 to $65,000 and will increase to $70,000. The maximum number of weeks for payment of temporary total disability in conjunction with permanent partial disability was increased from 26 to 52 weeks. Replacement of prosthodontic devices is now permitted for employees with a compensable mouth injury.

Iowa

Elective coverage for police and firefighters in municipalities with populations of 8,000 or more will be permitted after December 31, 1979.

Employers are required to repair or replace artificial appliances when damaged or no longer usable as a result of work-related circumstances (other than normal wear and tear).

Kansas

The maximum weekly benefit for disability and death was raised from 66 2/3 percent to 72 percent of the State average weekly wage; the minimum weekly benefit increased from $7 to $25. The maximums for total benefits also increased: both permanent total disability and death went from $50,000 to $100,000; temporary total disability and permanent or temporary partial disability increased from $50,000 to $75,000.

Claimants are entitled to 8 percent interest on the amount of benefits found by the workers' compensation examiner or director or State court to be due and unpaid.

Louisiana

Sole proprietors and partners are now permitted to waive coverage.

The law now authorizes group self-insurance funds. Five or more employers of the same trade or business with a minimum combined net worth of $500,000 are now permitted to pool their potential liabilities.

Joint self-insurance programs are now permitted for local government employers through the formation of an interlocal risk management agency.

Maine

Coverage now includes all fire personnel whether or not they perform administrative duties.

Injured employees are now permitted to receive podiatric services from licensed podiatrists in Maine.

Occupational hearing loss is now measured in accordance with the National Standards Institute (Standard S3.22, 1976) rather than the American Standards Association (Standard Z24.5, 1951).

The Workers' Compensation Commission was authorized to enforce the provisions pertaining to interest on awards. Attorneys are prohibited from receiving payments directly from clients. The Second Injury Fund is no longer liable for any claim that exceeds its assets.

Workers' "average weekly wage, earnings or salary" was redefined to exclude any allowance given to the employee to purchase chainsaws or skidders used on the job.

All benefits, except for scheduled permanent partial disabilities and lump sum settlements, will now be offset by the amount of any concurrently received unemployment benefits.

There are new procedures to regulate the disclosure of relevant information in the insurance rate filing system.

Massachusetts

The Industrial Accident Board was newly authorized to order payment of medical and hospital bills, and reports prepared by physicians who have since died are now permitted at hearings before the Board.

Michigan

Supplemental benefits (up to full salary) are now provided to certain State employees injured as a result of workplace assaults. Carriers who pay benefits for disability or death caused by exposure to polybrominated biphenyl will now be reimbursed from the Silicosis and Dust Disease Fund.

Minnesota

Many changes were made in the workers' compensation law this year. Major changes include the following.

Business partners who own a business or farm are now permitted to elect coverage for themselves and their immediate relatives.

Death benefits can now be awarded to either surviving spouse, rather than to the widow only. Eligibility for these benefits by children has been extended to full-time students up to age 25. The 104-week limit on total disability payments has been removed. Supplementary benefit payments are increased from 60 to 65 percent of the State average weekly wage. A Reopened Case Fund has been created to assume liability for all new claims filed 7 years from the date of injury or death or 3 years from the last payment of compensation, whichever is later. The Commissioner of Labor and Industry must establish procedures for determining whether health care charges are excessive. An employee who has been mentally and physically incapacitated is now allowed to file a claim for compensation within 180 days of the incapacity. The responsibility for administration of employers' self-insurance was transferred from the Commissioner of Labor and Industry to the Commissioner of Insurance.

Employers are required to provide for both podiatric and orthodontic treatment for claimants.

A worker permanently transferred to another State is no longer covered by the extraterritoriality provision if he or she travels extensively outside that State.

The liability of an employee who intentionally or grossly caused injury to another employee was limited.

Comprehensive procedures were established for rehabilitation, emphasizing the need for comparable employment and on-the-job training. Retraining to a higher status was permitted when employability would be increased by doing so. The director of rehabilitation services, appointed by the Commissioner of Labor and Industry from persons in the Classified Service, will oversee this new program.

Mississippi

Maximum weekly compensation for disability and death was increased from $91 to $98; the total maximum was raised from $40,950 to $44,100.

Missouri

Elective coverage was allowed when an employer files notice with the Division of Workmen's Compensation. The maximum weekly benefit for temporary partial and temporary total disability was increased from $115 to $125, and the weekly compensation for both permanent total disability and death was increased from $115 to $120.

Montana

The law was redesignated the Workers' Compensation Act, and references to "workmen's" were changed to "workers'" throughout the law. The Occupational Disease Disability Act was retitled the Occupational Disease Act. The Vocational Rehabilitation Division has been renamed the Department of Social Aid Rehabilitation Services.

Municipalities must now pay the difference between a law enforcement officer's full salary and the amount of workers' compensation benefits.

The division is now authorized to require that a claimant pursue a vocational rehabilitation program, if feasible and appropriate, for continuation of benefits. Refusal to participate in the program may lead to the termination of benefits.

Full medical care without time or dollar limits was provided. Under previous law, medical treatment was restricted to a maximum of $2,500 for a nondisabling occupational disease.

Several pneumoconiosis provisions were repealed, thereby making no practical distinction between pneumoconiosis and other occupational diseases. A fine of not more than $500, up from $100, may now be assessed against an employer who fails to provide information (from books, records, and payrolls) at the request of the division. Uninsured employers are now required to pay into the Uninsured Employer's Fund either double the premium amount the employer would have paid if insured by the State fund or $200, whichever is greater. Third-party suits are no longer permitted against an employer covered by the act. State agencies are now required to be insured under the State fund. The penalty assessed against an insurer for delayed benefit payments was increased from 10 percent to 20 percent.

A provision providing employer nonliability for work contracted to an independent party was eliminated. Benefit payments are due after 15 days of an entitlement notice by the insurer.

Nebraska

The maximum weekly benefit for both disability and death was increased from $155 to $180.

Nevada

Coverage was extended to off-duty regular firefighters who perform voluntary services both within the jurisdiction served by their departments and in jurisdictions with reciprocal aid agreements.

Benefits were increased to 35 percent above the initial benefit amount for permanent total disabilities incurred prior to April 9, 1971, and for deaths prior to July 1, 1973. The burial expense allowance was increased from $1,200 to $2,500.

Cooperative agreements for rehabilitation services were authorized for the Industrial Commission, the Rehabilitation Division of the Department of Human Resources, and other agencies to provide the necessary rehabilitation services for disabled workers to return to gainful employment.

Employers are now permitted to self-insure their potential liabilities. In addition, an administrative fund was created to defray all costs and expenses of administering self-insurance programs.

New Hampshire

Death benefits for dependent and totally disabled widows or widowers will now extend for the duration of such total disability. A totally disabled widow or widower with dependent children will continue to receive supplemental compensation for their dependents according to the weekly benefit amounts until the children are no longer entitled. Lump sum agreements, except for medical care, may now be permitted at the discretion of the labor commissioner.

New Jersey

Injuries to fingers and toes will no longer be compensated unless a permanent loss of function occurs. A disfiguring injury, with scars less than three inches, will also no longer be compensable except when involving the face.

New Mexico

The definition of "workmen" was broadened to include public employees and salaried public officers.

New York

Coverage is extended to film inspection assistants, school safety supervisors, and instructors of addiction employed by school districts in a city with a population of 1 million or more.

Death benefits for either surviving spouse were equalized.

The authority of the chairman of the Workers' Compensation Board to approve rates for medical services charged to employers was extended until December 31, 1980. The board was also authorized to impose a 1½-percent monthly interest penalty for overdue payments of physician fees.

North Carolina

The law was retitled the Workers' Compensation Law, and references to "workmen's" were changed to "workers'" throughout the law.

The numerical exemption was reduced from five to four employees. Sole proprietors or partners are now permitted to elect coverage; senior members of the Civil Air Patrol were exempted.

When a totally disabled employee dies of asbestosis or silicosis, the compensation will now be the unpaid portion of the 104 weeks of disability compensation plus an additional 300 weeks of benefits.

Attorney fees in third party subrogation actions now must be approved by the Industrial Commission. Two or more employers are now permitted to pool their potential liabilities. Employers can no longer discharge or demote an employee for filing a compensation claim. When a medical bill remains unpaid after 60 days, a 10-percent penalty will now be added. The commission was also authorized to assess the costs of proceedings against any person who has brought, prosecuted, or defended such proceedings without reasonable grounds.

North Dakota

The maximum weekly benefit for death was increased from $75 to $90.

Persons on the compensation rolls as of July 1, 1975, who are continuing to receive benefits as of July 1, 1979, are now entitled to supplementary benefits. A claim for death benefits can now be filed up to 2 years (previously 1 year) following the worker's death. Court fees for cases that are being appealed are now determined by the Appellate Court, rather than by the trial judge. Temporary total and permanent total disability benefits will now be offset by the amount of any social security benefits.

Ohio

Temporary total disability benefits for the first 12 weeks of compensation will now be based on 72 percent of the employee's last full weekly wage instead of the employee's average weekly wage.

A Rehabilitation Division was established in the Industrial Commission to provide a comprehensive system designed to rehabilitate the injured worker. In the event of a concurrent and duplicative benefit under an employer-funded, nonoccupational benefits plan, temporary total disability benefits will now be reduced.

The time limit for premium defaults was changed from 6 to 8 weeks. Premium rates are now set by the Industrial Commission to assure the solvency of the State Insurance Fund.

Oregon

Upon election by a municipality, coverage can now be extended to all municipal volunteer personnel as well as to subcontractors and their employees. Mentally disabled persons in special educational training programs and participants in work training programs are now covered, except that the trainees are not entitled to temporary total disability benefits.

Compensation for permanent disability was changed from $85 to $100 for each degree of injury based on a fixed scale. Where the rating is based on permanent loss of earning capacity, the benefit value per degree is now $85.

The law was amended to limit an injured worker to four changes of his or her attending physician (following the initial choice) without approval from the director.

Self-insured employers must now have certain excess insurance to cover their potential liabilities.

The State Accident Insurance Fund was made an independent public corporation governed by five directors appointed by the Governor.

An assessment of six cents per day will now be charged to every subject employer for each worker employed each day or part of a day. Permanent total disability benefits will now be offset by the amount of social security benefits received.

Rhode Island

The Workmen's Compensation Commission was retitled the Workers' Compensation Commission.

Determinations for the reasonableness of disputed medical charges will now be made by the Workers' Compensation Commissioner.

The time period for filing occupational disease claims was extended from 24 to 36 months.

South Carolina

The amount of compensation a minor dependent may receive without the appointment of a guardian was increased from $1,000 to $2,500.

Tennessee

Maximum weekly benefits for disability or death were increased from $100 to $107, and the total maximum was raised from $40,000 to $42,800. The $15 weekly minimum remained unchanged. Death benefits payable to a widower are now the same as those payable to a widow. Lump sum payments may be commuted upon motion by any party involved in the court proceeding.

Texas

The definition of State employee was broadened to include persons paid from State funds and working for and receiving supervision from a political subdivision of the State.

Dependency no longer applies to parents who abandoned or failed to support the disabled or deceased worker during preadult years. When no claim for death benefits has been filed within 8 months of death, it will now be presumed that there are no dependents entitled to benefits; thus payments will be made into the Second Injury Fund. However, this presumption does not apply to minor beneficiaries or to beneficiaries of unsound mind for whom no guardian has been appointed. A written report must now be filed by an employer within 8 days after an employee's absence from work because of a work-related injury.

The law now requires hospitals to furnish relevant records upon request. Physicians and chiropractors were already covered by this provision.

A Workers' Compensation Advisory Committee was appointed by the Governor to study the law and to formulate possible ways to improve the system.

Utah

Minimum weekly compensation was increased from $75 to $85 for persons permanently and totally disabled and entitled to benefits from the Special Fund. References in the law to either "Special" or "Combined" Injury Fund were deemed to concern the Second Injury Fund.

Employer liability in no-dependency cases was increased from $15,600 to $18,720, payable into the Second Injury Fund. All death benefits formerly paid from the fund will now be paid by the carrier. After the first 6 years of dependency, death benefits will be subject to a 50-percent offset based on Federal social security death benefits.

The minimum weekly benefit for an employee undergoing rehabilitation was increased from $35 to $45.

Virginia

The 2-year limit for filing first or second stage pneumoconiosis claims was removed. Only in cases of pneumoconiosis or silicosis, where x-ray evidence has demonstrated a positive diagnosis of the disease, will waivers from coverage be permitted.

Requirements for group self-insurance were strengthened, with new payroll reporting procedures and the adoption of uniform rules on compliance and certification of insurance. Other insurance changes were also made.

Washington

Corporate officers were excluded from compulsory coverage; elective coverage is now permitted.

Permanent partial disability benefits (thus all disability benefits) will now be offset by any Federal social security benefits. A new provision also allows recovery of overpayment based on this offset.

Weekly compensation for scheduled injuries (where benefit amounts have been precalculated) was doubled, and total compensation for impairment to the whole body was increased from $30,000 to $60,000.

A $45,000 maximum was placed on compensation for unscheduled permanent partial disability to the back when no objective clinical findings are available.

The annual cost-of-living adjustment for both total disability and death benefits for claimants on the rolls since July 1, 1971, was extended to July 1, 1980.

West Virginia

The commissioner must now establish guidelines for determining anticipated periods of disability. Eligibility requirements under the Disabled Workmen's Relief Fund will now extend coverage to persons who receive less than 33 1/3 percent of the State average weekly wage. Payment of reasonable medical expenses is now permitted without prior authorization under certain circumstances.

A Workers' Compensation Advisory Board consisting of 10 members was created to advise the commissioner on compensation administration and make long-range plans for improvements in the Disabled Workmen's Relief Fund.

Wyoming

The presumed pay of volunteer emergency personnel was increased from $50 per month to $100 per month. Thus, they will now be entitled to maximum benefits for temporary total disability.

The dollar limits on attorney fees were eliminated. □

The cost of safety incentives

The pain and suffering of a serious disability represent a substantial portion of the costs of an injury. It would be desirable for the legal system to assign liability for such losses so that the full cost of injuries is borne by the party in the best position to prevent the accident. The dilemma, however, is that if the awards routinely made in a workers' compensation system were to be so generous as to include pain and suffering there would be a strong incentive for employees to act with less than an optimal amount of care. . . .

There is some evidence that even the more generous States within the current system may fail to encourage an appropriate amount of careful employee behavior. Only a system that provides the opportunity for detailed examination of the circumstances and consequences of the injury could avoid such a distortion of incentives; but again, this would be very costly.

—JAMES ROBERT CHELIUS
Workplace Safety and Health: The Role of Workers' Compensation
(Washington, American Enterprise Institute for Public Policy Research, 1978), p. 62.

The productivity trend in the soaps and detergents industry

During 1958–77, annual productivity increased an average of 2.9 percent, as the industry responded to a strong demand for soap and detergent products and was aided by improved technology

PATRICIA S. WILDER

Productivity in the soaps and detergents industry has increased in line with the rise in output per employee hour for the manufacturing sector since 1958.[1]

While annual output doubled, employee hours increased by more than one-fourth between 1958 and 1977. The average annual increase in productivity was 2.9 percent.

The rise in productivity was associated with an annual increase in output of 4.1 percent coupled with a 1.2-percent average annual increase in employee-hours. Productivity gains have resulted primarily from sustained high levels of capital investment for new machinery and equipment, and improvements in production and packaging operations.

Output per employee hour has fluctuated during the period of this study. Since 1958, annual increases in productivity have ranged from 1.0 to 10.6 percent. Declines in productivity have occurred in 4 years, including 1977. For the most recent 5-year period, 1973–77, productivity has declined at an annual rate of 0.6 percent. (See table 1.)

From 1958 to 1965, average growth in productivity was 1.9 percent; output rose 4.6 percent, and hours advanced 2.7 percent annually. During this period, the industry experienced a general expansion. The number of establishments manufacturing soaps and detergents increased from 608 in 1958 to 704 in 1963.

From 1965 to 1974, productivity grew much faster, averaging 4.3 percent each year. The acceleration was in sharp contrast to the productivity movements of other industries in the economy. More than two-thirds of the industries for which productivity measures are available showed slackening productivity growth since 1966. Productivity growth in the soaps and detergents industry during 1965–74 reflected average annual increases of 4.9 percent in output and 0.6 percent in employee-hours. The slower growth in employee-hours was associated with an overall decline in the number of establishments—from 704 in 1963 to 642 by 1972.

In 1975, a recession year, productivity fell 7.1 percent. Output recorded its largest decline of 9.4 percent, and employee-hours declined 2.4 percent. In 1976, productivity growth resumed with a 3.0 percent gain with both output (5.8 percent) and hours (2.8 percent) increasing over the depressed levels of the preceding year. In 1977, however, output growth slowed to 2.2 percent, while employee hours increased 2.8 percent. This resulted in a 0.6-percent decline in productivity.

Output doubles

Productivity gains in the soaps and detergents industry have been closely linked to output expansion, which doubled between 1958 and 1977. Some significant factors affecting this growth are expanded use of home laundry equipment and dishwashing appliances, population growth, and successful advertising and sales promotions.[2]

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Table 1. Productivity and related indexes for the soaps and detergents industry, 1958–77

[1967 = 100]

Year	Output per employee-hour			Output	Employee-hours		
	All employees	Production workers	Nonproduction workers		All employees	Production workers	Nonproduction workers
1958 . . .	77.7	78.3	76.3	64.7	83.3	82.6	84.8
1959 . . .	84.4	85.4	82.2	71.8	85.1	84.1	87.3
1960 . . .	81.7	81.5	82.0	71.9	88.0	88.2	87.7
1961 . . .	82.6	81.7	84.2	75.7	91.7	92.6	89.9
1962 . . .	83.9	81.7	89.7	78.8	93.9	96.5	87.8
1963 . . .	90.7	87.5	98.8	85.2	93.9	97.4	86.2
1964 . . .	90.7	88.3	96.5	88.7	97.8	100.4	91.9
1965 . . .	88.1	87.0	90.7	88.5	100.4	101.7	97.6
1966 . . .	94.2	94.0	94.6	93.8	99.6	99.8	99.2
1967 . . .	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1968 . . .	101.1	102.4	98.2	106.0	104.8	103.5	107.9
1969 . . .	101.1	104.1	95.0	109.9	108.7	105.6	115.7
1970 . . .	105.7	110.4	96.3	115.3	109.1	104.4	119.7
1971 . . .	108.6	114.8	96.5	111.7	102.9	97.3	115.7
1972 . . .	120.0	125.1	110.1	125.9	104.9	100.6	114.3
1973 . . .	127.5	134.4	114.2	135.1	106.0	100.5	118.3
1974 . . .	132.7	139.6	119.3	137.9	103.9	98.8	115.6
1975 . . .	123.3	129.0	112.1	125.0	101.4	96.9	111.5
1976 . . .	127.0	135.0	112.0	132.3	104.2	98.0	118.1
1977 . . .	126.2	135.6	109.1	135.2	107.1	99.7	123.9
	Average annual rates of change (in percent)						
1958–77	2.9	3.4	1.9	4.1	1.2	0.7	2.1
1973–77	–0.6	–0.2	–1.5	–0.4	0.2	–0.2	1.1

The growth in output has also been influenced by the availability of a wide variety of soap and detergent products which can handle different types of cleaning problems. Among synthetic detergent products are light-duty, mild, sudsing detergents mainly used for dishwashing by hand; all-purpose and heavy-duty laundry detergents, which can be used for a number of tasks; presoak products; and automatic dishwashing detergents. Laundry soaps are also available as flakes and blown granules. The predominantly used soap product is the refined bar of toilet soap. As shoppers are aware, these bars are available in a variety of sizes, colors, and scents, some containing additives such as cold creams and deodorants. The industry is very competitive and has been able to gain public acceptance of new products through advertising, and by dispensing free samples in large numbers when new products are introduced.[3]

The growth in output has also been influenced by the interactions among the household laundry equipment, textile, and detergent industries. The development of permanent press garments in the mid–1960's by the textile industry was followed by reformulations in detergent products. Because oily soils are more difficult to remove from synthetic fibers, their increased use in clothing required improved detergent products. Also, because higher wash temperatures may cause oily soils in some synthetics to become "set," lower wash temperatures are often recommended for wash and wear garments.[4] The detergent industry developed improved products that would perform adequately at lower wash temperatures. The household laundry equipment industry followed the development of permanent press garments within a few months by the introduction of properly matched cycles in washers and dryers to handle this new concept in clothing.[5] At present, many automatic washers include permanent press cycles and various combinations of wash and rinse temperatures.

The increase in the sales of home laundering equipment, as well as the increase in wash and wear fabrics, favorably affected the demand for soap and detergent products. The output of the household laundry equipment industry is estimated to have increased nearly 70 percent between 1958 and 1976. In 1975, more than 4 million home washing machines were sold, increasing market penetration to 70 percent, from 53 percent in 1960.[6]

Employment shows moderate rise

Employment in the soaps and detergents industry, currently at 40,000, has increased moderately since 1958, when employment was at 32,000. This change is equivalent to an average increase of 1.1 percent each year. The growth in employee hours—an average annual rate of 1.2 percent—reflected a very small increase in average hours per employee.

Labor turnover in the industry has been comparatively low, providing a stable and experienced work force. Since 1958, accessions have averaged 2.5 per 100 employees annually, compared with 3.6 for all manufacturing. Separation rates have been 2.4 per 100 employees, compared with 4.1 for all manufacturing. Lower layoff and quit rates occurred in the industry than for all manufacturing almost every year. Average hourly earnings for production workers in the soaps and detergents industry have risen steadily. Hourly earnings averaged $7.81 in 1977, compared with the manufacturing average of $5.68.

The proportion of nonproduction workers in the industry is somewhat higher than is the case in other manufacturing industries—37 percent of total employment in 1977, compared with 28 percent for all manufacturing. The higher proportion reflects the larger number of professional and technical, clerical, and sales personnel employed.

Although data on the occupational composition of employees in the industry are not available, some insights can be obtained from the broader aggregation, soaps and cosmetics.[7] In 1976, an estimated 6 percent of all workers employed in soaps and cosmetics were chemical and industrial engineers, chemists, and chemical technicians. Sales and clerical personnel accounted for 26 percent of total employment. The industry also employs a large number of semi-skilled workers, such as packers, wrappers, examiners, assemblers, and mixers who accounted for 32 percent of the work force in 1976.

Larger plants dominate output

Most of the soaps and detergents industry's output is produced by large establishments. By 1972, more than 80 percent of the value of shipments was accounted for by units having 100 employees or more. These units represented only 9 percent of the industry's establishments because most of the industry's establishments are small. In 1972, 69 percent of the 642 manufacturing establishments had fewer than 20 employees.

Prior to the introduction of synthetic detergents, the soaps and detergents industry tended to concentrate near the sources of its principal raw materials. In more recent years, with increased detergent usage, more emphasis is given to locations near distribution centers when new sites are considered. Although production establishments are located throughout the Nation, about half of the industry's production originates in the North Central region of the United States.

Increases in labor productivity are frequently related to increases in the stock of capital. Over the period of this study, new capital expenditures per employee in the soaps and detergents industry increased at an average annual rate of 10 percent, compared with 7.8 percent for all manufacturing. Moreover, the levels were substantially above the average for all manufacturing in almost every year. By 1976, capital expenditures per employee were 82 percent higher than the manufacturing average ($4,191, compared with $2,300). About three-fourths of the expenditures have been for new machinery and equipment, the same as for all manufacturing.

Technology changes

Soap has always been made by combining the basic ingredients, fat and alkali. The early American commercial soapmakers made soap outdoors in large iron kettles over an open fire, according to a uniform formula. The kettle method of soapmaking was used until 1940 when a major improvement was achieved in soap production technology. A continuous process was perfected which reduced soapmaking time from about a week to less than a day.[8] Today, the continuous process is dominant, although the "kettle" process is still used in some establishments.

Soap reacts with the minerals in hard water to form lime soap, which sometimes appears as a white scum in the wash water. Synthetic detergents, however, do not react this way. The term detergent usually refers to a product, which for heavy-duty laundry use, generally contains an organic surface active agent (surfactant), an inorganic builder, and various other ingredients. Also, "detergent" is sometimes used to denote the organic surfactant.[9]

German scientists are credited with developing the first synthetic detergents during World War I.[10] Synthetic detergents were introduced into the United States during the early 1930's. The first synthetic detergents performed well in hard water; however, their cleaning ability was limited in laundry usage. In the 1940's, the discovery and development of phosphates, primarily sodium tripolyphosphate, led to the first "built" synthetic detergents which not only performed well in hard water, but provided the cleaning power necessary for laundry use.[11] By 1958, soap for many centuries the chief cleansing agent for household laundry and dishwashing use, had been largely replaced by synthetic detergents.

Detergents reformulated. Developments over the past 15 to 20 years have resulted in many changes in product composition. Because of environmental concerns, detergent products have been and are still being reformulated. One of the first changes in detergent composition occurred in 1964–65 involving the replacement of the organic surfactant with a type which degrades rapidly in the environment.[12] Specifically, "hard" branched-chain alkylbenzenesulfonate (ABS) was replaced by "soft" biodegradable linear alkylbenzenesulfonate (LAS). LAS is still a major detergent ingredient.

By the late 1960's, the focus of environmental concern shifted to phosphate levels in detergent products because of the controversy over the effect of phosphates upon rivers, streams, fish, and other wildlife. Legislation restricting phosphate levels in detergents was introduced, including a total ban on phosphate in detergents in several States. To maintain detergent performance with reduced phosphate levels, surfactant levels are generally increased. Also, the use of surfactants, which are even less sensitive to water hardness than LAS, helps to maintain cleaning performance. For this reason, surfactants based on long-chain alcohols have become more popular.

These detergent formulation changes which occurred in the mid- and late 1960's coincided with years in which productivity grew substantially less than the industry long-term average. Also, exceptionally large annual increases in nonproduction workers occurred which suggests that the industry, in response to the environmental concerns, expanded its research efforts into the development of environmentally more acceptable products.

Although sodium tripolyphosphate is still the leading detergent builder, new builders are beginning to appear and are currently used as phosphate substitutes. These include sodium carbonate, sodium silicate, and various surfactant blends. Other possible phosphate replacements are being developed and tested, but none of these materials has proved to be a total replacement on a one-to-one basis.

Production processes improved. By 1958, virtually all of the basic equipment currently used in soap and detergent making had been developed. Most of the improvements which became available later were technological refinements of the basic equipment and production processes. However, some notable improvements have been introduced.

One of the major processes in the manufacture of synthetic surfactants is sulfonation. In this process, a nonsurface-active hydrocarbon (alkylbenzene, for instance) is converted into surface-active alkylbenzenesulfonic acid, and subsequently neutralized to a salt. Oleum is the sulfonating agent.[14] In the mid-1950's, an innovation was developed which permitted the industry to convert batch sulfonation into a continuous process. With the continuous oleum process, a high-quality, uniform product could be obtained which met the important production criteria, principally light color and low free oil (unconverted hydrocarbon) in the final sulfonation product. Time saving is another advantage; the continuous sulfonation process is completed in a matter of minutes, whereas the batch process requires 6 to 10 hours.[15]

In the mid-1960's, a further improvement was introduced in the continuous sulfonation process involving a change from oleum to sulfur trioxide (SO_3) gas, mixed with air, as the sulfonating agent. The industry-wide trend towards the use of continuous SO_3 has occurred mainly because former sulfonating agents, such as oleum, have higher chemical costs, and present disposal problems of spent sulfuric acid. Also, some of the newer types of raw materials mentioned earlier cannot be processed efficiently except with SO_3. This process provides a high-quality product by minimizing product degradation due to the short reaction time, reducing costs, and realizing labor savings in the handling of the acid disposal product.[16]

Continuous sulfonation processes with automatic controls minimize labor requirements. An entire continuous sulfonation plant can be operated with one operator, rather than the two or three operators needed in the batch and semi-continuous plants.[17]

Packaging operations in the industry have long used automatic equipment. However, some technological modifications have been introduced. For example, machines have been developed to handle larger powder packs and at the same time are capable of erecting cartons, and filling and closing them at higher speeds. For liquids, machines have also been introduced that can achieve higher filling speeds.

High-speed soap bar production. Changes have also been made in soap bar finishing operations.[18] Although continuous soap production lines have been in operation for many years, the need for faster production rates and the development of more complex shapes of bar soaps spurred improvements over the past 15 years. Extensive changes have occurred in the design of the equipment and the line configurations.

New high-speed lines for production of simple or uniform type bar soap formulas have broken the traditional line speed barrier of 150-200 bars per minute. With the high-speed lines, 200-300 soap bars can be produced each minute. Modern specialty lines are available which provide flexible processing capability. A variety of toilet bar formulations such as synthetic detergent bars, soap-synthetic bars, and translucent soaps can now be produced at reasonable speeds. New high-speed stamping machines have also been developed which can produce up to 400 bars per minute either banded or bandless. In addition, refrigerated stamping dies have become standard in the industry. They serve to improve product appearance, to lessen die-fouling, and to improve production rates.

New developments have also been made in the machinery that is widely used to package bar soaps. These developments complement the development of the high-speed finishing lines and have been directed primarily toward wrappers, cartoners, and bar soap transfer units. This new equipment has the capability of attaining higher speeds and has the flexibility of handling various shapes of bar soap.[19] In the past, bar soap transfer units were limited to maximum speeds of 200 bars a minute. In the last 4 to 5 years, the speed has been increased. Wrappers, cartoners, and bar soap transfer units are being introduced that are capable of average production speeds of up to 300 bars a minute for the mass-produced soaps.

Computer technology has made possible the centralized instrumentation of the production processes, although the industry has always been highly mechanized. Computers are increasingly being used for jobs such as inventory control, flow and measurement of raw materials, formula calculations, and in mixing operations to assure uniformity of soap and detergent mixes. Marketing analysis can more easily be accomplished with computer-based information systems. The use of computer processing provides information that can be used to better allocate the time required for many activities, resulting in improved utilization of labor.

Shortrun changes in productivity in the soaps and detergents industry will continue to be affected by changes in demand. Over the longrun, the high levels of capital investment per employee should help to keep industry productivity gains in line with the average for all manufacturing.

Substantial demand for virtually all of the products produced by the industry should continue into the immediate future. The output of dishwasher detergents should especially show growth as the utilization of existing dishwashing machines is increased, and the ownership of home dishwashers is expanded. The number of washing machines in U.S. households is also expected to increase, thus generating additional growth for the soaps and detergents industry.

FOOTNOTES

[1] The soap and other detergents industry comprises establishments primarily engaged in manufacturing soap, synthetic organic detergents, inorganic alkaline detergents, or any combination thereof, and refined glycerine from vegetable and animal fats and oils. The industry is designated as number 2841 in the Office of Management and Budget's *Standard Industrial Classification Manual (SIC), 1972 edition.* Data prior to 1958 are not comparable. All average annual rates of change are based on the linear least squares trends of the logarithms of the index numbers. Extensions of the indexes will appear in the annual BLS Bulletin, *Productivity Indexes for Selected Industries.* A technical note describing the methods used to develop the indexes is available from the Division of Industry Productivity Studies.

[2] *U.S. Industrial Outlook,* various issues.

[3] *Industrial Outlook,* 1970, p. 181.

[4] Dieter H. Von Hennig, "The Role of Detergent Alcohols in the Soap and Detergents Industry, A Bicentennial Update," Shell Chemical Company, at Chemical Industry Association, Inc. Workshop Meeting, Absecon, New Jersey, June 14, 1976.

[5] Richard C. Davis, "Washer-detergent-textile Interactions," *Hydrocarbon Processing,* March 1975, pp. 90–92.

[6] Richard B. Carnes, "Laundry and cleaning services pressed to post productivity gains," *Monthly Labor Review,* February 1978; and "1976 Statistical and Marketing Report," *Merchandising,* March 1976, pp. 38–42.

[7] Bureau of Labor Statistics, unpublished data for 1970–85, National Industry Occupational Matrix.

[8] "About Soap," *Procter and Gamble Service Bulletin,* Procter and Gamble, Cincinnati, Ohio.

[9] Based on information provided by Dr. Arno Cahn, Development Director, Household Products, Lever Brothers Co.

[10] "Some Facts About Procter and Gamble Detergents," *Procter and Gamble Information Bulletin.*

[11] Anne L. Lyng, "Detergents in Review," *Detergents—in Depth,* a symposium sponsored by The Soap and Detergent Association, Washington, D.C., Mar. 28–29, 1974, pp. 2–7.

[12] T. E. Brenner, "Soaps and Detergents: North American Trends," The Soap and Detergent Association, in Proceedings—World Conference on Soaps and Detergents, Oct. 9–15, 1977, Montreux, Switzerland, pp. 5–8. Reprinted in *Journal of the American Oil Chemists' Society,* January 1978. Also see, O. Carl Kerfoot and H. R. Flammer, "Synthetic Detergents: Basics," *Hydrocarbon Processing,* March 1975, pp. 74–78.

[13] Brenner, "Soaps and Detergents."

[14] Based on information provided by Dr. Arno Cahn, Development Director, Household Products, Lever Brothers Co.

[15] *Oleum Sulfonation Process Equipment,* The Chemithon Corp., Seattle, Washington, 1968. Also conversation with respresentative of The Chemithon Corporation.

[16] *Sulphur Trioxide Detergent Process Equipment,* The Chemithon Corp. Ibid.

[17] *Oleum Sulfonation Process Equipment and Sulphur Trioxide Detergent Process Equipment.* Ibid.

[18] A. B. Herrick, "Bar Soap Finishing—New Trends in Soap Processing Line Design and Layouts," Armour-Dial Company, in Proceedings—World Conference on Soaps and Detergents, Oct. 9–15, 1977, Montreux, Switzerland. Reprinted in *Journal of the American Oil Chemists' Society,* January 1978, pp. 147–50.

[19] L. Spitz, "Bar Soap Packaging," ACMA S.p.A., in Proceedings—World Conference on Soaps and Detergents, Oct. 9–15, 1977, Montreux, Switzerland. Reprinted in *Journal of the American Oil Chemists' Society,* January 1978, pp. 151–55.

APPENDIX: Measurement techniques and limitations

Indexes of output per employee-hour measure changes in the relation between the output of an industry and employee hours expended on that output. An index of output per employee hour is derived by dividing an index of output by an index of industry employee hours.

The preferred output index for manufacturing industries would be obtained from data on quantities of the various goods produced by the industry, each weighted (multiplied) by the employee-hours required to produce one unit of each good in some specified base period. Thus, those goods which require more labor time to produce are given more importance in the index.

In the absence of physical quantity data, the output index for the soaps and detergents industry was constructed by a deflated value technique. The value of shipments of the various product classes were adjusted for price changes by appropriate Producer Price Indexes to derive real output measures. These, in turn, were combined with employee-hour weights to derive the overall output measure. These procedures result in a final output index that is conceptually close to the preferred output measure.

The indexes of output per employee-hour relate total output to one input—labor time. The indexes do not measure the specific contribution of labor, capital, or any other single factor. Rather, they reflect the joint effect of factors such as changes in technology, capital investment, capacity utilization, plant design and layout, skill and effort of the work force, managerial ability, and labor-management relations.

Estimating the user cost of owner-occupied housing

The Bureau of Labor Statistics has continued its examination of alternative ways to measure homeowner costs in the Consumer Price Index

ROBERT GILLINGHAM

For several years, the Bureau of Labor Statistics has been studying alternative methods of measuring the costs of owner-occupied housing in the Consumer Price Index (CPI). During the recently-completed revision of the CPI, Bureau staff proposed that the housing component of the CPI—for both renters and homeowners—measure the cost of consuming the flow of shelter services provided by a house. This approach, which is comparable to that incorporated in the national accounts, focuses on consumption and abstracts from the investment aspects of home purchase decisions. Unfortunately, it is impossible to observe directly the market value of the shelter services consumed by homeowners. For this reason, it is necessary to develop *indirect* measurement techniques. The Bureau has been actively studying two alternative approaches—rental equivalence and user cost.

These alternatives, while conceptually equivalent, have substantially different operational implications. The first involves collecting rental values for houses which are rented but which have characteristics similar to owner-occupied housing and using these rents as a proxy for homeownership costs. The second involves building up the user cost of shelter services from its components—interest costs, taxes, maintenance, etc. The purpose of this article is to demonstrate that several of the conditions which characterize housing markets make the development of an operational user cost methodology extremely complex. This conclusion implies that the rental equivalence approach has a substantial operational advantage as a measure of shelter costs for homeowners.

Theoretical framework

To begin with, we take as given the overall conceptual framework for the Consumer Price Index which we have discussed elsewhere.[1] As such, we start from the proposition that the consumer's welfare is determined by the flow of consumption services received, where the services can be (1) directly provided, (2) obtained coincidentally with the consumption of a nondurable good (in which case the distinction between a good and a service is unnecessary), or (3) obtained from the use of a durable good owned by the consumer. In each case, satisfaction is derived from the act of consumption; ownership of a source of consumption services—a durable good—produces no additional satisfaction. In other words, the purchase of a durable good is an "investment," designed to provide consumption services over a future time span.

Within this framework, we want the CPI to measure over time the cost of the market basket of services *consumed* in the base period. For the services provided by directly-purchased services and nondurable goods, this implies observing market prices and transaction levels in the base period, as well as the subsequent time path of market prices. However, for the services provided by durable goods owned by consumers, the implicit

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price of the services must be estimated, because market transactions do not take place each time the service is consumed.

The remainder of this article will analyze the estimation problem involved in the case of shelter services provided by owner-occupied homes. We will start by defining user cost in the simplest case—in a world of certainty without taxes, and with perfectly competitive markets—and proceed to outline the conceptual and empirical complications which arise when these assumptions are dropped.

In a world with perfect rental and resale markets and no uncertainty, the user cost of a house in a given period can be shown to be the following:

$$(1)\ c_t = r_tP_t - A_t + Z_t$$

where r is the (single) rate of interest in period t, P is the average price of the house in period t, A is equal to the change in the average price over the period and Z represents all other cost components.[2] In other words, the user cost is defined as the opportunity cost of holding the house, $r \cdot P + Z$, less the increase in the house's value. In equilibrium, the rental price of the house, R, will be equal to the user cost, and, since we have assumed frictions away, the rent received by a landlord will equal the rent paid by a tenant. Thus, in a perfect world the following obtains

$$(2)\ R^L_t = C_t = R^T_t$$

where the superscripts L and T denote landlord and tenant, respectively.

Under the conditions we have assumed, measurement of the value of the flow of shelter services from a house becomes a trivial matter. It can be measured with information from either rental or resale and money markets and it does not matter whether the information refers to buyers' or sellers' prices. Problems arise, however, when we attempt to measure the cost of shelter for homeowners in a more complicated setting, in which the exact form of the user cost function is more difficult to define and the equalities defined above need not hold.

To lay out this problem more clearly, we will drop the assumption of perfect certainty, thereby allowing for a structure of differing asset yields. We will also relax the assumption of perfect markets to allow for the possibility that the rent received by a homeowner may be less than the rent paid by a tenant, the difference representing, for instance, the value of a management function. Although we no longer assume perfect rental markets, we do assume that there is some price at which each homeowner can rent shelter services equivalent to those provided by his own home and some strictly positive price at which another consumer would be willing to rent his house. Under these conditions, the user cost measure can be redefined as

$$(3)\ C_t = r_{et}E_t + r_{mt}M_t - A_t + Z_t$$

where M and E are mortgage and equity amounts which sum to the average price of housing (P), r_m is the mortgage interest rate, and r_e is the opportunity cost of equity capital.[3]

The relationship between user cost, defined in this manner, and the alternative rent measures defined above is now ambiguous and depends critically on the manner in which the opportunity cost of equity capital is defined. Certainly, the rent paid by a tenant (R^T) must be greater than or equal to that received by a landlord (R^L), but depending on the manner in which one chooses to define and estimate the opportunity cost of equity capital (r_e), the relationship between each of the rent measures and user cost (C) is uncertain.

The variables included in the redefined user cost function are all conceptually and operationally straightforward with one crucial exception—the opportunity cost of equity capital. Unfortunately, estimates of user cost are also sensitive to alternative definitions of this variable. Several somewhat "natural" alternatives for defining the opportunity cost of equity capital (r_e) have been suggested elsewhere.[4] In our 1973 study, it was suggested that r_e be estimated as an internal rate of return defined by the identity

$$(4)\ R^L_t + A_t = r_{et}E_t + r_{mt}M_t + Z_t$$

where R^L_t is an estimate of the market rental which an owner could receive for his house. Alternatively, one might argue that the appropriate internal rate of return be defined by substituting R^T for R^L in equation (4). In either case the resulting estimate of user cost, which we will call C_r, reduces to an implicit rent, and the following relationship holds:

$$(5)\ R^L_t \leq C_{rt} \leq R^T_t$$

The suggestion to use an internal rate of return on housing to estimate user cost is based on the assumption that this rate best describes the alternative rate of return an owner/investor could receive on another investment with similar liquidity and risk characteristics.

Several analysts have suggested that alternative rates of return which consumers either receive or pay—such as the rate of interest on consumer debt, savings accounts, mortgages and bonds—be used to construct the user cost function.[5] With this approach, depending upon the particular rates of return included, the resulting user cost estimate, which we will denote C_u, need not be bracketed by the two rent variables (R^L and R^T).

The problem of selecting an appropriate estimate of the opportunity cost of equity capital (r_e) reduces to a fundamental question concerning the appropriate treatment of liquidity and risk parameters in the user cost function: do we want to estimate the opportunity cost of equity capital using rates of return on alternative investments with similar liquidity and risk parameters? We see no reason not to estimate the cost of equity capital using rates of return on alternative investments with, in some sense, similar characteristics, provided such investment opportunities indeed exist for the homeowner. Furthermore, without accepting this basis for selecting an appropriate cost of equity capital, it is impossible to derive a single user cost of housing and, depending on the variables used to estimate user cost, the latter can fall outside the rent bounds previously defined, both in the short and long run.

It is this latter fact which adds greater weight to the argument that the internal rate of return is the appropriate measure of the opportunity cost of equity capital. It is plausible to contend that a user cost measure is a conceptually viable estimate of the value of the flow of shelter services only if it is bracketed by rent received by landlords (R^L) and that paid by tenants (R^T). It cannot be less than R^L because a homeowner always forgoes this amount when he lives in his own house, and it cannot be greater that R^T because a homeowner always has the alternative of obtaining equivalent housing services at this price. For these reasons, it can be argued that the user cost function denoted by C_u is a viable estimate of the value of shelter services only if it is bounded by R^L and R^T, and this condition will obtain in general if and only if an appropriately defined internal rate is used to estimate the opportunity cost of equity capital.

The most important conclusion to be drawn from the foregoing analysis is that unless we are able to incorporate implicit valuations of the flow of shelter services into the analysis—through the definition of R^L, R^T, and/or r_e—it is impossible to derive a measure of the user cost of housing which will be reasonably representative of the cost experience of owner/occupants. To put this conclusion another way, if we maintain that rental opportunities for owner-occupied houses do not exist, and that the rate of return of some set of financial assets is an appropriate opportunity cost of equity, then there is no reason to be surprised if our estimates of user cost exhibit wide fluctuations and include negative values—this would be an accurate reflection of user cost under the set of conditions just described. However, if, as in the analysis above, we are not willing to maintain that there are no potential rental market opportunities for owner-occupied houses, and are willing to accept the rate of return on housing investment as an acceptable opportunity cost of equity, then it is necessary to develop user cost estimates which are consistent with these propositions.

Empirical evidence

The foregoing discussion emphasizes the importance of explicit or implicit rental market information in obtaining conceptually sound user cost estimates. It might be asked, however, whether in practice use of alternative estimates of the opportunity cost of equity to homeowners might yield reasonable approximations to a user cost index which incorporates rental market information. During the recent revision of the CPI, BLS staff members experimented with alternative user cost formulations in an attempt to develop a function which would adequately represent, at a minimum, the trend in user cost without exhibiting short-term movements which are inconsistent with the framework outlined above. Using the general user cost equation, defined above as

$$(6)\ C_t = r_{et}E_t + r_{mt} - A_t + Z_t,$$

we experimented with alternative estimates of the various components—particularly the opportunity cost of equity capital (r_e) and the change in the average price of houses (A)—in an attempt to develop a user cost function which would provide a reasonable estimate of the trend in shelter cost. The basic difficulty faced is that the opportunity cost of equity capital and appreciation components in the above equation are historically volatile and, ceteris paribus, correlated. Although the measurement of house price levels, and thus appreciation, is difficult, we were able to construct reasonable estimates of current appreciation which do, in fact, accurately reflect the historical volatility of this series. Without using information from rental or housing investment markets, however, we were unable to capture the presumably correlated variation in the opportunity cost of equity capital (r_e). In other words, we were unable to estimate a user cost measure which exhibits reasonable short-term movements when current appreciation rates are included in the measure.

As a result of this empirical anomaly, our experiments were focused on developing a user cost measure which would provide a reasonable estimate of the trend movement in user cost without exhibiting the unrealistic short-term fluctuations which characterize a user cost measure which includes current appreciation rates. To do this we used (1) a moving average of past appreciation rates to estimate the trend movement in appreciation, and (2) an index of either current or a moving-average of mortgage interest rates to estimate the trend movement in the opportunity cost of equity capital.[6] It might be hoped that a user cost measure which incorporates these trend measures for both appreciation and the opportunity cost of equity would provide a more reasonable trend estimate for the user cost of housing. Furthermore, an index constructed in this fashion could be constrained to reduce unrealistic short-term volatility, characteristic of several of the alternative measures considered, which would cause severe problems in both the use and interpretation of the index.

Tables 1 and 2 summarize, very briefly, the basic findings of our analysis. These tables are based on four user cost simulations which incorporated five alternative estimates for the appreciation rate and two alternative specifications for both the opportunity cost of equity capital and the mortgage interest rate (r_e and r_m). In the first table, which uses the current mortgage interest rate to approximate opportunity cost, the impact of alternative estimates of appreciation are displayed. In the index in column 1, appreciation is estimated by applying current appreciation rates to current (constant quality) house prices. For the indexes in columns 2 through 4 one-, three- and five-year unweighted average appreciation rates are applied to current house prices, while in column 5, a 15-year weighted average of appreciation rates is incorporated.[7] Comparison of these indexes amply demonstrates the extreme impact of appreciation on the user cost measure. Even when the five-year average of appreciation is used, the index exhibits an extreme and unlikely dip in 1971–72, a dip which is only partially dampened when appreciation rates are averaged over 15 years.

Table 1. Estimated user cost indexes,[1] December 1964–December 1975

Period	Appreciation rate averaged over . . .				
	Current Period	1 year	3 years	5 years	15 years[2]
December 1964	100.0	100.0	100.0	100.0	100.0
December 1965	57.9	132.7	103.5	105.2	102.0
December 1966	53.1	117.5	121.5	115.3	115.2
December 1967	39.3	151.1	134.6	118.6	115.1
December 1968	−13.5	92.7	128.5	130.6	122.7
December 1969	49.4	63.6	119.5	134.8	128.1
December 1970	62.1	55.6	85.9	125.0	129.7
December 1971	130.7	130.3	76.2	106.3	120.1
December 1972	155.9	194.1	119.1	104.8	129.8
December 1973	54.5	164.1	175.9	131.4	157.0
December 1974	−131.3	−13.5	144.9	137.7	162.6
December 1975	152.1	98.0	90.9	143.0	148.5

[1] Current mortgage interest rates used for both the opportunity cost of equity capital (r_e) and the mortgage interest rate (r_m).
[2] 15 year weighted average used Koyck distributed lag weights (λ = .05).

Table 2. Estimated user cost indexes, December 1964–December 1975

Period	r_e = current r_m = current	r_e = current r_m = 5 year average	r_e = 5 year average r_m = current	r_e = 5 year average r_m = 5 year average
December 1964	100.0	100.0	100.0	100.0
December 1965	102.0	101.3	101.0	100.3
December 1966	115.2	110.7	108.4	104.0
December 1967	115.1	111.5	109.7	106.2
December 1968	122.7	115.7	112.3	105.5
December 1969	128.1	118.1	113.2	103.5
December 1970	129.7	119.0	113.7	103.3
December 1971	120.1	117.9	116.9	114.8
December 1972	129.8	129.7	129.6	129.5
December 1973	157.0	149.9	146.4	139.4
December 1974	162.6	149.4	142.9	129.9
December 1975	148.5	138.0	132.8	122.5

[1] All indexes incorporate 15-year weighted average appreciation rates. Mortgage interest rates, either averaged or current, are used for both the opportunity cost of equity capital (r_e) and the mortgage interest rate (r_m).

In table 2, which incorporates the 15 year weighted average appreciation rate for all indexes, four alternative combinations of current and average interest rates are used to represent the opportunity cost of equity capital and the mortgage interest rate. Once again, the choice of the interest rate to represent r_e and r_m has a substantial impact on the index and, especially in the case of r_e, without recourse to information from rental markets, the choice is essentially arbitrary.

The estimated user cost indexes presented in tables 1 and 2 demonstrate the sensitivity of the indexes to alternative assumptions about individual user cost components. Perhaps more importantly, they provide empirical support for the contention that it is impossible to construct a valid user cost measure which is consistent with the information provided by rent markets without either direct or, through direct measurement of the opportunity cost of equity capital, indirect use of that information. In other words, our results imply that, either directly or indirectly, a rental equivalence measure is a necessary input into the construction of a user-cost measure. Consequently, the rental equivalence approach provides a simpler, more direct measure of the cost of shelter services for homeowners. ☐

———*FOOTNOTES*———

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[1] See Robert Gillingham, "A Conceptual Framework for the Revised Consumer Price Index," *Proceedings*, Business and Economic Statistics Section, American Statistical Association, pp. 246–252.

[2] See Dale Jorgenson, "The Theory of Investment Behavior," in R. Ferber, ed., Determinants of Investment Behavior (New York, National Bureau of Economic Research, 1967), pp. 129–55, for a discussion of the theoretical foundations of equation (1).

[3] In measuring the (presumably current) user cost of owner-occupied housing, one might question whether current or historical mortgage interest rates are the appropriate rate with which to measure mortgage costs. The framework developed in this paper makes it clear that this issue is not important. Because the services of a house have an (implicit) market value, this value, along with whatever mortgage rate is chosen, will determine the appropriate return on equity as a residual. Thus, ceteris paribus, higher (one might read "more current" though not necessarily) mortgage interest rates result in lower equity returns and vice versa. The choice of mortgage rate can be

governed by matters of convenience and whether one wants to distinguish equity return differences that stem from financing differences from other equity return differences.

[4] See Robert Gillingham, "Measurement in the Consumer Price Index of the Cost of Shelter to Homeowners," BLS study (mimeograph); Stuart McFadyen and Robert Hobart, "An Alternative Measurement of Housing Costs and the Consumer Price Index," *Canadian Journal of Economics* XI, 1978, pp. 105–12; Richard Muth, "On the Measurement of Shelter Costs for Homeowners in the Consumer Price Index," BLS study (mimeograph); Dale Smith, "The Flow of Services Approach to Estimating the Homeownership Component of the CPI," BLS study (mimeograph); Peter Steiner, "Consumer Durables in an Index of Consumer Prices," *The Price Statistics of the Federal Government* (New York, National Bureau of Economic Research, General Series, No. 73, 1961), Staff Paper No. 6.

[5] See McFadyen and Hobart, Muth, Smith, and Steiner, in the works cited.

[6] As discussed in footnote 3, the question of which mortgage interest rate to use is, at least in theory, unimportant. It is the choice of an estimate for the equity rate of return which is crucial.

[7] The 15-year weighted averaged used Koyck distributed lag weights ($\lambda = .05$).

Global shopping center

We face major changes in the world's economy. In economic policies and theories, we still act as if we lived in an "international" economy, in which separate nations are the units, dealing with one another primarily through international trade and fundamentally as different from one another in their economy as they are different in language or laws or cultural tradition. But imperceptibly there has emerged a world economy in which common information generates the same economic appetites, aspirations, and demands—cutting across national boundaries and languages and largely disregarding political ideologies as well. The world has become, in other words, *one market,* one global shopping center. Yet this world economy almost entirely lacks economic institutions; the only—though important—exception is the multinational corporation. And we are totally without economic policy and economic theory for a world economy.

—PETER F. DRUCKER
The Age of Discontinuity
(New York, N.Y., Harper & Row, Publishers, Incorporated, 1968, 1969)

A Review Essay

Beyond Keynes: European unions formulate new economic program

Elements of the prescription put forth by economists of five union groups include consensus-based decisionmaking, investment planning, price monitoring, and an incomes policy to abate Western European stagflation

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A search is underway for a new kind of synthesis between the "old" market capitalism and a planned economy. The onset of stagflation since the 1974–75 recession has produced an almost continuous debate among economists seeking to halt inflation and to restore healthy economic growth. By and large, this debate has been dominated by two sets of prescriptions. One of these derives from what might be described as a modernized version of neoclassical economics, which has stressed reliance on the workings of the market, supply and demand, to restore a new price equilibrium. The second prescription, stemming from those who might be termed the moderate Keynesians, does not reject, in principle, government fiscal intervention to maintain full employment but seems reconciled to accepting relatively high levels of unemployment for at least several years, while market forces gradually restore an acceptable price level.

In the United States, a much smaller group, self-styled post-Keynesians, argues that major institutional changes have occurred in modern economic life that call for more positive, interventionist new policies and programs to restore full employment and to bring inflation under control. Most of these post-Keynesians reject the possibility that the market system is sufficiently competitive to restore either sustained full employment or sustained lower price levels.[1]

In Europe, a group of trade union economists has put forward an outline for a new economic program which is squarely in the tradition of Keynes but which recognizes that he, too, wrote in an era when heavy reliance on the market system may have seemed more plausible. The outline originated in a charge of the European Trade Union Confederation[2] to a working group of European union economists in November 1977 to explore "short- and medium-term economic problems." This group included representatives of five European trade union federations—the Swedish *Landsorganisationen i Sverige* (LO), the Netherlands' *Federatie Nederlandse Vakbeweging* (FNV), the British Trades Union Congress (TUC), the German *Deutscher Gewerkschaftsbund* (DGB), and the French *Confederation Francaise Democratique de Travail* (CFDT)—and a staff member of the recently established European Trade Union Confederation.

The group was chaired by Clas-Eric Odhner, chief of the Research Department of the Swedish Confederation. That department played a key role in initiating Sweden's full-employment and active labor market poli-

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cies and the unions' wage solidarity program in the fifties and sixties. The study group's common outline has been issued as a report of the European Trade Union Institute.[3]

Assuming an active role

The report is intended to be a "discussion paper," not a policy statement. Yet in analyzing the current high levels of unemployment and prices and in setting forth a program to overcome both, it may foreshadow a new departure for most of European labor.[4] With a few notable exceptions, European trade unions rarely have taken a major initiative in formulating comprehensive analyses and programs for their economies. The lead in this area generally has been conceded to their "brother" socialist parties, with socialist trade unions usually providing financial and organizing electoral support on behalf of these programs. One notable exception has been Sweden, where the Federation of Trade Unions (LO) has, in the post-World-War-II era, tended to provide the analytical and programatic lead in the economic sphere for the country's Social Democratic party.[5]

The long period of almost uninterrupted economic expansion between 1950 and 1973 made this accommodation between the socialist parties and socialist trade union movements a success. An economic philosophy based on a practical marriage between an expanding welfare state and Keynesian policies, which stresses effective demand management for full employment, provided a setting in which living standards rose dramatically and unemployment was kept to consistently low levels. If inflation was at times a troublesome problem, it was nonetheless confined to what seemed to be tolerable levels, even in some Scandinavian countries where it crept as high as 6 percent in some years.

This era of sustained expansion came to an end with the severe recession of 1974–75. Since these years, most of Western Europe has been troubled with the same combination of continued high unemployment (high, at least, in comparison with the preceding two decades) and inflation more severe than boom peaks of the preceding era. In short, almost every Western European[6] country has been plagued by what has come to be known in the United States as stagflation, simultaneous high unemployment and inflation and low or no economic growth.

Theoretical warfare

The report states that the economic crisis in industrialized democratic nations (although it concentrates on Western Europe, the report refers frequently to the United States) in recent years also has been a "crisis for economic theory." Neoclassical theory has become increasingly popular, as the criticism of Keynes' theory, which was so popular in the decades after the war, mounts. Particularly prominent has been the monetarist school, which contends that the amount of money issued decides everything in economic development. Yet, according to the report, economic policies guided by such neoclassical ideas, "have plunged the industrialized world into a . . . spiral of unemployment, inflation, and stagnation." Perhaps the most obvious weakness of neoclassical theory (and its monetarist variation), argue the trade union drafters, is that it is premised on the existence of a "classic, competitive pricing mechanism," in a word, the "Market." The reality of today's world is more one of "independent price determination of companies and groups of companies dominating their markets. This applies both nationally and internationally."[7]

Corporate power. Contrary to the assumptions of conventional economics, these companies do not encounter high degrees of elasticity in the demand for their products. So, increasingly, these companies base their pricing policies on costs, with little regard for demand factors. Even most small firms producing finished products "belong to trade organizations which operate together [in fixing prices] in export markets."

The report links the pricing policies of transnational corporations, and their impact on national pricing levels. Its explanation is not entirely clear or successful, but space prevents going into this as well as some other "international" aspects of this report. With the greater dependence of their countries on foreign trade and investment than is the case of the U.S. economy, European economists tend to be more sensitive to the domestic impact on prices of these corporations' policies.

The current "depression has been so deep and persistent," in part "because governments have been too weak politically to take decisive counter measures," and "partly because many based their policies on a misunderstanding of how their economies now work." As a prime example of outmoded proposals to deal with the recent stagflation, the report cites the 1977 McCracken Report of the Organization for Economic Cooperation and Development (OECD).[8]

The McCracken group, it is alleged, has ignored the enormous power of great national and transnational corporations. Its report urges OECD governments to "refuse to accommodate" demand management to inflationary behavior by employers or trade unions which must "learn from their mistakes." This request fails to understand, charges the union report, that these relatively sheltered groups will not "bear the consequences," that many companies "are able to increase their prices with relatively small effects on sales . . . " Even when employers give way to higher wages "under union pressure," they "can always compensate themselves by means of higher prices" in the face of low elasticities of demand. Companies in weaker positions and their employees "bear the brunt of reduced overall demand." According to the trade union drafters, if the price system worked in the "idealized way envisaged" by the McCracken group, "the problems they pretend to solve could not by definition arise."[9]

Suppression of demand, then, would not mitigate inflation, inasmuch as powerful corporations take advantage of the less than full elastic demand for their products and mark up their prices to offset any loss in profit margins. "The distrust of workers and their unions in the ability of governments" to control inflation merely by trying to suppress general demand leads them to seek to offset the rising costs of living by negotiating "wage increases with inflationary consequences . . ." Similarly, their trust declines in government's ability to create jobs as general demand is restricted, and the unions thereupon struggle "to keep production and companies alive that should in fact be restructured or even abandoned." The general result is chronic stagnation.[10]

Selective intervention. The report states that the continuing high inflation rates of the 1970's are not "an unfortunate accumulation of unfavorable events (á la McCracken) . . ." Rather, they reflect great changes in the power of corporations in the economy. Therefore, "the free competition assumption is no longer a valid" basis for economic policy. While the group believes in "accepting market mechanisms when they function reasonably well . . . when there is no realistic possibility of this happening—and this increasingly is the case—there is no alternative to a government price policy and to price monitoring which should be internationally coordinated."[11]

This type of *selective* (as opposed to *general* monetary or fiscal) intervention in the economy—setting particular price and investment levels for industries or key corporations—is something of a radical departure, in peacetime, for most Western economies; but, the report argues, with the liberal-competitive system no longer a reality, a new kind of consensus approach must be substituted. There is a growing necessity for "selective measures . . . to be substituted for general measures . . . in reality the market either does not function, or its effects are politically and socially unacceptable."[12]

Sharing decisions and responsibility

The report cites "the growing demand for participation not only in political but also in economic life and decisionmaking." This participation should lead to "a better integrated and more balanced society, where responsibility will be more widely shared".[13] "Trade unions and their members are . . . offering to share responsibility for decisions, and it will be to their own peril, and to that of future society if employers turn this offer aside."[14] The union economists' heavy emphasis upon "participation" in top-level company decisions is, in part, tribute to the great influence on Europe's unions in recent years of the German Federation of Trade Unions and its advocacy of codetermination in German industrial life. Success in extending participation "will greatly improve the prospects for reaching consensus solutions to distributional conflicts."

The economists recognize that forms of participation in the control of the decisions of companies necessarily vary from country to country but caution that "in order not to make further European integration too difficult" and in order not "to complicate negotiations [for participation in decisionmaking] with" transnational corporations, "there is need to try to ensure a certain homogeneity . . ."[15]

In keeping with their retention of much of Keynesian theory, the group emphasizes that investment "determine[s] the nature of economic growth." The report states that "workers and society as a whole, and not just management, must be involved" in investment decisions. For employers to gain acceptance of the necessary "level of profits required for investments and to give companies a sound financial basis, workers will increasingly demand a say in investments and a fairer share of the income they generate." To realize the "necessary consensus required to reconcile technological and industrial dynamism with an employment-oriented investment policy," workers must have a say in investment decisions.[16]

This emphasis upon a consensus to insure adequate and correct investment decisions is a recurring theme of the report. The group argues that there is a need "to disconnect saving-investment decisions from the struggle over income distribution, by giving workers collectively a share in, and a responsibility for, both savings and investments."[17] Otherwise, the eternal bargaining struggle over the relative shares of wages versus profits can hinder a smooth flow of savings into investment and weaken prospects for economic growth.

The report here clearly supports something similar to the Swedish union proposal for workers' sharing in corporate profits, savings, and investment.[18] However, the report also stresses the consensual value and necessity for enterprise growth inherent in such a proposal.

"Disconnecting income and wealth distribution is not only motivation for a workers' partnership in the economies . . . " the report notes that Keynes never bothered about "the motivation for working," as he "wrote against a background of hard work simply being unavoidable for most people in order not to starve . . .," and this harsh competitive ethic may have been useful in the decades before today's levels of technology and productivity had been attained. Today, "productivity is only partly dependent on technology" and "to a much greater extent than is often recognized it also depends on labour relations and the degree of consensus achieved inside a company and in society at large." The old work ethic, built on fear and greed, must increasingly give way to "the creative and contributive interest that workers can have in their jobs as such" and to their "wish to contribute to participate more generally in a society characterized by cooperation, solidarity and responsibility."[19] This is one aspect of the "consensus-based" economic arrangements proposed in the report.

With the call for a participatory investment process and a monitoring system to control prices, the report does not flinch from the next logical step—the necessity for an incomes policy as part of the new economic program. In the new economic order, the trade unions "would in a negotiated consensus policy have to accept overall wage increases that were compatible with the growth of real resources and with democratically determined rates of real investment . . . " Such wage increases would have to be handled in a way that they would "not start chain reactions going beyond what was compatible with stability—though without creating rigidities which would prevent necessary long-run adaptations." Wages should be "adapted to average growth of real resources in the economy, since wages based on sector or company productivity will cause too many tensions and complementary claims." This incomes system, along with participatory investment and price-monitoring, is a "trade union way out" of the chain reactions of past wage pressures.[20]

The report reaffirms trade union support for economic growth and full employment and indeed argues that the prescription it presents is a way out of current and prospective stagnation. Such growth, however, "is not an end in itself but should have qualitative as well as quantitative aspects . . . " The emphasis upon qualitative growth includes a call for "the protection of the environment," and, while it rejects going "back to some kind of pre-industrial society, as some romantics seem to want" the group insists that the "resource problem" must be carefully considered, as "decisions on technology and investment priorities" are made. It is also suggested that there will probably be "slower growth" than in the decade before 1974.[21]

THIS EUROPEAN trade union discussion document with an outline for a prospective new economic growth program comes in a period when there is a general groping for economic policies to cope with recent stagnation. Curiously enough, even in the face of severe economic difficulties, European socialist labor forces suggest no significant turn to traditional socialist ideas in the form of socialization or nationalization of the means of production. Rather, they support an effort to find a new kind of plan that incorporates "old" and "new" ideas.[22] In its emphasis on the need for a new and wider social consensus, especially between unions and employers, the report is likely to evoke considerable echo. ☐

FOOTNOTES

[1] See, for example, the first issues of the recently issued *Journal of Post-Keynesian Economics*, Vol. I, No. 1, Fall 1978, and No. 2, Winter 1978–79. There is no unity among the so-called post-Keynesians, but one important group has collectively published *A Guide to Post-Keynesian Economics* in the form of a series of articles in *Challenge Magazine*, 1978–79. This series will shortly be issued as a volume under the editorship of Professor Alfred S. Eichner, State University of New York—Purchase. A useful summary statement of some of the major precepts of this group of post-Keynesians can be found in Eichner's statement to the Special Study on Economic Change of the Joint Economic Committee of the U.S. Congress, May 9, 1979 (mimeographed—to be published in the JEC's hearings later). A more technical survey of the post-Keynesian theories is to be found in the survey prepared by Alfred S. Eichner and J. A. Kregel, "An Essay on Post-Keynesian Theory: A New Paradigm in Economics," *Journal of Economic Literature*, Vol. XIII, No. 4, Dec. 1975.

[2] The ETUC groups almost all the national union federations of Western Europe. It has a close working relationship with the European Economic Community.

[3] This institute was established in June 1978, by agreement between the European Trade Union Confederation and the Commission of the European Economic Community. The Institute will be financed principally by a 6-year contribution from the EEC, with the first year's budget set at around $615,000. The members of the ETUC executive body are also directors of this Institute, but the latter has its own staff, under the direction of Günter Köpke, formerly a staff official of the German Federation of Trade Unions (DGB), and also a former general-secretary of the European Metal Workers' Federation. The Institute is to "promote better training and information for workers and their organizations," and these are intended to contribute to the development of "an awareness of the European dimension and to improve living and working conditions in the Community." This survey of the ETUI is largely taken from a Press-Release of the EEC, dated June 6, 1978, Brussels.

[4] See European Trade Union Institute, *Keynes Plus a Participatory Economy* (ETUI-Brussels, 1979).

[5] See the important LO documents: *Trade Unions and Full Employment, Report to the LO Congress*, Stockholm, 1952; *Economic Expansion and Structural Change*, edited and translated by T. L. Johnson (London, Allen and Urwin, 1963), and the pamphlet by R. Meidner (then research director of LO) and B. Ohman, *Fifteen Years of Wage Policy* (Stockholm, 1972).

[6] A few of the smaller countries, governed usually by social democratic parties and backed by strong trade union movements, have been able to avoid any great increase in unemployment. I refer to Austria and Norway. Sweden has seemed to avoid any *official* unemployment rates, but this has been accomplished by a great increase in government training and work programs, subsidies for private production, inventory building, and so forth—all a kind of disguised unemployment. Germany and Japan have done somewhat better than other democratic industrialized countries, but even their unemployment rates have been high in comparison with the recent past.

[7] *Keynes Plus*, p. 1.

[8] *Ibid.*, pp. ii and iii. This Organization for Economic Cooperation and Development report is often referred to by the name of the chairman of its international drafting group, Paul McCracken, former chairman of the U.S. Council of Economic Advisers, and currently

professor of economics at the University of Michigan. The full title of the OECD report is, *Towards Full Employment and Price Stability*, Paris, 1977.

[9] *Ibid.*, pp. iii and 36.

[10] *Ibid.*, p. 2.

[11] *Ibid.*, p. iv. I have already noted above that the analysis of international aspects of stagflation and measures to cope with it are less effectively treated in this report. This call for international coordination remains a vague concept in the report.

[12] *Ibid.*, p. 50. The authors of the report recognize there are great administrative difficulties for governments, in undertaking selective intervention. They call for greater attention from government to help overcome inadequate administration characteristics of the past (pp. 52 – 53).

[13] The report also refers to the spillover effects and possibilities of the growth of participation into many social aspects of modern life, but I concentrate in this review on the economic aspects.

[14] *Keynes Plus*, p. ii.

[15] *Ibid.*, p. 20.

[16] *Ibid.*, p. iv.

[17] *Ibid.*, p. 56.

[18] See Rudolph Meidner, *Employee Investment Funds, An Approach to Capital Formation* (London, George Allen and Urwin, 1978) and the same author's recent update, "Employee Investment Funds and Capital Formation A Topical Issue in Swedish Politics," *Working Life in Sweden*, No. 6, June (New York, Swedish Information Service, 1978).

[19] *Keynes Plus*, pp. 57 – 55.

[20] *Ibid.*, p. 66. Collective bargaining agreements typically cover two-thirds to 90 percent of all workers in West European countries, much more than in the United States.

[21] *Ibid.*, p. 67. In part, too, growth may be slower because of the increasing shift of resources to the service sector, in most economies — a sector in which productivity "cannot really be measured." A unified, negotiated, general incomes policy "having the broad support of union members" is additionally essential to cope with the "strains on the system" which slower growth may bring. (*Ibid.*)

[22] In a recent article, one critic of European social democracy charges that the present day dilemmas of European social democracy "stem from its inherently flawed attempt to resolve the unresolvable, to construct a political program that is acceptable to both capital and labor." This effort was "valiantly and surprisingly successful" in the decades after World War II, but social democracy must become a genuine alternative "for capitalism in decline . . . for the era when social democracy could offer a harmonious vision of capitalist development is clearly past." Alan Wolfe, "Has Social Democracy a Future?" *Comparative Politics*, Vol. 11, October 1978, pp. 123 – 24. This new ETUI document would nonetheless appear to be part of a continuing search for an alternative of mixed, consensus-based economic order.

Labor force growth patterns

The evolution of the United States into a postindustrial economy in the past quarter century has been accompanied by dramatic increases in the size of the labor force. The mythology of a leisure society is giving way to the reality of a two-sex nonfamily work society.

1. While the working-age population of America increased by 46.3 percent from 1950 to 1976, the labor force increased by 52.3 percent.
2. This differential emerged despite the sharp declines in the labor force participation rates of men over the age of 65, since early retirement has become increasingly common. Indeed, the male component of the labor force did not keep pace with population growth, increasing by only 28.6 percent from 1950 to 1976.
3. In contrast, the rapid expansion of the female labor force (108.9 percent over the past twenty-six years) appears as one of the more striking trendlines of recent history. The labor force participation rate of women increased from 33.9 percent in 1950 to 47.2 percent in 1976.

The implications of this phenomenon by itself are myriad, not the least of which is reflected in the substantial increase in unemployment throughout the 1970's. Moreover, given the changing age structure of America and the rapid accession of the baby boom residuals into the labor force — as well as the unknown dimension of illegal immigration — the American economy may be severely strained to provide full employment in the very short-term future. Moreover, the competition presently facing our minority-group citizenry in this context cannot be minimized. But other repercussions are amplified as they manifest themselves within the family unit.

— George Sternlieb and James W. Hughes
Current Population Trends in the United States
(New Brunswick, N.J., Rutgers-The
State University of New Jersey, The
Center for Urban Policy Research, 1978), p. 49

Communications

New directions for income transfer programs

TIMOTHY M. SMEEDING AND IRWIN GARFINKEL

Most Americans would agree that it is the responsibility of government to ensure a certain minimum level of living. Government can meet this responsibility in two ways: by providing minimum standards of income, goods, and services only for those whose incomes fall below a minimum level or by providing minimum standards for everyone, regardless of income.

The income-support system of the United States does both. Aid to Families with Dependent Children (AFDC), supplemental security income, food stamps, and medicaid are restricted to those with low incomes—they are "income-tested." Public education, social security, and unemployment compensation are available to people regardless of income—they are "non-income-tested."

Programs that are not income-tested dwarf those that are, both in total size and in the number of people they lift out of poverty. Yet, until recently, most policy analysts assumed that income testing offered the most equitable and efficient method of transferring income to the poor. Now, research, sparked by the study of economic and social behavioral response to transfers, is leading some scholars seriously to question the superiority of income-tested transfers. Many others are already convinced that welfare policy should move away from income testing and toward a more universal non-income-tested approach.

Despite their differences, the supporters of each approach agree that recent income-support policy has been characterized by piecemeal changes without any serious, general consideration given to the kind of system that is to be achieved over the long run. The debate over income testing and the research it generates present an opportunity and a framework to focus systematically on the issues facing future income-support policies and also on several specific reform proposals that have immediate policy relevance. (For example, social security, child support, and national health insurance).

The Institute for Research on Poverty held a conference last spring on future directions—income or non-income-tested—for reform of the income-support system.[1] Many of the issues discussed at that conference and other questions which have been raised in this context are summarized here.

Definition and scope of the system

The terms "income-tested" and "means-tested" signify that inability to pay for basic goods and services is necessary to qualify for a transfer. They imply, further, that transfer benefits decline as income rises. The result is that program beneficiaries face higher implicit tax rates (benefit reduction rates) on their income than do the rest of the population, for programs that confine benefits to the poor must impose a benefit reduction rate on beneficiaries that is higher than the tax rate required to finance it. In contrast, a "non-income-tested" program is one in which neither eligibility nor benefits depend on inability to pay. Benefits are provided to all regardless of income. Although income-tested programs by their nature lead to regressive tax rates in the tax-transfer system, non-income-tested programs do not assure against regressivity. Programs which provide benefits to rich and poor alike can be financed in principle by an equally regressive tax structure. Moreover, non-income-tested social insurance programs like old age, disability, and unemployment insurance impose high benefit reduction rates on earnings, and therefore, have some of the regressive features of income testing.

In determining the effects of both types of programs, we may further classify them as categorical—programs in which eligibility is limited to certain groups, such as the aged—or noncategorical.[2] Benefits under either type of program may be paid in cash or in-kind. For instance, a negative income tax (such as former President Nixon's family assistance plan) is considered a categorical, income-tested cash transfer; a credit income tax (such as Senator McGovern's 1972 demogrant plan) is a noncategorical, non-income-tested cash transfer. Another useful differentiation is between programs that fall into the category of social insurance and those that do

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not. No social insurance programs are income-tested. But there are some non-income-tested programs which are not social insurance programs. For instance, free public education does not provide security against loss of income due to death, old age, or inability to work—the usual definition of social insurance—yet it is universally provided to all U.S. children, regardless of the income of their families.

The income-support system has come a long way since the debate over public education in the early part of the 19th century. Even then, the essential question was whether "free" public education should be provided only to the poor or to everyone. The 1935 Social Security Act instituted two types of programs: (1) an unemployment insurance system (UI), and a Federal social insurance system including old age insurance (OAI), later expanded to include survivors (SI) in 1938, and dependents (DI) in 1956, and finally, universal health insurance (medicare) for the elderly in 1965; and (2) a State specific welfare system for the aged, blind, and disabled (nationalized in 1974 as supplemental security income, or SSI), and for dependent children (AFDC), who in 1935 were mainly living with widows. In the 1930's, it was envisioned that the welfare system would remain rather small and unimportant, only catching those few who fell through the cracks of the social insurance system.

However, by the 1960's, welfare programs, far from withering away, had actually grown somewhat. Moreover, since the declaration of a "war on poverty" in 1965, legislative action has created a major and seemingly permanent role for income-tested transfer programs. Medicaid was born in that era and it has become our largest single welfare program; AFDC expenditures multiplied as divorce or parental desertion became increasingly common; and two types of aid to the "working poor" were first offered, in the form of an earned-income tax credit and food stamps. As the adequacy of benefits offered under welfare programs increased and coverage was expanded, more and more people were encompassed by the system.

Today, income-support payments from all sources average more than 20 percent of total household income, or about $200 billion. As a result, the incidence of poverty, as officially measured, has declined from about 22 percent in 1959 to less than 12 percent today. If in-kind transfer benefits are added to the cash incomes used to officially measure poverty, the incidence has fallen further, to about 7 percent. However, a serious poverty problem still remains, particularly for women heading families and racial minorities. About one-third of the families headed by black women, one-seventh of those headed by white women, and one-tenth of those headed by black men remain poor. Most importantly, the reduction in poverty did not occur because social programs provided a "hand up" for the poor to earn their way out of poverty. Increased transfer payments accounted for most of the progress against poverty, not increased reliance on earned income. Yet, most would agree that reliance on earned income is, in the long run, the most desirable answer to persisting poverty among those expected to work (that is, able-bodied adults, particularly those in two-parent families).

The income-support system includes more than 40 programs, covering 1 of every 4 Americans. Both the income-tested and non-income tested systems are clearly categorical. The welfare transfer system is dominated by in-kind benefits, while the social insurance transfer system is much larger, with payments mainly in cash. Currently, social insurance removes many more people from poverty than income-tested transfers, despite the fact that a larger share of income-tested expenditures is distributed to the poor.

Most Americans are dissatisfied with the transfer system. Incentives to better oneself through earnings are low, administrative costs, errors, and fraud are high, and the programs themselves are not well integrated. Increasing numbers of families are headed by divorced, deserted, or unmarried mothers. The amount of child support they receive from their absent spouses is trivial. As a result, increasing numbers of these families receive benefits from the aid to families with dependent children. Expenditures for medicare and medicaid are growing at an alarming rate. Less than half of those eligible participate in the Supplemental Security Income and food stamp programs. Because of differences in State eligibility standards and the lack of coordination among programs, many of the poor participate in several programs, while one-fifth receive no transfers at all.

Thus, reform in the welfare is beset with quandaries. Should the adequacy (and cost) of the system be increased or should costs (and adequacy) be reduced? How much emphasis should be put on work? And most importantly for the income-testing issue: should benefits be extended only to low-income families or to all families?

Issues in the income-testing debate

Work disincentive. Foremost among the issues is the effect of the current income-support system on work effort; and much of the discussion about that effect centers on tax rates. There are two types of tax rates: the explicit tax rate on taxpayers who finance the transfer and the implicit tax rates (benefit reduction rates) on transfer beneficiaries. An important finding from both experimental and cross-sectional studies[3] of labor supply is that work effort is adversely affected by marginal tax rates on earned income, whether coming from tax or from transfer programs. Moreover, groups currently aided most by the income-support system—the elderly, disabled, single-parent families, the poor, and the unemployed—were substantially more responsive to tax rates than married men who were neither old nor poor.

Given these conclusions on the impacts of tax rates, the high effective rates incorporated into the Nation's income support system take on new significance. The average benefit reduction rate in the Aid to Families with Dependent Children program is 40 percent.[4] Because AFDC beneficiaries also receive food stamps with a 25-percent tax rate, and sometimes live in public housing, where rent subsidies decrease as earnings increase, their cumulative benefit reduction rate is often nearly 70 percent. Moreover, medicaid pushes the tax rate over 100 percent for many of those whose earnings reach the point where they have to leave the welfare rolls, because loss of cash assistance often means going from no cost to full cost medical care. In other programs the story is the same. Thus, those groups whose work effort is most responsive to high tax rates confront higher combined marginal tax rates than anyone else in the economy. Indeed, the current system of income transfers penalizes the poor for working.

Economic efficiency. A closely related issue is the effect of welfare on net output and productivity. Income-testing advocates assert that income-tested programs are more efficient than non-income-tested programs. Until recently, there has been no research on the economic effects of income testing. While non-income-tested programs raise tax rates on upper income families more than do income-tested programs, they lower them on lower income families. The effects of income testing on economic efficiency, therefore, depend upon an analysis of whether it is more efficient to have higher tax rates on low- or on high-income families.

The pattern of high tax rates on groups with high propensities to substitute leisure for earnings contributes to the existing pattern of low work effort for these groups. And it runs counter to one of the most widely accepted principles of public finance theory—tax the inelastic factor. Because higher-income groups have less elastic labor supply schedules, it is possible that increases in output (that is, greater overall productivity), could be achieved and revenues held constant if tax rates were lowered for those with low earnings and raised through some form of credit income tax for those with high earnings.

This conclusion is supported by tentative results from the Seattle-Denver income maintenance experiment and other research,[5] which indicate that expanding the income-transfer system by simultaneously reducing tax rates in transfer programs and raising them in the positive tax system could lead to an increase in the gross national product. Earlier studies, based on estimates of the labor supply response of only the low-income population, found that reduced tax rates on beneficiaries increased their labor supply. However, this effect was counter-balanced by the reduction in labor supply of persons who became program beneficiaries when the lowered tax rates increased the breakeven level of income. These studies failed to account for the response of higher-income taxpayers to the increased tax rates required to finance the policy change. If tax rates on the poor are reduced, taxes and tax rates on others must be increased if net revenues are to remain constant. The new results suggest that the reductions in income from increased taxes on higher-income taxpayers stimulate an increase in their families' labor supply. These labor supply increases, together with increases of transfer beneficiaries, may actually exceed the decreases in labor supply of new beneficiaries and, hence, increase total output. Future research on the labor supply response to various income-support systems, particularly research on the labor supply response of higher income married women, will shed more light on whether it is more economically efficient to have higher tax rates on the poor or on the rich.

Administrative efficiency. The tax-transfer system places high costs on program participants, is expensive to administer, is rife with error on the part of administrators and open to fraud both on the part of transfer beneficiaries and service providers. Because the system attempts to tailor benefits or taxes to each individual's unique need or ability to pay, it fosters an erosion of the tax base in both transfer programs and the personal income tax. As a result of this erosion, marginal tax rates have been increased to maintain revenue levels, and welfare applications and tax returns have become more complex. Moreover, there is considerable deadweight loss involved in utilizing resources to avoid high tax burdens.

Proponents of a universal system point out that if income testing were removed, it would be necessary to frequently determine family status, needs, and the timing of transfer benefits for individual families. Hence, moving toward a comprehensive tax base (a move endorsed by many income-testing advocates as well) and relying on refundable personal income tax credits, coupled with a proportionate tax rate, are steps that would minimize administrative costs and incentives to alter or misrepresent incomes.[6]

Target efficiency. Target efficiency is the proportion of total benefits of a program which go to the poor. Proponents of income-tested transfers argue that for a given budget, income-tested programs deliver a larger percentage of benefits to the poor and are, therefore, more beneficial to the poor than non-income-tested programs. If the budgets available for income-tested and non-income-tested transfers are equal, income-tested programs are better for the poor. Suppose that a $5 billion surplus became available for transfer expenditures, but that larger expenditures were not politically feasible. In this circumstance, poverty is reduced most by using an income test. To forgo its use is to spread the comparatively small sum of $5 billion over such a large number of people (more than 215 million) that benefits would amount to less than $25 per person per year, and would make no dent in poverty. If the same $5 billion were expended on an income-tested program, so that only those with incomes below the poverty line benefited, the poverty gap would be cut by nearly half.

If the budgets are not equal, income-tested programs may be worse for the poor. Indeed, if the minimum payments rather than the budgets are equal, the poor are better off under non-income-tested programs. While income-testing advocates, on target efficiency grounds, have implicitly assumed that budgets are equal, advocates of non-income-tested programs argue that the wider a program spreads its benefits, the more political support it gains. Thus, non-income-tested programs provide more aid to the poor because they provide net benefits to more of the population. Current non-income-tested expenditures dwarf income-tested expenditures, but this does not mean that budgets for non-income-tested programs will become sufficiently larger than the budgets for the income-tested programs.

On a different level, proponents of a non-income-tested system argue that target efficiency is not really an efficiency measure at all but, if anything, an equity measure. A program whose impact is highly "target efficient" may be a system that is most economically inefficient because for a given budget, the more target efficient the program, the higher the benefit reduction rate and, thus, the higher the tax rate and work disincentive for beneficiaries.[7]

The choices before us

While most agree that wholesale substitution of a non-income-tested universal transfer system is not, at present, feasible, the income-testing debate is highly relevant for several current public policy debates, including aid to the elderly and female heads of households and the adoption of a national health insurance program.[8]

The elderly. The major benefit programs for the elderly are OASDI (not income-tested, but related to past earnings) and SSI (for those whose social security payments and other income are insufficient to lift them above the poverty level). However, these two programs need to be better integrated than at present. For instance, a substantial number of low-income OASDI recipients who have contributed to the Social Security system for many years, and who are also eligible for SSI, receive only $240 per year more than poor elderly persons who have made no contributions to the system at all. But should future policy efforts be directed toward expanding SSI, or toward revamping social security and better integrating it with SSI to provide a non-income-tested minimum income to all elderly people? Recent research on this issue has concluded that one cannot predict a *priori* which groups in the elderly population will benefit from income testing.[9] If guarantees are held constant, income-tested programs provide less income for the poor, and more for the rich, than do non-income-tested programs. But if earnings-replacement rates for the upper-income elderly and costs to the younger population are held constant, income-tested programs bring about higher incomes for the poor.

Single-parent families. Researchers have argued that preferential treatment of the single-parent family by the tax-transfer system, whether or not it occurs within an income-tested framework, is desirable on equity grounds because single-parent families have less earnings capacity than two-parent families.[10] But preferential treatment creates incentives for family dissolution (real or feigned). In this context, the income-testing issue can be translated into the question of whether to continue to aid single-parent families or switch to a social child-support program which reinforces the financial responsibilities of both parents, whatever their income level, but which guarantees a universal, minimum level of child payments—either publicly or parentally supported—for all single-parent families with children.

A non-income-tested, social child-support program that would, in effect, eliminate AFDC might work as follows: all single adults caring for one or more children would be eligible for a public child-support payment that would depend only on the number of children for whom care is being provided, and not on the income of the single parent. The benefit by the government would equal either some minimum amount or the amount paid by the absent spouse—whichever is larger. The payments would be financed by a tax on absent spouses equal to some proportion of their income for each child not living with them. If the tax paid by the absent spouse fell below the minimum payment, the shortfall would be financed from general revenues.

Health care. The national health insurance debate has also been subject to the income-testing issue.[11] Proponents argue that if a national program is to provide adequate health care for all at reasonable cost, it must reallocate health care services away from richer suburban families and toward poorer central city and rural residents. The current medicaid program, which limits the maximum charge for a given health care service, does not foster equal access. Because of these limits, many physicians do not participate in medicaid. Hence, a two-class medical care system which stigmatizes the poor has emerged. A national health insurance plan which extends medicaid to all low-income families would continue to separate the poor from the rest of the population. But a plan with universal coverage for all under one system would lead to more equal access and greater horizontal equity in care between high- and low-income families.

The choice between income-tested and non-income-tested policies in these and in other areas is not merely a methodological or an administrative choice. Decisions in this area will affect the future course of social policy in the United States. □

FOOTNOTES

[1] The theme of the 2-day conference was, "Should future reform of our income support system move in the direction of more or less income testing?" This article is based on papers presented at the conference and also on Felicity Skidmore and I. Garfinkel, "The Issues at the Conference," *Focus*, Summer 1979. The papers will be published in their entirety in a forthcoming volume of the proceedings.

[2] The term "categorical" refers specifically to programs which limit eligibility to certain types of people. Programs which provide benefits to all, but give different amounts of benefits to different categories of people (aged, single parents, children) are still "noncategorical," in our terminology.

[3] See I. Garfinkel and S. Masters, *Estimating the Labor Supply Effects of Income Maintenance Alternatives* (New York, Academic Press, 1978) and G. Cain and H. Watts, eds., *Income Maintenance and Labor Supply* (New York, Academic Press, 1973).

[4] R. Hutchens, "Changes in AFDC Tax Rates: 1961–1971," *Journal of Human Resources*, Winter 1978, pp. 60–74.

[5] D. Betson, D. Greenberg, and R. Kasten, "An Analysis of the Economic Efficiency and Distributional Effects of Alternative Program Structures: NIT vs. CIT," paper presented at the conference and M. Keeley, P. Robins, R. Spiegelman, and R. West, "The Estimation of Labor Supply Models Using Experimental Data," *American Economic Review*, December 1978, pp. 873–87.

[6] J. Kesselman, "Taxpayer Behavior and Administrative Principles of a Credit Income Tax," paper presented at the conference and J. Kesselman and I. Garfinkel, "Professor Friedman, Meet Lady Rhys-Williams: NIT vs. CIT," *Journal of Public Economics*, Vol. 10, 1978, pp. 179–216.

[7] Betson and others, "Economic Efficiency" and E. Sadka and I. Garfinkel, "The Welfare Economics of the Two Types of Programs," papers presented at the conference.

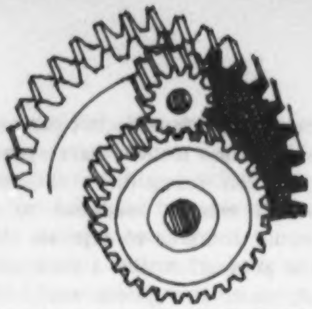
[8] The income-testing question is also relevant for other additional policy issues, such as tax reform, public education, publicly supported day care, and, of course, welfare reform.

[9] D. Berry, I. Garfinkel, and R. Munts, "Income Testing in Income Support Programs for the Aged," paper presented at the conference.

[10] H. Watts, G. Jakubson, and F. Skidmore, "Single-Parent Households under Alternative Transfer and Tax Systems," paper presented at the conference and S. Danziger, I. Garfinkel and R. Haveman, "Poverty, Welfare, and Earnings: A New Approach," *Challenge*, September/October, 1979.

[11] S. Long and J. Palmer, "Universal versus Income-Tested National Health Insurance," paper presented at the conference and comments on this paper by K. Davis and B. Wolfe.

Productivity Reports



Productivity declines continue into third quarter 1979

LAWRENCE J. FULCO

The productivity decline of the first half of 1979 continued into the third quarter, showing small reductions from second quarter levels in the private business and nonfarm business sectors. This was the longest period of decline since the recession of 1973–74, when productivity declined for seven successive quarters.

Manufacturing productivity, which declined in the first quarter and increased in the second, grew even faster in the third quarter, although the gain was confined to nondurables. Among nonfinancial corporations, productivity increased for the first time this year, showing an 0.7-percent gain in the third quarter.

Three consecutive quarters of productivity decline in the private business sectors make it virtually certain that productivity will show a drop for 1979, only the second time this has occurred since 1947 when the series begins.

Chart 1 shows changes in productivity, unit labor cost, and hourly compensation in the private business, nonfarm business, manufacturing, and nonfinancial corporate sectors since 1967.

The declines in productivity this year reflected different patterns of growth in output and hours. In the third quarter, output growth resumed in the private business and nonfarm business sectors, although the declines of the second quarter were not recouped. However, manufacturing output changed little because of offsetting movements in the durable and nondurable industries.

Hours of all persons engaged in the private business sector (production and supervisory employees, proprietors and partners, and unpaid family workers) increased in the third quarter, after a small decline during the second period. Employment growth also accelerated. In the third quarter, about 79.6 million persons were engaged in private business, the most comprehensive sector for which quarterly productivity measures are prepared.

In contrast, manufacturing hours and employment declined in the third quarter in both durables and nondurables. The drop in nondurable employment and hours, coupled with the increase in sector output, resulted in the large productivity increase. About 21.3 million persons were employed in manufacturing in the third quarter; about two-fifths of them were in nondurables.

The biggest productivity increase occurred in the nondurable manufacturing sector. An 8.7-percent gain in the third quarter reflected an increase in output of 4.3 percent and a decline in hours of 4.1 percent. This was the largest productivity gain in 4 years and contributed to the first decline in unit labor cost since 1975.

The following tabulation show the annual rate of change in productivity, output, and hours for four major sectors in the economy in the third quarter of 1979:

Sector	*Productivity*	*Output*	*Hours*
Private business	-0.7	1.7	2.5
Nonfarm business	-0.7	1.9	2.6
Manufacturing	3.3	0.3	-2.9
Durable	-0.2	-2.3	-2.2
Nondurable	8.7	4.3	-4.1
Nonfinancial corporations	0.7	1.6	0.9

Compensation, labor cost, and profits

After rising sharply in the first two quarters, hourly compensation decelerated in the third quarter in the private business and manufacturing sectors. The reduction in the rate of increase of labor compensation combined with the slight decline in productivity and resulted in the smallest increase in unit labor cost this year. (Unit labor cost—labor compensation per unit of output—increases with gains in hourly compensation, and declines with productivity gains.) Unit labor cost rose least in manufacturing, where for nondurables, it actually showed a small decline.

Increases in the seasonally-adjusted Consumer Price Index for All Urban Consumers (CPI-U) overbalanced gains in hourly compensation in the third quarter, and real hourly compensation declined again. In the private business sector, real hourly compensation was lower than it had been since the second quarter of 1976, reflecting the more rapid advance of the CPI-U.

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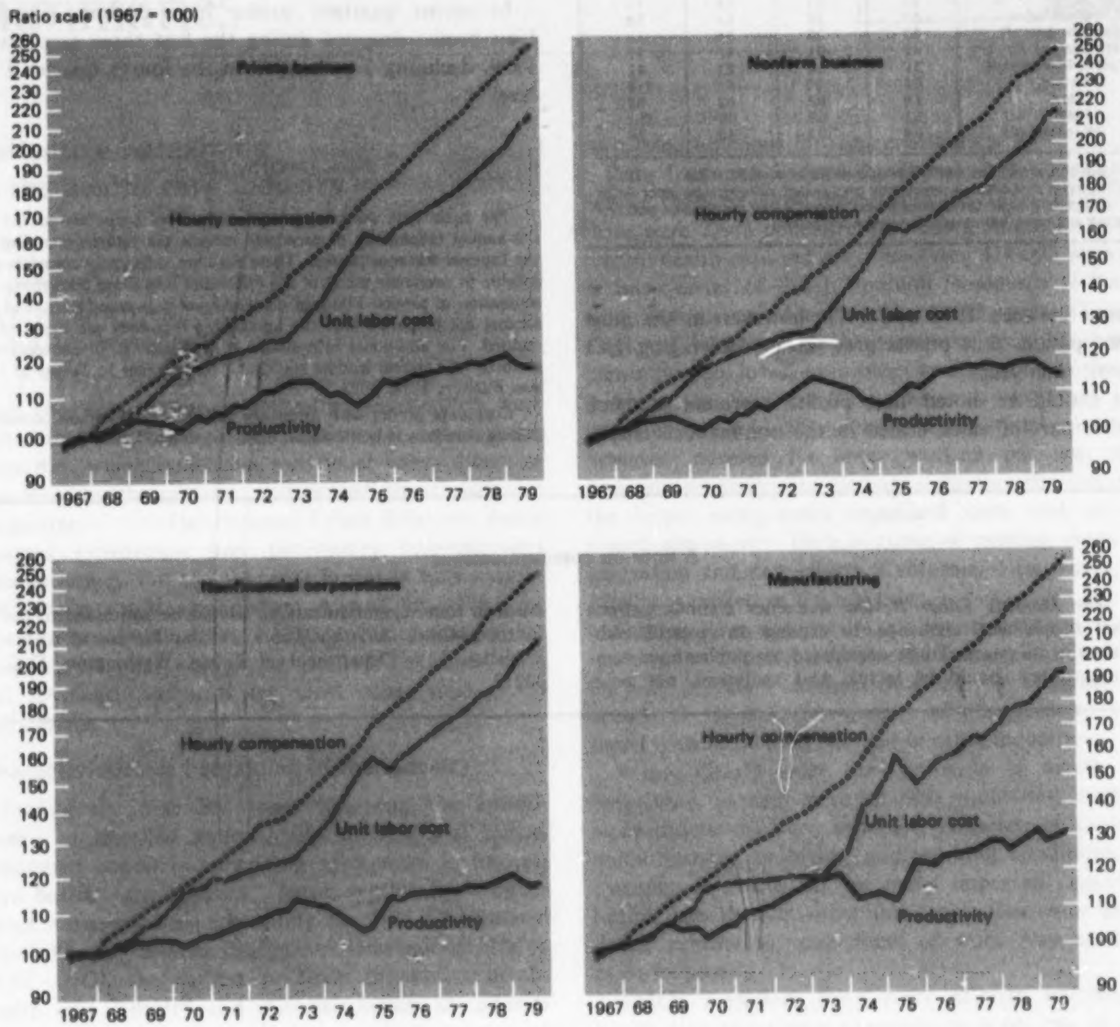
Chart 1. Productivity and related measures in four major sectors in the economy, 1967-79



The U.S. Department of Commerce's Bureau of Economic Analysis prepares quarterly profit measures for the nonfinancial corporate sector.[1] This sector accounts for about 75 percent of private business output and 68 percent of labor input hours and includes all corporations doing business in the United States, except banks, stock and commodity brokers, and finance and insurance agencies. In 1978, profits[2] were about $128 billion. Output was $1,247 billion (in current dollars), of which employee compensation accounted for $835 billion and nonlabor payments—depreciation, net interest, and indirect business taxes—were $412 billion.

Profits in the nonfinancial corporate sector increased at a 5.1-percent annual rate from 1959 to 1978, somewhat faster than sector output, which grew 4.6 percent per year over the period. Thus, profits per unit of output increased 0.6 percent at the same time. This relatively modest rate of increase over the entire time-span includes subperiods of markedly different performance, as can be seen in table 1.

Unit labor costs grew faster than unit profits over the 1959–78 period, averaging 4.0 percent each year. These costs showed little movement prior to 1965, increased 4.5 percent per year between 1976 and 1973, and 7.3

Table 1. Average annual rates of change[1] in productivity, costs, and profits in the nonfinancial corporate sector

Measure	1960–78	1960–65	1965–73	1973–78
Productivity	2.1	3.7	1.8	1.4
Hourly compensation	6.1	3.6	0.4	8.8
Implicit price deflator[2]	3.7	0.5	3.6	7.6
Unit labor cost	4.0	−0.1	4.5	7.3
Unit nonlabor payments	3.2	1.6	2.1	8.2
Unit profits	0.6	3.6	−4.1	11.8
Output	4.6	6.2	4.2	3.0
Profits	5.1	9.9	0.0	15.1
Unit nonlabor cost	4.6	0.3	5.9	7.0

[1] Least-squares trend rate fitted to the logarithms of the indexes of the data.

[2] The implicit price deflator is current-dollar gross product originating in the sector divided by constant-dollar output. Current-dollar product is equal to labor compensation, profit, and nonlabor cost (mainly indirect taxes, depreciation, and interest).

percent between 1973 and 1978; however, in the most recent period, unit profits grew faster—averaging 15.1 percent each year.

It should be noted that profits represent a much smaller part of value added in the nonfinancial corporate sector than compensation. In 1978, unit profits were roughly one-seventh unit labor costs in absolute terms, in spite of the faster rate of increase of unit profits during the preceding 5 years.

In recent quarters, profits have declined steadily. Unit profits dropped during the first three quarters of 1979, declining 7 percent from the fourth quarter 1978 level. ☐

FOOTNOTES

[1] The basic data underlying the estimates of corporate profits are the annual tabulations of corporate income tax returns compiled by the Internal Revenue Service. These data are sufficiently complete and reliable to overcome many of the difficulties which are inherent in the estimation of profits. Filing of detailed returns is mandatory, and the returns are prepared with the knowledge that they are likely to be audited. For additional information, see "Readings in concepts and methods of national income statistics," Supplement to *Survey of Current Business*, 1976, p. 71.

[2] Corporate profits with inventory valuation and capital consumption adjustments in nonfinancial domestic industries.

A note on communications

The Monthly Labor Review welcomes communications that supplement, challenge, or expand on research published in its pages. To be considered for publication, communications should be factual and analytical, not polemical in tone. Communications should be addressed to the Editor-in-Chief, *Monthly Labor Review*, Bureau of Labor Statistics, U.S. Department of Labor, Washington, D.C. 20212.

Research Summaries

Collective bargaining in the health care industry

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Prior to 1974, employees of health care facilities were excluded from coverage of the National Labor Relations Act, which establishes a national policy aimed at "encouraging the practices and procedures of collective bargaining. . . . " The National Labor Relations Board asserted jurisdiction over proprietary hospitals and nursing homes, but the nonprofit hospitals were exempt until the Act was amended on August 25, 1974. The amendments, Public Law 93–360, provided that private nonprofit hospital workers be granted the same rights and privileges legislated for most other workers 39 years earlier.

Characteristics of bargaining in the industry

During the first 2½ years following the amendments, at least 44 national and international unions negotiated collective bargaining agreements in the private health care industry.[1] Three organizations dominated representation, accounting for 3 of 5 negotiated contracts: the Service Employees International Union (AFL–CIO), the earliest to begin organizing in the health care industry and now the largest in industry membership; the National Union of Hospital and Health Care Employees (District 1199), a division of the Retail, Wholesale and Department Store Union (AFL–CIO), which began representing pharmacists in New York City and now is the second largest union in the industry; and the American Nurses Association, a professional organization which took on collective bargaining functions for registered nurses.

Data from the Federal Mediation and Conciliation Service (FMCS) show that during the 1974–76 period, there were 2,585 collective bargaining situations in the private health care industry, involving 414,000 workers, or one-quarter of the 1.7 million employees of health care institutions. Most workers (85 percent) were employed in hospitals; the remainder were in nursing homes or were involved in other health care activities.

About one-third of the agreements were first contracts covering 61,000 workers. These initial contracts, however, covered far fewer workers per unit than preexisting agreements, perhaps reflecting the fact that the larger more easily organized units had already signed agreements. Both in terms of existing union organization and new efforts, California, New York, and Michigan ranked as the top three.

Shorter term agreements are more common in the health care industry than in other industries. Contracts for 1 or 2 years were most frequent; 3-year agreements accounted for only one-quarter of all contracts, compared with more than one-half in other industries.

Wages clearly were the top issue in health care bargaining, as they were in other industries; however, some differences were apparent. Duration of contract, union security problems, and working conditions, for example, appeared to be more important issues in health care than in other industries. Grievance procedures, arbitration, and hours of work also appeared more frequently.

FMCS mediators were more actively involved in health care bargaining situations as a percent of total notices than in other bargaining situations. In the majority of negotiations, however, the parties progressed towards a final settlement without the immediate threat of a strike, and may not require active mediation. When mediation did take place, nearly 50 percent more meetings were required to resolve a strike.

Provisions of the amendments

The amended law provided for some special procedures designed to promote early bargaining and avoid strikes in the health care institutions. These procedures include: (1) advance notice to the FMCS of plans to modify or terminate a contract, (2) mandatory mediation, (3) a 10-day intent-to-strike notice to the institu-

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tion and to the FMCS, and (4) a special factfinding or Board of Inquiry (BOI) procedure to be used in cases of threatened or actual strikes.

In contract renewal or reopener bargaining, the party desiring to terminate or modify an existing contract is required to notify the other party of such intent at least 90 days prior to the expiration date, compared with the 60-day notification period established for other industries. In health care cases, FMCS must receive a written notice 60 days prior to the intent to terminate or modify the existing contract, instead of the 30-day notice requirement in other industries. In initial contract situations following certification of recognition, the labor organization requiring mediation assistance is required to give at least 30 days' written notice to FMCS that a dispute exists. Before a strike can occur in the health care industry, the union must give a 10-day intent-to-strike notice, in writing, to the institution and FMCS specifying the exact date and time the stoppage is to occur.

The BOI is designed to provide factfinding in an attempt to avoid strikes. Appointment of a BOI is at the discretion of the director of the FMCS if "a threatened or actual strike or lockout affecting a health care institution will, if permitted to occur or continue, substantially interrupt the delivery of health care in the locality concerned." The BOI is appointed for a 15-day term, during which the "findings of fact" and nonbinding recommendations are issued. Such appointment takes place no later than 30 days prior to expiration date of the contract, or within 30 days of receipt of the 60-day notice to the FMCS. In the case of initial contracts, the BOI, if convened, must be appointed within 10 days of receipt of the intent-to-strike notice.

BOI study findings

Extent of BOI involvement. For the first few months after enactment of the amendments (until November 1978), decisions to appoint a Board of Inquiry were based on a strict interpretation of the law, that is whether a strike or lockout would "substantially interrupt the delivery of health care in the locality concerned." It was found, however, that the establishment of a Board did not necessarily facilitate collective bargaining; many of the Board's reports recommended that the parties start bargaining—in some cases the parties had not even met prior to the appointment of the Board. After a few months, the FMCS determined that an additional factor should be considered prior to the appointment of a board—if the impact of a potential work stoppage was found to be substantial on the community as established by law, then a second factor, the impact on the bargaining process should be assessed.

To accommodate other provisions spelled out in the

Study update

While this survey of collective bargaining in health care institutions under the National Labor Relations Act amendments covers the first 2-½ years, nearly 3 years have elapsed since the research was concluded in December 1976 and the publication of the results. Data from the Federal Mediation and Conciliation Service (FMCS) indicate that from December 1976 to August 1979, the rate of board of inquiry appointments has actually declined, both those formerly appointed under the NLRA procedures and those agreed to by the parties in a "stipulation" apart from the explicit requirements of the act. This decline was observed between the two time periods—August 1974 through December 1976, and the most current comparable period, January 1977 to August 1979.

In the first period, 120 factfinding boards were appointed (91 under the formal procedures and 29 informally). During the intervening years, only an additional 80 boards were appointed. Each year since the first year, the numbers of appointments have been fewer.

A slower rate of appointments was noted in the original study and was predictable, as both the FMCS and the parties gained greater bargaining experience and began using the process only when such factfinding would be useful. Additionally, current data show that those FMCS regions in which factfinders were more frequently appointed initially continue to make appointments in approximately the same proportion in the more recent period.

One finding of the study was the desire of labor and management negotiators to have a preference in the selection of the factfinding board appointee. In July 1979, FMCS announced changes in its administrative rules to permit more input from the parties. Negotiators are allowed to jointly submit a list of proposed names to serve as a board member with the right to defer to a separate factfinding or arbitration procedure for resolving disputes.

Have the amendments reduced work stoppages? Unlike the decline in the number of factfinding board appointments, the incidence of strikes (in absolute numbers) increased during the most current period (129 in the first period versus 179 in the second). When viewed against the total collective bargaining activity since 1976, however, the strike rate has actually declined. From August 1974 through December 1976, a total of 2,585 bargaining situations was recorded by FMCS. From the start of 1977 to August 1979, an additional 4,705 sets of negotiations were held, an increase of 190 percent. Bargaining in the health care industry is more frequent and contracts of 2 year durations are common. This increase in collective bargaining activity is related to renegotiated contracts as well as the addition of new bargaining situations. Thus, when the total number of strikes to total collective bargaining situations in each of the two periods are compared, the rate of strike activity has actually dropped since 1976.

amendment, FMCS developed the concept of a stipulation agreement as an option to the Board of Inquiry. In cases where it is too early in the bargaining process to interpose a third-party neutral to assist in defining issues, the parties may agree, in writing, to permit the agency to appoint a factfinder at some later specified time. Then, after 30 days of bargaining have passed, FMCS reviews the state of negotiations and determines whether a factfinder is warranted.

During the first 2-½ year period, 120 boards were appointed (25 in the first 4 months), 29 of the total under the stipulation procedures. A monthly average of 90.5 health care bargaining cases were closed by the FMCS in 1975 (compared with 108.6 in 1976), while the monthly average number of Boards declined from 4.3 in 1975 to 3.7 in 1976. At the same time, health care disputes became more numerous and the appointment of Boards became more selective; thus, the percentage of Boards to total collective bargaining situations declined. More restricted use of factfinding following an initial period of heavy usage is not unique to the health care industry. Similar declines have been observed in the use of factfinding under the National Emergency Disputes of the National Labor Relations Act and the Railway Labor Act.

Generally, the number of contract renewal disputes resulting in Board appointments exceeded those for initial contracts: 64 percent were appointed in contract renewal cases, 7 percent were in reopener agreements, and the remaining were in first contracts. Seventy percent of the Boards were appointed for situations involving hospitals; 17.5 percent dealt with nursing homes disputes, and 10.8 percent involved other facilities, such as clinics and health maintenance organizations. In 37 percent of the Board cases, the mediators believed that one or both of the parties had delayed bargaining in anticipation of a factfinding board. More union than management negotiators wanted the Board of Inquiry, while more management than union chief negotiators believed that the other had delayed bargaining in anticipation of a Board of Inquiry.

Although the Service Employees International Union negotiated the largest percent of health care contracts (32.4 percent), it ranked third in its involvement in Boards of Inquiry (15.9 percent). District 1199 was involved in 45.8 percent of the boards, but only 16 percent of the negotiations; the various State nurses associations were parties in 19.2 percent of the Board of Inquiry situations and 15.9 percent of the health care negotiations.

Individuals selected to serve on Boards of Inquiry were chosen on the basis of their competency in factfinding, arbitration, and mediation skills, as well as experience in the health care field. Another primary criteria in the selection process was availability, because the Board must be appointed quickly, and its members must contact the parties, arrange for a meeting, and write recommendations all within 15 days. In all but 10 Boards, a single individual had been appointed, rather than a multiperson panel.

Despite criticism voiced by health care administrators and leaders of major unions that individuals selected to serve on Boards of Inquiry were uninformed about problems of the industry or issues raised at the bargaining table, three-fourths of the chief negotiators queried said that the persons assigned to the Board were qualified and knowledgeable in labor relations. Nevertheless, when further asked as to the preference of having a choice—in conjunction with the other party—on the selection of the factfinder, 70 percent of the management and 57 percent of the labor negotiators favored such an option.

Approximately two-thirds of the management negotiating committees were headed by outside legal counsel, while almost half of the union bargaining teams were headed by either the union business agent or international representative. Mediators noted that, although they encountered a number of inexperienced negotiators when the amendments first became effective, this occurs less frequently now. Many mediators commented on the unusually large bargaining committees in health care, compared with other industries.

The reports. Board of Inquiry reports ranged from a detailed discussion of all outstanding issues to simply "We met, we bargained, we settled." Forty percent of the reports contained no recommendations, due primarily to the initial 6-month period following enactment of the legislation when appointments were based on a strict interpretation of the impact on the delivery of health care without consideration to the state of bargaining. The mediators indicated that when the parties had met and negotiated before the Board convened, it was more likely to issue recommendations on how to resolve the remaining items in dispute.

Both the mediators and the individuals on the Boards felt that in approximately 2 of 5 situations, no effective negotiations had taken place prior to the board appointment. Again, this situation was most evident during the first 4 months after amendments became operative.

In almost three-fourths of the factfinding cases, the mediator was able to use the Board of Inquiry recommendations as the basis for further negotiations. In 14 percent of the situations, no additional mediation sessions were held, and in 13 percent, the parties accepted the factfinder's recommendations in total. Labor and management negotiators shared similar views on the value of the Board of Inquiry procedures; about 60 percent of both groups found the procedures useful. When asked to evaluate the usefulness of the recommendations, a slightly higher percentage of management than labor representatives found them helpful.

Ninety percent of the disputes that were settled prior to the convening of the Board occurred in the first year, and no reports were issued in these cases. Instances of the parties reaching agreement either prior to or during the Board's term were restricted to Boards appointed under the statute, rather than those appointed after a stipulation agreement had been reached.

During the congressional hearings on the amendments, eight factors were identified to be considered by the Board of Inquiry in making recommendations: (1) area wage levels, (2) adequate provisions for job security and fringe benefits, (3) cost of living, (4) career advancement, (5) equal employment opportunity, (6) equal pay, (7) provision for resolution of grievances without strikes, and (8) job training and skills.[2]

Individuals who served on a Board were asked which of these or other factors they considered in issuing recommendations. Most factfinders limited their considerations to economic issues and believed that these were the issues most often raised by the parties themselves. The specific recommendations offered in the reports and the comments of the negotiators, mediators, and factfinders indicated that issues in health care disputes were not very different from those in other sectors. In first-contract bargaining, issues involving union security and dues checkoff were frequently found. Other variances were related more to the relative degree of importance of issues, such as scheduling and patient care, although many of these factors have counterparts in other industries running 24-hour operations.

Recommendations for change. Most (80 percent) of those involved in health care negotiations would like to see changes in the amendments. The dissatisfaction with the current amendments centers on the Board of Inquiry procedures; suggestions for revamping focus on the timing problems experienced by the participants.

Members of factfinding boards were almost unanimous in their displeasure with the 15-day maximum term for the Board. Generally, they felt that the Board should be convened close to the expiration date. Solutions to the timing of a Board most often endorsed by the mediators and chief negotiators included factfinders appointments at the discretion of the mediator at any time and at the request of either party.

Impact on strikes

One of the most important concerns motivating the enactment of the 1974 amendments was the desire to eliminate strikes, particularly those involving recognition. A review of the 2-½ years following the enactment of the legislation indicates that the strike rate in the health care industry is similar to that in the economy as a whole, with a stoppage occurring in about 4 or 5 percent of all bargaining situations. Of 2,585 health care bargaining situations between August 25, 1974 and December 31, 1976, 129 strikes occurred. Another similarity is the duration of strikes, about 27 days both in all bargaining and in health care situations, although there appear to be longer and more bitter strikes in nursing homes. In a number of nursing home strikes, no collective bargaining ever occurs nor is a contract signed, and the union walks away after gaining recognition.

Unlike the practice in other industries, picket lines are infrequently honored by other organized units, making strikes by small units less effective. This "nonsupportive activity" occurred prior to 1974 as well and before the required 10-day strike notice.

Despite the similarities between bargaining in health and other industries, there is an important and distinct difference. In the health care industry, about one-third of all bargaining involves initial contracts, a proportion substantially higher than in other industries. Viewed under this circumstance, it might be concluded that the strike rate is actually better than in the economy as a whole, because few, if any, other industries are undergoing the rapid rate of new bargaining.

Mediators found the 10-day strike notice useful in promoting negotiations, especially in initial contracts. Labor unions, in contrast, found the notice cumbersome and confusing, but most importantly also felt that it provided management time to hire replacements and prepare for a strike. While the number of 10-day strike notices issued is not known, in 65 percent of all Board situations, a strike notice had been given, but a strike occurred in only 13 percent.

Influence of the National Labor Relations Board

Since the 1974 amendments were enacted, the National Labor Relations Board (NLRB) has decided a series of key issues which influenced collective bargaining in the health care industry. Two major decisions were the resolution of unit determination issues and denial of bargaining rights for interns and residents.

In extending bargaining rights to nonprofit hospital workers, Congress cautioned the NLRB to give "due consideration . . . to preventing proliferation of bargaining units in the health care industry."[3] After much deliberation, the NLRB determined that five units would be appropriate in hospital settings: (1) all registered nurses "if they are sought and they so desire" to be represented, (2) all other professionals, (3) technical employees, excluding service and maintenance personnel, (4) clerical employees in business offices, and (5) service and maintenance personnel, including nonoffice clerical workers. A sixth unit was added in 1977 to include physicians, excluding interns and residents.[4]

However, the clearly defined units have not solved election determination problems and have posed a threat to craft type unions which have represented health care workers.[5]

Another group whose survival has been threatened is the American Nurses Association and its State affiliates which act as the bargaining representatives. Current developments, including the challenge of the organization's status as a bargaining representative because of alleged supervisor domination, may result in internal change within the organization, strong takeover challenges by other labor organizations, or the splintering of established nurses' groups into independent unions.

While the NLRB amended its five basic unit determination decisions to include physicians, it explicitly treated interns and residents as students and not as employees covered by the amended National Labor Relations Act. In March 1976, the NLRB reasoned that housestaff physicians were enrolled in a program designed as a prerequisite for licensing examinations and certification in medical specialties not for the purpose of earning a living.[6] The question of whether interns and residents may engage in bargaining has generated considerable litigation and the introduction of bills to amend the 1974 amendments.[7] □

——*FOOTNOTES*——

[1] Because the 1974 amendments extended coverage of the National Labor Relations Act to the private health care industry, organizations of workers in public facilities and the role of the American Federation of State, County and Municipal Employees (AFSCME, AFL–CIO) and other organizations representing health care workers in the public and Federal sector are not discussed in this report.

[2] See *Congressional Record*, July 11, 1979.

[3] *Legislative History of the Coverage of Nonprofit Hospitals Under the National Labor Relations Act, 1974, Public Law 93–360, S. 3203* (U.S. Congress, Subcommittee on Labor, 93d Congress, 2d Sess., 1974, Report No. 93-760), pp. 12 and 274.

[4] A series of NLRB decisions form the basis for the unit determination rulings. See *Mercy Hospital of Sacramento*, 217 NLRB No. 765 (1975); *Barnent Memorial Hospital Center*, 217 NLRB No. 775 (1975); *St. Catherine's Hospital of Dominican Sisters of Kenosha, Wisconsin, Inc.*, 217 NLRB No. 787 (1975); *Sisters of St. Joseph of Peace*, 217 NLRB No. 797 (1975); *Newington Children's Hospital*, 217 NLRB No. 793 (1975); and *Ohio Valley Hospital Assn.*, 230 NLRB No. 84 (1977).

[5] For example, when the NLRB rejected a separate unit for stationery engineers in the 1975 Shriner's Hospital case (*Shriner's Hospital for Cripple Children*, 217 NLRB 806 [1975]), four hospitals in Kansas City filed petitions to decertify the International Union of Operating Engineers, which had represented this occupation for 20 years. While the union was successful in defeating the decertification, it amended its bylaws to expand its jurisdiction in order to continue representing health care workers. Four years later, the NLRB reversed its position and held that a community of interest does exist among the maintenance employees and power plant operators and that a separate unit is appropriate (*Riverside Methodist Hospital of Lynwood*, 78 NLRB No. 1048 [1979]).

[6] *Cedars-Sinai Medical Center*, 223 NLRB No. 251 (1975); reconsideration denied, 224 NLRB No. 626 (1976).

[7] More recently, the U.S. Court of Appeals for the District of Columbia Circuit held that the NLRB's 4-to-1 ruling in the *Cedars Sinai Medical Center* case was incorrect and that the legislative intent had been to extend the benefits of the NLRB to housestaff physicians. *National House Staff Association et al* vs. *Murphy* (C.A.D.C. No. 78–1209, Apr. 2, 1979). Again in 1979, Congress considered amending legislation to permit interns and residents the right to bargain as employees; however, the measure failed to enlist the needed support.

Measuring the social costs of instability in construction

Roger L. Bowlby, Sidney L. Carroll,
and Richard Evans

Governmental interest in stabilization of the U.S. construction industry dates back more than 50 years. The Hoover Commission of 1924 found that "Bad weather is not the principal cause of seasonal idleness. Customs which became fixed when builders had not yet learned to cope with adverse weather conditions have not yet been changed to meet improvements in building materials, the development of new equipment, and innovations in management methods."[1] A more recent study noted that "From its low point in February to its peak in August, contract construction . . . adds enough workers to staff the entire motor vehicle manufacturing industry."[2]

The authors recently participated in a study of the social costs of instability in the construction industry.[3] This report is drawn from that work, which was motivated by a desire to measure the potential benefits from stabilization.

The cost estimate assumed that the technology was available to reduce, but not eliminate fluctuations in construction activity. The nature of this technology or the reasons why it has not already been applied were not considered. Similarly, changes in government policy or other variables that would lead to stabilization were not considered. The cost of instability in 1977 was estimated by assuming that stabilization was accomplished some time before 1977, so that any windfall gains or adjustment costs of a one-time nature had already been realized.

Manufacturing was used as the standard of employment stability. However, the fragmented organization of construction, the custom nature of its output, and its exposure to weather make it unlikely that construction could attain the stability of manufacturing, even with new technology. Therefore, a position half-way between the present instability of construction and the stability

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attained by manufacturing represented a reasonable goal. The estimates generally assumed that such a position was reached before 1977 and maintained during that year.

As reported in the full study, the potential savings from stabilization construction during 1977 was estimated at $5.7 billion. This total was the result of the estimated potential savings for the following specific areas:

Area of potential savings	*Millions of dollars*
Total	$5,674.1
Lower unemployment benefit costs	562.0
Lower depreciation charges on invested capital	175.8
Lower inventory carrying costs by supplier firms	281.4
Lower wage rates and higher annual incomes	3,877.0
Fewer accidents	570.0
Shorter apprenticeship and fewer dropouts	207.9

Underlying these estimates are the following assumptions. With more intensive utilization of resources, the construction industry could produce the same volume of output with smaller inputs of labor and capital, thus freeing up resources for productive use by other industrial sectors. The value of the additional goods and services produced represents the social costs. Subsidiary gains could be realized if the remaining labor resources experience less disutility per unit of time worked or a higher degree of satisfaction per unit of real income, or if any resources become more productive per unit of effort. The dollar estimates are limited to the proximate effects of stabilization and to accounting categories included in the gross national product.

The turnover effect

The direct savings from lower labor turnover are perhaps the clearest savings, and so the costs of excess labor employed in construction are the most obvious. The industry provided more than 3.4 million full-time jobs in 1970; because of turnover, however, it employed more than 6 million persons during the year.[4] At one extreme the workers represented by this difference may have sought (or waited for) construction employment during the entire year, representing a total loss to society. At the other extreme, it is logically possible that no social cost was incurred by this turnover, if the displaced workers preferred school attendance, leisure, or other forms of nonparticipation to employment during their nonworking periods, or if they found jobs in other industries without frictional loss. The truth probably lies somewhere between these extremes.

Though an imperfect measure, insured unemployment benefits paid out provide the best available measure of the social loss. Though the strength of their attachment to the construction industry is uncertain, workers last employed in construction and drawing unemployment benefits are neither employed in other industries nor out of the labor force. If they are looking for jobs in other industries, their labor is still lost to society, and their separation from the construction industry is the proximate cause of their unemployment.

Table 1 shows insured employment and unemployment in contract construction by month during 1977. For each month, the hypothetical unemployment rate is the mean of the actual rates for manufacturing and construction. Hypothetical unemployment was calculated so as to produce this rate with actual employment unchanged. The reduction in insured unemployment represents labor that could be released from construction and made available to the rest of the economy. With stabilization completed prior to 1977, the absorption of these displaced construction workers by the rest of the economy also had been completed before 1977. Thus, the unemployment rate experienced by the released workers would be equal to the insured unemployment rate for workers outside construction, ranging from a low of 3.2 percent in November to a high of 4.7 percent in February. For each month, the gain to society from construction stabilization is the unemployment decrease in construction minus the unemployment increase in the rest of the economy.

If these weeks of unemployment are converted into dollars at the rate of the average unemployment benefit (which ranged from $75.92 in July to $81.54 in December), approximately $493 million of "avoidable" benefits were drawn by construction workers during 1977. In addition, it was estimated that the administrative costs associated with these transfer payments was $69 million.[5] Thus, the potential cash savings from a reduction in insured unemployment through moderate stabilization in construction during 1977 was estimated at $562 million.

As part of a more speculative analysis of foregone earnings, these unemployment benefits were used as a partial measurement of the total cost of unemployment to society—the waste of unrecoverable productive labor. (This cost was not included in the $5.7 billion of potential savings.) Because unemployment benefits seldom exceed half of lost wages, and typically have been significantly less, workers themselves absorb a significant amount of the social cost. With the social value of the lost labor as twice the unemployment benefits paid, the social cost of the 6,222,000 work weeks lost during 1977 was estimated at $1,035 million. This represents the value of the socially useful goods and services that could have been produced by the labor released by a more stable construction industry, offering the same number of working weeks to a smaller number of individuals with lower turnover rates. This estimate does not include the labor loss not compensated by unemployment benefits, although uninsured joblessness

Table 1. Employment and unemployment in contract construction by month, 1977

Month	1977 Actual		Hypothetical unemployment (after stabilization)	Unemployment rates	
	Insured employment	Insured unemployment		Actual	Hypothetical
January . . .	3,225,000	703,200	437,700	17.9	12.0
February . .	3,152,000	768,300	462,600	19.6	12.8
March	3,270,000	646,200	395,900	16.5	10.8
April	3,451,000	466,200	308,300	11.9	8.2
May	3,608,000	305,200	214,000	7.8	5.6
June	3,675,000	263,900	199,500	6.7	5.2
July	3,655,000	254,100	208,600	6.5	5.4
August	3,693,000	227,400	188,300	5.8	4.8
September .	3,712,000	199,500	162,700	5.1	4.2
October . . .	3,732,000	217,200	171,800	5.5	4.4
November .	3,686,000	252,000	194,000	6.4	5.0
December .	3,499,000	406,100	271,500	10.4	7.2

represents a social loss as certainly as does insured unemployment.

More productive capital

Though capital does not draw unemployment benefits, the same sort of potential social benefits would flow from more intensive utilization of a smaller quantity of physical capital. It was assumed that the capital inputs to the productive process in contract construction could be reduced by 2.5 percent through regularization of activity. This is somewhat less than the 3.1 percent reduction in the labor force implied by the data in table 1. In both cases, it was assumed that resources stand avoidably idle for such reasons as a customary building season, an arbitrary fiscal year, or lack of long-term planning, perhaps the result of a deficiency in information. What is demonstrably true in the case of labor can be presumed true in the case of nonhuman resources.

John W. Kendrick has estimated the capital employed in the construction industry at $39 billion in 1973.[6] Based on the 3.5 percent per year long-run growth trend, the 1977 capital stock was estimated at $45 billion. A 2.5 percent reduction in capital, if carried out entirely in 1977, would have yielded more than $1 billion of savings to the industry, and freed this amount of capital for deployment in other industries. Society could have benefited from higher production without loss of any construction output. However, if stabilization was completed before 1977, then this one-time potential gain can be ignored.

There would still be two potential gains to be counted for 1977: the 3.5 percent increase in capital required for long-term growth would be $43 million dollars less by reason of the lower base (the one-time reduction which took place before 1977); there also would be lower depreciation charges during 1977 on the decreased capital stock. Allowing straight-line depreciation at 6 percent, and assuming that depreciation depends only upon time and will not be accelerated by more intensive use of the smaller stock of capital, there were potential savings of $66 million from this source in 1977.

The effect on suppliers

Vendor firms that supply inputs such as bricks and mortar to the construction industry experience measurably higher costs because of irregular purchases by the construction industry. These become costs to society because the supplier firms, like the construction industry itself, must use extra resources that are denied to society and cannot be used to produce other goods and services. For computational purposes, it was assumed that vendor firms operate at a steady rate throughout the year altering their inventories to suit the erratic demands of the construction industry. In the real world, of course, some of these firms will close, so some of the costs will be embodied in idle labor and capital. Costs of these idle factors of production should approximate the estimated inventory carrying costs.

Carrying inventories involves a real cost to society in losses from fire, theft, casualty, and deterioration as well as from expenditures of land, labor, and capital that are made in order to minimize these losses. The annual costs for a widely fluctuating inventory were estimated at 20 percent of the average inventory value, partly because the land and capital requirements are a function of the maximum inventory.

To establish the base on which to apply this percentage rate, it was assumed that the timing of purchases by the construction industry coincides with the monthly total of value put in place. Thus, the amplitude of seasonal variation in purchases was estimated as the difference between the high and low months. Because the high and low months are about 6 months apart, half of this amplitude represents the mean excess inventory attributable to the instability of the construction industry.

The purchases of the construction industry from supplier firms were estimated by an input-output model, with separate estimates for five construction sectors.[7] Based on these data, the construction industry made $58 billion of direct purchases from supplier firms in order to put $100 billion of value in place. The difference between monthly purchases at the August peak and February trough amounted to $1.8 billion. In an average month during 1977, the vendor firms maintained approximately $900 million of excess inventories over and above the inventory that would have been required to supply a stable industry, and the excess costs to suppliers were $180 million during the year. There are no offsetting gains to others, and so this figure represents the social cost. It must be emphasized that inventory carrying charges were used as a proxy for these social costs, much of which came in layoffs or other manifestations of seasonality not estimated directly. The result, therefore, may overestimate the costs to vendor firms, who may find it cheaper to operate seasonally themselves, and shut down during the slack season in preference to maintaining inventories. In this case, of course, the supplier firms avoid the cost by passing it on to their workers, or to other taxpayers who pay transfer payments to the unemployed workers. The social cost remains.

Reduced wage differential

Economic theory suggests that labor markets are characterized by "equalizing" wage differentials that operate to make jobs equally attractive by offsetting nonwage attributes of less desirable jobs.[8] Construction industry wages are high, therefore, partly to compensate workers for the irregularity of employment. Stabilization of construction industry employment has the potential to benefit both labor and management by increasing the yearly hours of work per worker, making it possible to simultaneously lower wage rates and increase annual income. This would occur automatically in a perfectly competitive market; as the risk of layoff falls, the equalizing differential is reduced and all the benefits of stabilization accrue to employers in the form of lower wage rates. In a market perfectly controlled by workers, the differential might be maintained, so that all benefits accrue to workers as higher annual income. Collective bargaining may produce a compromise result, as the give and take between labor and management leads to a sharing of the benefits of stabilization.

The collective bargaining experience of the Tennessee Valley Authority involves separate union contracts for construction workers, even though most of these workers have the same job titles as some nonconstruction workers. Over 20 years, however, a stable wage differential developed in favor of construction workers, confirming the essential validity of the theory predicting such a result. It was assumed that this wage differential was typical of such differentials in the United States.

The wage differentials were computed for each occupational group on the Tennessee Valley Authority payroll and were weighted by the national importance of each occupation based on census data. If exactly half of the wage differential was eliminated through stabilization,[9] it was estimated that total wage costs could be reduced by approximately 8.4 percent. Translated to the total U.S. construction payroll, the potential savings for 1977 would have been $3,877 million.

Reduced accident rates

Another potential gain from stabilization would occur if productivity increases as a result of the more intensive—more days per year—use of resources. There are a number of reasons to believe that such may be the case. Training on the job through apprenticeship programs should proceed more smoothly with fewer dropouts, representing $207 million in potential savings. In addition, job skills should remain sharper with more regular use, and accident rates ought to decline.

The potential decline of accidents can be estimated from available data on job tenure[10] and accidents occurring for workers in each job tenure group.[11] It is well established that accident frequency is much higher for workers with the shortest length of service in their current job.[12] If stabilization lowers labor turnover, the mixture of employees would move more toward senior employees with relatively low accident rates.

The median construction worker has spent less than half the time on his present job as has the median factory worker. If stabilization changes the seniority distribution of construction workers to a point halfway between the construction and manufacturing distributions, and if the rate of compensable accidents remains constant across seniority classes, the number of compensable accidents in contract construction would be reduced by 8 percent.[13] The cost of workers' compensation in 1977 for the construction industry was estimated at $1.5 billion,[14] so the cost of the extra accidents attributable to short-term seniority in construction amounts to $114 million, counting only the cost of workers' compensation benefits. The real cost to society, of course, is not only the transfer payments to an injured worker, but the loss of labor, damage to machinery or materials, lost time by uncompensated fellow workers and supervisors, and the like. The total cost of an accident has been cited as five times the workers' compensation cost.[15] Thus, the social cost of these avoidable accidents for 1977 totals $570 million.

THE COSTS SUMMARIZED here are illustrative of the order of magnitude of lost national output attributable to instability in construction. The estimated total social costs/potential savings were $5.7 billion for 1977. By the very nature of the issue, much of the cost was difficult to reduce to dollar terms, and there is room for argument about the size of the dollar total. What seems certain, however, is that the social benefits would justify stabilization efforts if they were feasible from an engineering standpoint and involved the expenditure of even hundreds of millions of dollars. ☐

FOOTNOTES

[1] The President's Conference on Unemployment, *Seasonal Operation in the Construction Industries: The Facts & Remedies* (New York, McGraw-Hill, 1924).

[2] Robert J. Myers and Sol Swerdloff, "Seasonality and Construction," *Monthly Labor Review*, September 1967, p. 2. Calculations for 1977 indicate that this statement was still valid, and that employment in furniture and fixtures could be added to motor vehicle employment to more accurately match the change in construction employment.

[3] See *Social Costs of Instability in Construction: A Preliminary Report*,

Office of Construction Industry Services, U.S. Department of Labor, April 1979.

[4] D. Quinn Mills, *Industrial Relations and Manpower in Construction* (Cambridge, Mass., M.I.T. Press, 1972), p. 4.

[5] Unemployed construction workers probably qualify for other transfer programs such as food stamps which involve administrative costs.

[6] John W. Kendrick, *The National Wealth of the United States by Major Sector and Industry*, Washington: The Conference Board, March 1976. According to Kendrick: "Wealth, or its synonym 'capital', is generally defined as income—and/or output-producing capacity for the current and future years . . . [I]n this study . . . we are confining the measures of wealth to the conventional tangible, nonhuman categories of domestic structures, equipment, inventory stocks . . ." (p. 10).

[7] Specifically, we used tapes from the 1973 BLS *Economic Growth Model* on the assumption that the direct requirement coefficients were stable from 1973 to 1977. The sectors are residential, nonresidential building, public utilities, highways, and other construction.

[8] Adam Smith developed this theory quite thoroughly in Book I of the *Wealth of Nations*. It has an extensive literature, and it is treated in most elementary economics texts.

[9] It was assumed that some of the existing differential compensated for more difficult working conditions or a greater degree of skill or versatility required in construction, or both.

[10] Howard Hayghe, *Job Tenure of Workers*, January 1973, Special Labor Force Report 172, Bureau of Labor Statistics.

[11] Norman Root and Michael Hoefer, "The first work-injury data available from new BLS study," *Monthly Labor Review*, January 1979, pp. 76–80.

[12] One of the earliest demonstrations of this relationship was in a 1918 study by Lucian Choney and Hugh Hanna, published as report number 234 by the Bureau of Labor Statistics. Other studies reaching the same conclusion include E. L. Humke, "First Month Found Most Dangerous," *Personnel Journal*, Vol. 14, 1936; H. M. Vernon, "Prevention of Accidents," *British Journal of Industrial Medicine*, Vol. 2, No. 1, 1945; A. M. Adestein, "Accident Proneness: A Criticism of the Concept Based on Analysis of Shunter's Accidents," *Journal of the Royal Statistical Society*, Series A, Volume 115, 1952; and R. H. Van Zelst, "Effect of Age and Experience on Accident Rates," *Journal of Applied Psychology*, Vol. 38, 1954.

[13] Computation of this figure is more fully detailed in *Social Costs of Instability in Construction: A Preliminary Report*, Section II-E.

[14] Costs for the United States are estimated at $14 billion by the Social Security Administration, and BLS Bulletin 1830, *Occupational Injuries and Illnesses by Industry*, 1972, places the number of lost workdays in contract construction at 10.67 percent of the total for the United States.

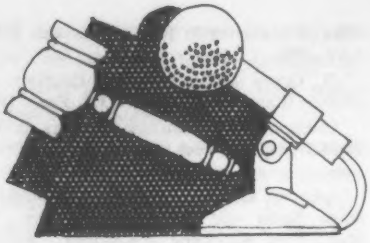
[15] This figure is given and justified by H. W. Heinrich, *Industrial Accident Prevention, A Scientific Approach*, 3d edition (New York, McGraw-Hill, 1950), p. 50. Heinrich states that the cost is probably higher in construction.

Youth in the work world

No country is satisfied that its youth know enough about the work world, and young people frequently concur in this judgement, acknowledging that they make important educational and occupational decisions on impulse or by chance. As significant as the gaps in knowledge are the false and overglamorized images implanted by the media and the erroneous or limited ideas conveyed by peers, parents, and relatives. While no segment of the youth population is free of these distortions, it is generally agreed that young people from low socioeconomic or disadvantaged backgrounds and minority populations have the greatest deficiencies of information and the least opportunity to obtain reliable information through informal sources. To say this does not refute the related finding that these groups also may have the most meager opportunities and the least inclination to seek and use objective, broad, long-range information.

The negative consequences of faulty or incomplete information are repeatedly cited. During the preparatory education-training period, excessive enrollments in certain courses, changes of courses, and dropping out reflect poor or insufficient information. Later on, difficulty in making decisions, unemployment, failure to enter the labor force, geographical immobility, employment below capacity, frequent job changing, loss of income, and other adverse experiences are attributed to inadequate information. Anxiety, fear, indifference, uncertainty, poor performance, irresponsibility, and dissatisfaction before and after entering work are additional dimensions. Berating the attitudinal and informational deficiencies of youth, employers compound the problem by a reluctance to hire or train young workers and a readiness to dismiss them.

—BEATRICE G. REUBENS
Bridges to Work: International Comparisons of Transition Services
(Montclair, N.J., Allanheld, Osmun & Co., Publishers, Inc., 1977), p. 51.



Conventions

Meany farewell, bid to Auto Workers, Teamsters mark AFL–CIO convention

EUGENE H. BECKER

George Meany, president of the American Federation of Labor and Congress of Industrial Organizations for 24 years, said goodby to the "house of labor" he helped to found in a keynote address to the 13th biennial convention of the AFL–CIO in Washington, D.C. And true to form he assured all critics that the labor movement is "alive and well" and, adding in a pugnacious note, "ready to do battle with any foe who would destroy it."

But the retiring Meany, also warned the 895 delegates to the convention, November 15–20, to beware of simply defending the status quo, while exhorting them to "constantly look to the future" for fresh leadership and ideas. Perhaps anticipating that Lane Kirkland, his successor, would invite some of the major independent unions back into the fold, Meany said there are "plenty of rooms in the house of labor," enough to house all organizations of workers. Later in the convention this theme was to be more forcefully picked up by Kirkland. (On January 10, Meany died at the age of 85.)

Kirkland elected president

The convention elected a new team of leaders, headed by former secretary-treasurer Kirkland as president and Thomas R. Donahue, former executive assistant to Meany, as secretary-treasurer. The ascendancy of two staff assistants (Kirkland held Donahue's job from 1960 to 1969) to the two top jobs was itself a break with tradition. They were elected, however, with a unanimity which was as much a tradition for the AFL–CIO as it was an expression of one last bow to the wishes of George Meany. Kirkland had long been touted as heir apparent to George Meany and in September when Meany formally announced his retirement, the mantle of leadership passed easily to his protege Kirkland despite some nascent grumbling and a reported bid for the presidential post by Operating Engineers President J. C. Turner. However, Meany made known to Turner his intention to nominate Kirkland at the convention, a fact of political life Turner accepted.[1]

Donahue joined the staff of the AFL–CIO in 1973, after serving as a vice president with the Service Employees International Union. His election as secretary-treasurer was unanimous. Martin J. Ward, president of the Plumbers Union, had earlier expressed an interest in the secretary-treasurer's job, but when Kirkland endorsed Donahue, Ward bowed out.

The only other elections involved members of the AFL–CIO's executive council. Following its usual practice, the council appointed a nominating committee just prior to the opening of the convention to recommend names for four vacancies on the council. The four new executive council members, elected unanimously, along with the 29 others are: Presidents John DeConcini of the Bakery, Confectionary, and Tobacco Workers; Wayne Glenn of the International Paperworkers Union; Robert Goss of the Oil, Chemical and Atomic Workers; and Daniel Maroney of the Amalgamated Transit Union. In the years since the 1977 convention, the council also added two other members, Fred Kroll, president of the Railway Clerks who filled a vacancy created by the death of Hal C. Davis of the Musicians in 1977, and John J. O'Donnell, president of the Air Line Pilots, who filled a vacancy created by the resignation of Joseph Tonelli of the Paperworkers in 1978.

In his acceptance speech, Kirkland suggested that the Federation would welcome those unions presently outside of it. Without mentioning names, he seemed to be referring to two unions in particular—the Teamsters, and the United Auto Workers—whose present membership is about 20 percent that of the AFL–CIO. George Meany's policy on readmission was to consider it if it were requested. Kirkland issued an invitation in these terms: "All sinners belong in church; all citizens owe fealty to their country . . . and all true unions belong in the American Federation of Labor and Congress of Industrial Organizations." Saying that he has too high a regard for the leaders outside the fold to believe that they can "really be governed by petty person-

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al or pecuniary considerations, or ancient and tedious grudges," the Federation is thriving despite "the absence of their contribution to the common weal." He reminded them, too, that "their pride and pelf do not equal what they are missing . . . because everything outside the AFL–CIO *is* really Hoboken."

Douglas Fraser, president of the Auto Workers, took exception to Kirkland's remarks, saying, "the unfortunate choice of words was a setback."[2] Teamster President Frank E. Fitzsimmons was more guarded, however, commenting, "The larger question of our reaffiliation is not immediately answerable. I can only say that we do not look upon the . . . question lightly."[3]

Carter joins in salute to Meany

George Meany had been the only president of the AFL–CIO since the merger of the two labor organizations in 1955. His influence in the American social and political arena has been great, spanning three-score years of activism. He has been counted among labor's most effective leaders.

All convention speakers, delegates as well as guests, noted Meany's accomplishments and contributions and bade him farewell. He was extolled in speech and some pageantry, not without sentiment and nostalgia and the assurance that the principles which the AFL–CIO had followed for 24 years would be preserved and advanced under a new leadership. In his acceptance speech, Kirkland summed up this idea with a single phrase, "Full ahead, steady as she goes."

President Jimmy Carter, the Secretaries of Labor, and Health, Education and Welfare, the minority and majority leaders of the House and Senate, and many others paid tribute to Meany's contributions to the betterment of working men and women across the Nation. However, leading all others in this paean was Lane Kirkland when he rose in support of resolution 265 which, among other things, gave Meany, as president emeritus, a salary for life equal to that of the president and honored him for his devotion to the labor movement over the years. (The Federation's constitution specifies 60 percent.)

Kirkland said the "life work of this one valiant man would do honor to a dozen men, if divided among their histories." And again using the vocabulary of the maritime industry in which he served, he went on to say that the salient features of Meany's record "enlighten and point like a lubber's line of a compass to the principles we must not let go of if we are to keep the faith."

Mergers transform AFL–CIO

Significant social and economic changes since the founding convention of the AFL–CIO in 1955 have had an impact on the nature and structure of the Federation. Changes occurring in the workplace, for example, are quite important to organized labor, because as technology moves in, the structure and nature of the work changes. Production-related workers in factories and plants are being replaced by clerical, administrative, and professional and technical employees at all levels of the economy. This means the old-line AFL and CIO craft and industrial unions that provided virtually all of the membership base of the labor movement 24 years ago may be "slow growth" organizations in the future. However, this is only one area of visible change since the merger.

A part of the groundwork for the merged AFL–CIO was laid in 1953 with the negotiation of a no-raiding agreement between the AFL and CIO. Subsequently, this agreement was embodied in the Federation's constitution. Member unions organizing in the same jurisdiction are encouraged to merge, and although merger is not to be dictated, Meany made a point of calling for it at all subsequent conventions. To date, there have been about 50 mergers, the largest and one of the most recent occurring in June between the Retail Clerks and the Meat Cutters to form the United Food and Commercial Workers with a combined membership of about 1.2 million. As a result of these actions, the number of AFL–CIO affiliates dropped from 138 in 1955 to 103 in 1979.

The structure of the AFL–CIO has also changed in the past quarter century. At its birth, the executive council had 27 members in addition to the president and secretary-treasurer, and since then has increased to 33. Furthermore, the number of trade and industrial departments has grown. Three new departments have been added since 1955: Food and Beverage Trade Department; Department for Professional Employees; and the Public Employee Department. Their formation reflects the increased attention organized labor is giving to groups considered "not organizable" in the past and reflects, as well, the changing nature of the work force. Among the targets for organizing drives listed by Meany in 1955 were teachers, white-collar workers, and government employees. Among the last group, membership in AFL–CIO affiliates has increased almost fourfold since 1956, from about 700,000 to almost 2.5 million in 1978.

High on the agenda of the AFL–CIO at its founding was the issue of civil rights. It was then couched in terms of encouraging "all workers without regard to race, creed, color, national origin, or ancestry to share in the full benefits of union organization."[4] In a 1973 constitutional amendment, sex was added to the list. An additional and continuing emphasis is being placed on affirmative action and equal employment opportunity programs "designed to open opportunities in the workplace that were previously closed to minorities and women."[5] Singled out in this respect was a major civil rights resolution, "Equal Pay for Work of Comparable Value." This resolution noted the continuing growth in the differentials between men's and women's wages and the undervaluation of the work that women have historically performed. The resolution urged efforts to correct these inequalities.

Kirkland used the occasion of this resolution to inform the delegates of an allied action taken by the executive council that would explore ways and means by which the "great contribution and role of women and minorities might be better reflected in that highly visible and important" body, that is, the executive council. The council agreed to establish a special committee to determine how women, blacks, and Hispanics might become members of the executive council. What the outcome will be is yet unclear because the council has generally been a white male preserve, limited to the presidents of affiliated unions. However, the only constitutional requirement for membership on the council is election to the AFL–CIO as vice president, and this is open to any member of an affiliated union.[6]

Obstacles to organizing

Organizing the unorganized was of as much concern at the 1979 convention as it was in 1955, though the emphasis was different. At the founding convention the resolution on the subject established the goal of doubling union membership in the years to come as well as revising the Taft-Hartley Act, which has long been looked upon by labor as an important cause of organizing reverses. Neither goal has been met; in those areas the AFL–CIO has suffered numerous setbacks.

The 1979 convention called for a strengthening of existing organizing programs, and the development and expansion of new programs. One resolution decried the increasing effectiveness of anti-union consultants, described by the executive council as "a new growth industry of union-busting 'labor-management consultants'—lawyers, psychologists, and other specialists—who depend for their livelihood on defeating or frustrating workers who seek to form unions and bargain collectively . . . through every legal and often illegal means . . . ." The resolution called on affiliates to report activities of anti-union consultants to the Federation's Department of Organizing and Field Services. It also called for legislation to deny consultants the use of tax exempt public and private colleges as a forum to promote "programs teaching employers how to violate the Nation's labor relations laws, which recognize workers' rights to organize and to bargain collectively."

While the 1955 goal of doubling membership in the AFL–CIO may have been optimistic, the Federation has managed to increase its membership base, but only marginally. The Bureau of Labor Statistics' biennial survey of union membership for 1956 showed a total AFL–CIO membership of 16.8 million. The 1978 survey reported a preliminary figure of about 17 million. However, the 1978 data exclude the Teamsters, expelled from the AFL–CIO in 1957 under the ethical practices provisions of the Federation's constitution, and the Auto Workers which withdrew in 1968. These two unions reported a total membership of 3.4 million in 1978 and 2.7 million in 1956. Adjusting the 1956 AFL–CIO membership figures to exclude the Teamsters and the Auto Workers provides a more realistic idea of organizing gains since 1956.[7]

As a further assist to effective organizing, the delegates pledged anew their founding convention resolve to repeal Section 14(b) of the Taft-Hartly Act, which gives precedence to State laws concerning union security which are more restrictive than those of the Federal Act. Recalling that the Senate in 1978 was not able to muster sufficient votes to cut off a filibuster on the proposed labor law reform bill, which among other things would have repealed the offending Section, Senator Robert C. Byrd, D-W.Va., treated the delegates to a lesson in "the new math:" To invoke cloture, he said, 60 votes are needed, not a simple majority of 51. He then suggested that if organized labor " . . . can't get 60 votes to invoke cloture, you won't be able to pass the legislation." The delegates adopted a resolution on labor law reform calling for legislation "narrow enough to be put to a vote and yet broad enough to be worthy of our support and passage."

Safeguarding collective bargaining laws

Beyond the usual resolution in favor of free collective bargaining and higher wages and fringe benefits, the founding convention had little to offer in the way of prescriptive advice. As has long been a tradition, the Federation assumes no direct responsibilities in this area which is of more direct concern to the individual unions. Nevertheless, the AFL–CIO does attempt to safeguard or improve the framework of laws or administrative actions under which collective bargaining functions.

In this regard the convention voiced its strong opposition to President Carter's program of wage guidelines announced in October 1978 as frustrating collective bargaining. At the same time, the delegates gave guarded approval to the "national accord" recently reached between the Administration and the AFL–CIO.

The accord for the first time established for labor "an acknowledged central role in the development of national and social economic policy."[8] It conditions labor's participation in a voluntary anti-inflation program on a "more equitable low-wage exemption, a system for hearing appeals and broader participation in the development of wage standards . . ."[9]

However, because the AFL–CIO has equal representation on the Pay Advisory Committee (established by the "national accord") which provides public participation and advice to the Council on Wage and Price Stability, it can now influence collective bargaining policy. The Pay Advisory Committee has as its responsibility to recommend changes in the basic 7 percent pay standard, the inflation assumption to use for evaluating automatic wage escalator contract clauses, the treatment of allied collective bargaining relationships, and the proper standard for workers not covered by wage escalator clauses.[10]

The "national accord," nevertheless, is not seen as a first step toward a program of mandatory wage and price controls. A clue regarding the potential difficulties in fully implementing the accord is found in a statement contained in a resolution on the national economy:

> "An overall anti-inflation program must be developed that is comprehensive, effective, and fair. If there is to be sacrifice, it must be shared according to the ability of groups in society to shoulder the sacrifice. If there is a need for a mandatory program of controls with the penalties for non-compliance, it should be a specifically legislated program of across-the-board controls, covering every source of income including profits, dividends, rents, interest rates, executive compensation, professional fees, as well as wages and prices."

Action on the floor

Underlying the harmony at the convention was the fact that all substantive policy decisions had been agreed to by various committees before the delegates voted as a whole. With only a few exceptions, the 309 resolutions were unanimously adopted without debate, or returned to executive council for further consideration.

The Musicians union led by Victor W. Fuentealba, had objected to the across-the-board 3-cent increase in monthly per capita dues and suggested, instead, a 2-tier tax structure to aid certain unions, the Musicians among them. The dues increase, from 16 to 19 cents, was recommended by the executive council just prior to the opening of the convention.[11] Claiming that the Musicians were faced with a unique set of problems—75 percent of their members are either unemployed or work part time at their jobs, that the National Labor Relations Board has ruled that musicians working in hotels, lounges, nightclubs, or catering houses, are not considered employees and thus are prohibited from picketing because of the lack of an employer-employee relationship, and that the union itself is over $1 million in debt—the union asked to be exempted from the across-the-board dues increase. Fuentealba indicated that if the convention did not concur "there soon may be another empty room in that house."

Kirkland took this as a direct threat to disaffiliate and dug for precedent into the Federation's history books to reiterate AFL–CIO policy. Citing a similar threat in 1912, faced by Samuel Gompers, he noted that Gompers' solution was to enjoin the executive council of the AFL from "taking any action whatsoever on the request of the brothers until such threat is withdrawn." A similar threat was made in 1961 and George Meany, citing the 1912 incident, said it was still the policy of the AFL–CIO not to bow to threats. To a round of applause from the delegates, Kirkland said "I again state that that is the continuing policy of the AFL–CIO." When finally the issue came to a voice vote, the convention rejected the Musicians' resolution for a 2-tier tax structure.

Displeased with the direction of many Carter Administration programs dealing with unemployment, inflation, recession, and taxes, the delegates approved a comprehensive resolution on the subject. Stating that the economy is saddled with the "twin evils of recession and continued high inflation," the resolution called for halting the downturn of the economy so that it "may reach its full potential of full employment, production, and real income." It went on to list a number of specific measures needed to meet the problems of recession and inflation, including a Federal stimulus to expand the economy and cut unemployment, tax reform, and the adoption or acceleration of government programs designed to provide jobs for the Nation's unemployed.

Fearing that the Administration proposals to cut back certain social security benefits in 1979 were a "trial balloon for what may be a larger effort" in 1980, the *Report of the Executive Council* said the program must be kept on a sound financial basis and that there is a need to strengthen its basic protections. The *Report* urged Congress to adopt a number of improvements to the program: Adjust benefits biannually instead of once a year; provide an occupational definition of disability for workers age 55 or over because these workers have little chance to obtain employment in an occupation, especially during periods of high unemployment; permit early retirement at age 60 but "with less than the full actuarial reduction in benefits;" and reevaluate benefit problems associated with women. The *Report* also went on record as opposing universal social security coverage for Federal, State, and local workers unless their present pension benefits are not reduced, the identity of those plans is not lost, and there is no diminution in the opportunity of government employees to improve their retirement systems in the future.

Picking up a page from the 1977 convention, the delegates again adopted resolutions to develop alternative energy sources, conserve energy, and protect the environment. But because of the changes in the energy supply situation since 1977 and record profits of many large oil companies, there was an equally strong call for the nationalization of the oil industry and the adoption of a windfall profits tax of 85 percent. The delegates also called for the establishment of a single governmental agency to determine the amount of oil to be imported, to negotiate its price directly with the OPEC cartel, and to allocate it throughout the United States. Alternative energy sources should not be limited to coal and nuclear energy, the delegates urged. They should also include a host of renewable resources such as wind, solar, tidal, and geothermal energy, and various new areas of potential energy including waste matter, oil shale, tar sands, and synthetic fuels. The nonreturnable bottle industry again got convention support. Fearing that any government legislation designed to restrict or prohibit the use of nonreturnable containers could cost as many as 60,000 jobs, the delegates advised a hands off policy in this regard. They also supported the 5-year accelerated Federal grants-in-aid program under the Clean Water Act to state and local governments. This act, designed to eliminate the national backlog of water and sewer projects, in addition to improving the Nation's water quality, would also create many jobs.

FOOTNOTES

[1] "Turner Says He Won't Run Against Kirkland For Chief of AFL–CIO," *The Wall Street Journal*, Oct. 18, 1979, p. 27.

[2] "Kirkland Leaves Meany Shadow," *The New York Times*, Nov. 25, 1979.

[3] "Kirkland Takes Reigns, Urges Key Unions to Join," by Warren Brown, *The Washington Post*, Nov. 20, 1979, p. A–2.

[4] Joseph W. Bloch, "Founding Convention of the AFL–CIO," *Monthly Labor Review*, February 1956, pp. 141–149.

[5] *Report of the AFL–CIO Executive Council*, 1979, p. 194.

[6] See AFL–CIO Constitution, Art. V, Sec. 2.

[7] Various newpaper accounts report current AFL–CIO membership as 13.6 million. This figure is based on per capita tax reports to the AFL–CIO and excludes all foreign members of AFL–CIO affiliates. The BLS figures cited include these members. For the U.S., AFL–CIO reported membership in 1978 was 15.6 million, or 69 percent of the organized work force.

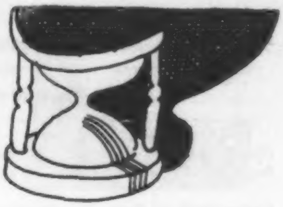
[8] Lane Kirkland, Comments in support of Resolution 265, "George Meany," AFL–CIO Convention, November 16, 1979.

[9] *AFL–CIO Resolutions, Thirteenth Convention*, 1979, pp. 5–6.

[10] Leon Bornstein, "Developments in Industrial Relations," *Monthly Labor Review*, November 1979, pp. 58–61.

[11] A 3-cent increase was approved at the 1975 convention and again in 1977, both to offset current and expected deficits. The 1979 increase is to offset anticipated deficits of about $4.3 million over the next 2 years.

Major Agreements Expiring Next Month



This list of collective bargaining agreements expiring in March is based on contracts on file in the Bureau's Office of Wages and Industrial Relations. The list includes agreements covering 1,000 workers or more.

Employer and location	Industry	Union[1]	Number of workers
Allied Employers, Inc. (King-Snohomish Counties, Wash.)	Retail trade	Food and Commercial Workers	4,000
American Airlines, Inc., Ground Service (Interstate)[2]	Air transportation	Transport Workers	12,500
Anchor Hocking Corp. (Interstate)	Stone, clay, and glass products	Glass Bottle Blowers	5,000
Associated General Contractors of America, Inc.:			
Connecticut Chapter	Construction	Carpenters	1,100
Maryland Chapter	Construction	Laborers	2,450
San Antonio Chapter (Texas)	Construction	Carpenters	1,300
Borg-Warner Corp., Warner Gear Division (Muncie, Ind.)	Transportation equipment	Auto Workers (Ind.)	1,400
Brockway Glass Co., Inc. (Interstate)	Stone, clay, and glass products	Glass Bottle Blowers	7,500
Builders Association of Missouri, 2 agreements (Kansas and Missouri)	Construction	Laborers; and Teamsters (Ind.)	5,600
Building Managers Association of Chicago (Illinois)	Real estate	Service Employees	5,000
California Metal Trades Association (Northern California)	Fabricated metal products	Machinists	3,000
Campbell Soup Co. (Camden, N.J.)	Food products	Food and Commercial Workers	1,500
Carter County Fibers, Inc., Viscose Plant (Elizabethton, Tenn.)	Chemicals	Textile Workers	1,400
Cincinnati Gas and Electric Co., and Subsidiaries (Ohio)	Utilities	Independent Utilities Union	1,150
Commonwealth Edison Co. (Illinois)	Utilities	Electrical Workers (IBEW)	5,300
Connecticut Construction Industries Association, Inc.:			
Heavy and Highway work (Connecticut)	Construction	Carpenters	6,100
Heavy and Highway work (Connecticut)	Construction	Bricklayers	2,500
5 Divisions (Connecticut, New York, and Rhode Island)	Construction	Operating Engineers	2,500
Dairy Employers Labor Council (Washington)	Food products	Teamsters (Ind.)	1,000
Food Markets Agreement (Minneapolis, Minn.)[3]	Retail trade	Food and Commercial Workers	6,500
Glass Containers Corp. (Interstate)	Stone, clay and glass products	Glass Bottle Blowers	3,100
Gould, Inc. (Philadelphia, Pa.)	Electrical products	Auto Workers (Ind.)	2,800
Grower-Shipper Vegetable Association, Packinghouse Agreement (California)	Wholesale trade	Food and Commercial Workers	1,000
H. J. Heinz Co., Heinz U.S.A. (Pittsburgh, Pa.)	Food products	Food and Commercial Workers	1,800
Heavy Construction Association of Greater Kansas City Area (Kansas and Missouri)	Construction	Laborers	1,500
Imperial and 3 others Negotiating Committee (California and Arizona)	Agricultural services	Food and Commercial Workers	2,000
Indian Head, Inc. (Interstate)	Stone, clay and glass products	Glass Bottle Blowers	2,300
Industrial Conference Board, grocery stores (Pierce County, Wash.)	Retail trade	Food and Commercial Workers	1,600
ITT Continental Baking Co. (Crozet, Va.)	Food products	Teamsters (Ind.)	1,000
Liggett Group, Inc. (Durham, N.C.)	Tobacco	Bakery, Confectionery and Tobacco Workers	1,650
Metal Trades Independent Companies (California)[3]	Fabricated metal products	Machinists	2,450
Michigan Distribution Contractors Association (Michigan)	Construction	Laborers	2,000
Milwaukee Transport Services, Inc. (Milwaukee, Wis.)	Transit	Transit Union	1,200
Moore Co., Inc. (Chicopee and Springfield, Mass.)	Primary metals	Directly Affiliated Unions	1,350
Moving and Storage Industry (New York, New Jersey and Connecticut)[3]	Trucking	Teamsters (Ind.)	2,300
National Broadcasting Co., Inc. (Interstate)	Communication	Broadcast Employees and Technicians	1,550
National Can Co., Foster-Forbes Glass Co. Division (Interstate)	Stone, clay and glass products	Glass Bottle Blowers	2,000
Northern California Dairy Association (California)	Food products	Teamsters (Ind.)	1,600
Owens-Illinois, Inc.:			
(California and Oregon)	Stone, clay and glass products	Glass Bottle Blowers	2,400
Forming Department (Interstate)	Stone, clay and glass products	Glass Bottle Blowers	1,800
Production and Maintenance (Interstate)	Stone, clay and glass products	Glass Bottle Blowers	13,600

See footnotes at end of table.

Continued—Major Agreements Expiring Next Month

Employer and location	Industry	Union[1]	Number of workers
Philadelphia Food Stores (Pennsylvania, New Jersey, and Delaware)[3]	Retail trade	Food and Commercial Workers	2,500
Puget Sound Power and Light Co. (Bellevue, Wash.)	Utilities	Electrical Workers (IBEW)	2,000
Restaurant-Hotel Employers' Council of Southern California, Inc. (California)	Restaurants	Hotel and Restaurant Employees	9,000
Rockwell International Corp. (Richland, Wash.)	Chemicals	Directly Affiliated Unions	1,200
Southern California Gas Co. (Los Angeles, Calif.)	Utilities	Two or More AFL-CIO Unions	5,600
Union Carbide Corp. (Texas City, Tex.)	Chemicals	Directly Affiliated Unions	1,600
United Super Market Association (Detroit, Mich.)	Retail trade	Food and Commercial Workers	11,000
Weatherhead Co. (Indiana and Ohio)	Transportation equipment	Auto Workers (Ind.)	2,000
West Coast Envelope Employers Council (California)	Paper	Printing and Graphics	1,000
Wyman-Gordon Co., Inc. (Worchester and North Grafton, Mass.)	Primary metals	Steelworkers	1,000
Xerox Corp. (Rochester, N.Y.)	Instruments	Clothing and Textile Workers	4,600
	Government activity	**Employee organization[1]**	
Ohio: Cuyahoga County Hospital, nonprofessional employees	Multidepartment	State, County and Municipal Employees	2,800
Ohio: Cuyahoga County Welfare Department	Multidepartment	State, County and Municipal Employees	1,500

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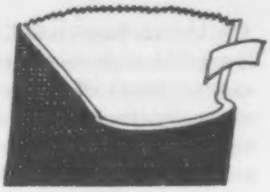
[1] Affiliated with AFL-CIO except where noted as independent (Ind.).

[2] Information is from newspaper reports.

[3] Industry area (group of companies signing same contract).

Book Reviews



Now we know how—but can we?

The World Economy: History and Prospect. By W. W. Rostow. Austin, University of Texas Press, 1978. 833 pp. $34.50.

Getting From Here to There: America's Future in the World Economy. By W. W. Rostow. New York, McGraw-Hill Book Co., 1978. 271 pp. $14.95.

These two books are complementary. In *The World Economy,* Professor Rostow starts back in the 18th century and carries the history down to 1977. In the second book, he projects the economic outlook through the next quarter century to the year 2000.

The first book, a comprehensive history of more than 800 pages, traces the various aspects of population dynamics and economic growth over the last two centuries. World population grew at a rate of about 0.5 percent a year up to the year 1900; doubled to 1.0 percent during 1930–50; and then doubled again to 2.0 percent, 1960–70. These developments are analyzed by Rostow, showing that it has been the spectacular decline in death rates throughout the world which has brought about the population explosion.

The author analyzes industrial growth and its diffusion throughout the world, with emphasis on the growth of international trade and makes a more detailed analysis of the stages of economic growth in each of 20 countries, starting with Great Britain and the United States and ending with Taiwan, Thailand, and South Korea.

Professor Rostow devotes a chapter to balanced and unbalanced growth over the last two centuries, followed by a chapter on business cycles, starting with the 18th century, 1700–1783; and followed by the Classic era, 1783–1914; and then by recent developments down to 1973. He closes the historical book with a section on the Future of the World Economy, focusing on the "Fifth Kondratieff Upswing" which is projected for the last quarter of the 20th century. (Kondratieff was a famous Russian historian executed in the mid-1930's by Stalin, who had no use for scholars.)

So the second book (subtitle: *America's Future in the World Economy)* opens with a restatement of the long-range business cycles originated by Kondratieff and carried forward by Rostow. Here are the original cycles with Rostow's continuations:

Kondratieff		*Rostow*	
1790–1815	up	1920–1933	down
1815–1848	down	1933–1951	up
1848–1872	up	1951–1972	down
1872–1896	down	1972–1977	up
1896–1920	up	1977–2000	up?
1920–1930	down		

Kondratieff's idea was that long-range economic cycles covered about half a century, up and then down. But Rostow pointed out that World War II changed the down cycle into a worldwide upturn, which then gave way to a typical postwar downturn, 1952–1972. Following the severe recession, 1974–75, there has been an upturn, which was still underway in 1979. Rostow's thesis is that this could be the beginning of a quarter-century worldwide upturn. He then proceeds to make the case for such a prospect.

In passing, Rostow devotes a chapter to the "Bankruptcy of Neo-Keynesian Economics". Keynes originally had a classical economist's view of business upturns and downturns. But after World War I, the unionized workers in Great Britain forced a general strike in 1926, which prevented normal wage reductions. Keynes then developed the theory that rising consumer incomes would create effective demand for goods and services, which, in turn, prevented a worldwide depression after World War II. However, Keynes had no formula for restraining the economy during inflation.

As Rostow states, "It will no longer suffice to focus obsessively on the indiscriminate expansion of effective demand . . . the world of the 1970's and 1980's cannot afford to waste manpower . . . every man and woman available in the working forces of the advanced industrial economies (must) be put to work on high-priority tasks . . . an extravagant, neo-Keynesian policy makes neither economic nor political sense."

The greatest crisis facing the next quarter century is the population explosion versus limited food production. The world population in 1977 was about 4.0 billion; by the year 2000 it will be 6.5 billion. On the contrary, world food production is failing to keep pace.

The United States and Canada are the only countries in the world with substantial food exports to the hungry nations. Great efforts are being made, locally and internationally, to stimulate higher productivity in agriculture. Futhermore, there is need for an ever-normal granary (such as the United States developed in the 1930's) in order to avoid the wild price fluctuations of the 1970's. Improved agriculture can help the food problem, but it must be supplemented by better population control in many nations.

Rostow then tackles the energy problem, which he labels "A Test of the Democratic Process." When oil prices exploded in 1973–1974, the world economy was shaken into a depression. But the actions of the oil-importing governments failed to match the problem. The United States was the worst performer, upping its imports from 4 million to 8 million barrels per day by 1977. Furthermore, in the United States, the Administration's national energy plan projects such low prices for natural gas that there is little prospect for gas as a solution to the energy problem.

However, Rostow cites technological advances which hold great promise for the longer future—the liquid-metal, fast-breeder reactor, the possibility of fusion, and the eventual solution of solar energy.

He closes on a hopeful note: "The human race faces in the generation ahead, therefore, the greatest challenge it has confronted since modern industrialization began in the late 18th century: the challenge of creating a new, hopefully infinite and non-polluting source of energy."

Raw materials are a major factor in the Kondratieff cycles. In the down phase they become plentiful and cheap. In 1972, for example, the price index for raw materials was only 122; but by 1976 it was 214, not far from double. The shortage was brought about by a slackening of investment in the 1960's combined with the new governmental regulations dealing with the environment, health, and safety.

The domestic U.S. situation was further complicated by international developments. That well-advertised study on *Limits to Growth* had forecast a world-wide long-run shortage of many basic raw materials—copper, lead, zinc, molybdenum, and gold. But a table published by the U.S. Geological Survey in 1973 showed that, at present rates of annual consumption, metals such as coal, iron, uranium, and especially aluminium are in ample supply for thousands of years.

The real problem is distribution. Minerals are often highly concentrated in a few countries (such as lead in Peru) which then may be able to exact a monopoly price. One possible solution is a broad international agreement for fair sharing. Another solution is the discovery of unlimited metals on the ocean floors, on which the United Nations has been unable to get an agreement in 5 years. Rostow's conclusion is that the current raw materials shortage is temporary; there is an ample supply for the longer future.

Productivity in the United States took a turn for the worse during the 1970's. For decades the domestic economy had an increase in output per hour averaging 3 percent a year, which has operated to lower labor costs to that extent. But in the 1970's, the rate fell to 1 percent and in some quarter-years to zero. A dramatic example is coal mining, which had annual increases of about 6 percent a year from 1948 to 1968, but which declined by nearly 3 percent a year in the 1970's.

Two factors are primarily responsible: first, the new health and safety standards, which raised labor costs in many industries, and second, the expansion of jobs in retail trade and the service industries, where productivity is low. With collective bargaining still proceeding on the assumption of substantial productivity increases, the result is a rising cost-of-living inflation.

Rostow has two suggestions. First, workers should recognize that there is (temporarily) no productivity increase for wages, and second, that major efforts should be made to stimulate productivity throughout the economy. The unions should recognize that this is the only solution to inflation; otherwise, rising consumer prices undermine the wage increases before the year is over.

This productivity experience leads Rostow to raise the question, Is Human Creativity on the Wane? His conclusion is that the long-run future is heavily dependent on the success of the next quarter century.

The fact is that U.S. investment in research and development has been declining, whereas in Germany, Japan, and the U.S.S.R., there are significant increases. Yet, there are many new possibilites in developmental biology, astronomy, and materials substitution, plus inventive new directions in agriculture, energy, sea-bed mining, and the communications revolution. Such expansion can only be achieved by private industry. The question is whether the government will give industry the opportunity.

The crucial issue is inflation. In Rostow's words, "How to conduct anti-inflationary policy in the context of the fifth Kondratieff upswing?" There are two answers. One is on the supply side, which is to insure that there is expanding investment in productivity, energy, food, raw materials, and research. The other is on the demand side, where noninflationary wage-price agreements require that both labor and business accept restraints which clash with their conventional ways of operating.

Rostow's solution is long-term voluntary agreements, backed by legal reserve powers. There are three reasons why this may work. First, in public opinion polls, inflation ranks higher than unemployment as the issue of public concern. Second, serious businessmen and labor leaders know that inflation is costly to their respective interests. Third, the circumstances "require that we generate in American society the most important single ingredient for successful wage-price policies: a sense of common purpose."

In his final chapter, "Can Democracy Survive?", Rostow sums up his conclusions in these terms: "In short, if we are forehanded, generate a lucid and generally accepted view of the Nation's problems, and a spirit of public-private collaboration in dealing with them, there is no reason to fear that the policies required to transit with reasonable success the next quarter century would seriously compromise democratic practice and institutions as we have known them. But a failure to meet these conditions could endanger democratic life in the U.S. and throughout the Western world."

In this reviewer's opinion, Professor Rostow's analysis of *Getting From Here to There* should be read by all serious professional forecasters. Inflation in 1979 is already double the 6-percent rate on which Rostow's analysis was based. Furthermore, the new oil price increases, derived from the political collapse of Iran, threaten more inflation. The United States must act immediately to (a) cut its imports of oil from the Middle East (b) economize in the use of gas and oil, and (c) develop new sources of energy in the United States and the North American continent. The time is short and the crisis may come soon. Rostow shows the way—can the United States make it?

—EWAN CLAGUE
Consultant, former Commissioner
of Labor Statistics

Where the working is easy

Comparative Metropolitan Employment Complexes—New York, Chicago, Los Angeles, Houston, Atlanta. By Dale L. Hiestand and Dean W. Morse. Montclair, N.J., Allanheld, Osmun and Co. Publishers, Inc., 1979. 141 pp. $21.50.

Most studies of urban labor markets emphasize the features that such markets have in common. In this exploratory study, Dale L. Hiestand and Dean W. Morse make a significant contribution to labor economics literature by analyzing the effects on five large metropolitan labor markets of the differences among the areas in factors such as size, rate of employment growth, industrial and occupational composition of employment, extent of unionization, political climate, and work attitudes. The five metropolitan areas that the authors analyze—New York, Chicago, Los Angeles, Houston, and Atlanta—contain nearly 16 percent of the U.S. labor force.

Hiestand and Morse focus not only on the effects of interarea differences on traditional labor market processes such as recruitment and hiring, but also on the effects of these differences on workers' mobility within the "internal labor market"—that is, within a firm or other structured organization. Because of the vast number of factors that affect the labor market in each metropolitan area, the authors are unable to base their analysis on statistical correlation techniques. Instead, they present tentative cause-and-effect conclusions based on their own judgments.

Hiestand and Morse present many interesting and useful findings and conclusions. For example:

- Because of its rapid growth, Houston had 10 percent of its labor force employed in construction in 1970—a much higher proportion than in any of the other four areas.
- For several reasons, including the high educational standards in the white-collar industries in which New York specializes, young men enter the labor force there at a distinctly later age than in any of the other areas.
- A worker's initial job determines his career prospects to a greater extent in the slow-growing New York area than in any of the other areas.

The book has two minor faults. First, some of the analysis is superficial. For example, on page 99, the authors observe, "The number of women employed as operatives failed to increase past age 29 in the New York area, reflecting perhaps the decline of manufacturing in the city." It seems to me that the presence of a declining manufacturing sector that could not provide jobs for new labor force entrants would be just as consistent with an aging work force as it is with a work force that is growing younger. Furthermore, the increase only in *young* female operatives in New York probably has as much to do with the age composition of the ethnic groups that supply these operatives as it does with any factor on the demand side of the labor market.

The authors' discussion of the contrasting work attitudes in the five metropolitan areas contains several superficial statements, such as "In Houston, a clever person can make a good living without working overly hard and still enjoy the city's night life and weekends," and "The exodus to the shore or country on Fridays, holiday eves, and during much of the summer are (sic) observable facts of life in the New York area."

My second complaint is that some of the theoretical material in the opening chapters of the book is tedious, and adds little to the reader's understanding of the analysis. Indeed, a savvy Houstonian or a New York manpower "maven" might even skip the first two chapters and get a head start on his night life or weekend.

These two faults detract only minimally from the quality and usefulness of the book. In fact, I raise these two criticisms only because I am employed in Washington, an area that specializes in discovering the faults of the rest of the country.

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U.S. Department of Commerce

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NOTES ON CURRENT LABOR STATISTICS

This section of the *Review* presents the principal statistical series collected and calculated by the Bureau of Labor Statistics. A brief introduction to each group of tables provides definitions, notes on the data, sources, and other material usually found in footnotes.

Readers who need additional information are invited to consult the BLS regional offices listed on the inside front cover of this issue of the *Review*. Some general notes applicable to several series are given below.

Seasonal adjustment. Certain monthly and quarterly data are adjusted to eliminate the effect of such factors as climatic conditions, industry production schedules, opening and closing of schools, holiday buying periods, and vacation practices, which might otherwise mask short-term movements of the statistical series. Tables containing these data are identified as "seasonally adjusted." Seasonal effects are estimated on the basis of past experience. When new seasonal factors are computed each year, revisions may affect seasonally adjusted data for several preceding years. For a technical discussion of the method used to make seasonal adjustments, see "Appendix A. The BLS Seasonal Factor Method," *BLS Handbook of Methods for Surveys and Studies*, Bulletin 1910 (Bureau of Labor Statistics, 1976), pp. 272–78, and *X-11 Variant of the Census Method II Seasonal Adjustment Program*, Technical Paper No. 15 (Bureau of the Census, 1967). Seasonally adjusted labor force data in tables 2–7 were last revised in the February 1980 issue of the *Review* to reflect the preceding year's experience. Beginning in January 1980, the BLS introduced two major modifications in the seasonal adjustment methodology for labor force data. First, the data are being seasonally adjusted with a new procedure called X-11/ARIMA, which was developed at Statistics Canada as an extension of the standard X-11 method. A detailed description of the procedure appears in *The X-11 ARIMA Seasonal Adjustment Method* by Estela Bee Dagum (Statistics Canada Catalogue No. 12-564E, September 1979).

The second change is that seasonal factors are now being calculated for use during the first 6 months of the year, rather than for the entire year, and then are calculated at mid-year for the July-December period. Revisions of historical data continue to be made only at the end of each calendar year. Annual revision of the seasonally adjusted payroll data in tables 11, 13, 16, and 18 was last introduced in the November 1979 issue of the *Review*. New seasonal factors for productivity data in tables 33 and 34 are usually introduced in the September issue. Seasonally adjusted indexes and percent changes from month to month and from quarter to quarter are published for numerous Consumer and Producer Price Index series. However, seasonally adjusted indexes are not published for the U.S. average All Items CPI. Only seasonally adjusted percent changes are available for this series.

Adjustments for price changes. Some data are adjusted to eliminate the effect of changes in price. These adjustments are made by dividing current dollar values by the Consumer Price Index or the appropriate component of the index, then multiplying by 100. For example, given a current hourly wage rate of $3 and a current price index number of 150, where 1967 = 100, the hourly rate expressed in 1967 dollars is $2 ($3/150 × 100 = $2). The resulting values are described as "real," "constant," or "1967" dollars.

Availability of information. Data that supplement the tables in this section are published by the Bureau of Labor Statistics in a variety of sources. Press releases provide the latest statistical information published by the Bureau; the major recurring releases are published according to the schedule given below. The *Handbook of Labor Statistics 1978*, Bulletin 2000, provides more detailed data and greater historical coverage for most of the statistical series presented in the *Monthly Labor Review*. More information from the household and establishment surveys is provided in *Employment and Earnings*, a monthly publication of the Bureau, and in two comprehensive data books issued annually—*Employment and Earnings, United States* and *Employment and Earnings, States and Areas*. More detailed information on wages and other aspects of collective bargaining appears in the monthly periodical, *Current Wage Developments*. More detailed price information is published each month in the periodicals, the *CPI Detailed Report* and *Producer Prices and Price Indexes*. Selected key statistical series are presented graphically in the monthly *Chartbook on Prices, Wages, and Productivity*.

Symbols

p = preliminary. To improve the timeliness of some series, preliminary figures are issued based on representative but incomplete returns.
r = revised. Generally this revision reflects the availability of later data but may also reflect other adjustments.
n.e.c. = not elsewhere classified.

Schedule of release dates for major BLS statistical series

Title and frequency (monthly except where indicated)	Release date	Period covered	Release date	Period covered	MLR table number
The Employment situation	February 1	January	March 7	February	1 - 11
Producer Price Indexes	February 15	January	March 7	February	26 - 30
Consumer Price Index	February 22	January	March 25	February	22 - 25
Real earnings	February 22	January	March 25	February	14 - 20
Productivity and costs:					
Nonfinancial corporations	February 27	4th quarter	. . .	. . .	31 - 34
Work stoppages	February 28	January	March 28	February	37
Labor turnover in manufacturing	February 29	January	March 31	February	12 - 13

EMPLOYMENT DATA FROM THE HOUSEHOLD SURVEY

EMPLOYMENT DATA in this section are obtained from the Current Population Survey, a program of personal interviews conducted monthly by the Bureau of the Census for the Bureau of Labor Statistics. The sample consists of about 56,000 households, selected to represent the U.S. population 16 years of age and older. Households are interviewed on a rotating basis, so that three-fourths of the sample is the same for any 2 consecutive months.

Definitions

Employed persons are (1) those who worked for pay any time during the week which includes the 12th day of the month or who worked unpaid for 15 hours or more in a family-operated enterprise and (2) those who were temporarily absent from their regular jobs because of illness, vacation, industrial dispute, or similar reasons. A person working at more than one job is counted only in the job at which he or she worked the greatest number of hours.

Unemployed persons are those who did not work during the survey week, but were available for work except for temporary illness and had looked for jobs within the preceding 4 weeks. Persons who did not look for work because they were on layoff or waiting to start new jobs within the next 30 days are also counted among the unemployed. The **unemployment rate** represents the number unemployed as a percent of the civilian labor force.

The **civilian labor force** consists of all employed or unemployed persons in the civilian noninstitutional population; the **total labor force** includes military personnel. Persons **not in the labor force** are those not classified as employed or unemployed; this group includes persons retired, those engaged in their own housework, those not working while attending school, those unable to work because of longterm illness, those discouraged from seeking work because of personal or job market factors, and those who are voluntarily idle. The **noninstitutional population** comprises all persons 16 years of age and older who are not inmates of penal or mental institutions, sanitariums, or homes for the aged, infirm, or needy.

Full-time workers are those employed at least 35 hours a week; **part-time workers** are those who work fewer hours. Workers on part-time schedules for economic reasons (such as slack work, terminating or starting a job during the week, material shortages, or inability to find full-time work) are among those counted as being on full-time status, under the assumption that they would be working full time if conditions permitted. The survey classifies unemployed persons in full-time or part-time status by their reported preferences for full-time or part-time work.

Notes on the data

From time to time, and especially after a decennial census, adjustments are made in the Current Population Survey figures to correct for estimating errors during the preceding years. These adjustments affect the comparability of historical data presented in table 1. A description of these adjustments and their effect on the various data series appear in the Explanatory Notes of *Employment and Earnings*.

Data in tables 2–7 are seasonally adjusted, based on the seasonal experience through December 1979.

1. Employment status of the noninstitutional population, 16 years and over, selected years, 1950–79

[Numbers in thousands]

Year	Total noninstitutional population	Total labor force		Civilian labor force						Not in labor force
					Employed			Unemployed		
		Number	Percent of population	Total	Total	Agriculture	Nonagricultural industries	Number	Percent of labor force	
1950	106,645	63,858	59.9	62,208	58,920	7,160	51,760	3,288	5.3	42,787
1955	112,732	68,072	60.4	65,023	62,171	6,449	55,724	2,852	4.4	44,660
1960	119,759	72,142	60.2	69,628	65,778	5,458	60,318	3,852	5.5	47,617
1964	127,224	75,830	59.6	73,091	69,305	4,523	64,782	3,786	5.2	51,394
1965	129,236	77,178	59.7	74,455	71,088	4,361	66,726	3,366	4.5	52,058
1966	131,180	78,893	60.1	75,770	72,895	3,979	68,915	2,875	3.8	52,288
1967	133,319	80,793	60.6	77,347	74,372	3,844	70,527	2,975	3.8	52,527
1968	135,562	82,272	60.7	78,737	75,920	3,817	72,103	2,817	3.6	53,291
1969	137,841	84,239	61.1	80,733	77,902	3,606	74,296	2,831	3.5	53,602
1970	140,182	85,903	61.3	82,715	78,627	3,462	75,165	4,088	4.9	54,280
1971	142,596	86,929	61.0	84,113	79,120	3,387	75,732	4,993	5.9	55,666
1972	145,775	88,991	61.0	86,542	81,702	3,472	78,230	4,840	5.6	56,785
1973	148,263	91,040	61.4	88,714	84,409	3,452	80,957	4,304	4.9	57,222
1974	150,827	93,240	61.8	91,011	85,936	3,492	82,443	5,076	5.6	57,587
1975	153,449	94,793	61.8	92,613	84,783	3,380	81,403	7,830	8.5	58,655
1976	156,048	96,917	62.1	94,773	87,485	3,297	84,188	7,288	7.7	59,130
1977	158,559	99,534	62.8	97,401	90,546	3,244	87,302	6,855	7.0	59,025
1978	161,058	102,537	63.7	100,420	94,373	3,342	91,031	6,047	6.0	58,521
1979	163,620	104,996	64.2	102,908	96,945	3,297	93,648	5,963	5.8	58,623

2. Employment status by sex, age, and race, seasonally adjusted

[Numbers in thousands]

Employment status	Annual Average		1978	1979											
	1978	1979	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
TOTAL															
Total noninstitutional population[1]	161,058	163,620	162,250	162,448	162,633	162,909	163,008	163,260	163,469	163,685	163,891	164,106	164,468	164,682	164,898
Total labor force	102,537	104,996	103,923	104,156	104,473	104,595	104,280	104,476	104,552	105,475	105,218	105,586	105,686	105,744	106,088
Civilian noninstitutional population[1]	158,941	161,532	160,142	160,353	160,539	160,819	160,926	161,182	161,393	161,604	161,801	162,013	162,375	162,589	162,809
Civilian labor force	100,420	102,908	101,815	102,061	102,379	102,505	102,198	102,398	102,476	103,093	103,128	103,494	103,595	103,652	103,999
Employed	94,373	96,945	95,831	96,157	96,496	96,623	96,254	96,495	96,652	97,184	97,004	97,504	97,474	97,608	97,912
Agriculture	3,342	3,297	3,375	3,260	3,307	3,320	3,215	3,246	3,243	3,267	3,315	3,364	3,294	3,385	3,359
Nonagricultural industries	91,031	93,648	92,456	92,897	93,189	93,303	93,039	93,249	93,409	93,917	93,689	94,140	94,180	94,223	94,553
Unemployed	6,047	5,963	5,984	5,904	5,883	5,882	5,944	5,903	5,824	5,909	6,124	5,990	6,121	6,044	6,087
Unemployment rate	6.0	5.8	5.9	5.8	5.7	5.7	5.8	5.8	5.7	5.7	5.9	5.8	5.9	5.8	5.9
Not in labor force	58,521	58,623	58,327	58,292	58,160	58,314	58,728	58,784	58,917	58,511	58,673	58,519	58,780	58,937	58,810
Men, 20 years and over															
Civilian noninstitutional population[1]	67,006	68,293	67,600	67,726	67,816	67,939	67,997	68,123	68,227	68,319	68,417	68,522	68,697	68,804	68,940
Civilian labor force	53,464	54,486	54,059	54,191	54,349	54,315	54,239	54,288	54,370	54,579	54,597	54,735	54,760	54,709	54,781
Employed	51,212	52,264	51,861	52,024	52,211	52,151	52,049	52,158	52,201	52,325	52,311	52,453	52,443	52,374	52,478
Agriculture	2,361	2,350	2,387	2,303	2,329	2,350	2,295	2,301	2,305	2,327	2,375	2,377	2,371	2,438	2,427
Nonagricultural industries	48,852	49,913	49,474	49,721	49,882	49,801	49,754	49,857	49,896	49,998	49,936	50,076	50,072	49,936	50,051
Unemployed	2,252	2,223	2,198	2,167	2,138	2,164	2,190	2,130	2,169	2,254	2,286	2,282	2,317	2,335	2,303
Unemployment rate	4.2	4.1	4.1	4.0	3.9	4.0	4.0	3.9	4.0	4.1	4.2	4.2	4.2	4.3	4.2
Not in labor force	13,541	13,807	13,541	13,535	13,467	13,624	13,758	13,835	13,857	13,740	13,820	13,787	13,937	14,095	14,159
Women, 20 years and over															
Civilian noninstitutional population[1]	75,489	76,860	76,119	76,228	76,332	76,476	76,532	76,670	76,784	76,897	77,006	77,124	77,308	77,426	77,542
Civilian labor force	37,416	38,910	38,156	38,207	38,399	38,574	38,415	38,619	38,653	39,033	39,304	39,239	39,362	39,445	39,659
Employed	35,180	36,698	35,944	36,012	36,197	36,362	36,216	36,411	36,457	36,873	37,000	37,075	37,112	37,248	37,402
Agriculture	586	591	598	596	593	595	572	577	583	585	600	628	572	612	582
Nonagricultural industries	34,593	36,107	35,346	35,416	35,604	35,767	35,644	35,834	35,874	36,288	36,400	36,447	36,540	36,636	36,820
Unemployed	2,236	2,213	2,212	2,195	2,202	2,212	2,199	2,208	2,196	2,160	2,304	2,164	2,250	2,197	2,257
Unemployment rate	6.0	5.7	5.8	5.7	5.7	5.7	5.7	5.7	5.7	5.5	5.9	5.5	5.7	5.6	5.7
Not in labor force	38,073	37,949	37,963	38,021	37,933	37,902	38,117	38,051	38,131	37,864	37,702	37,885	37,946	37,981	37,883
Both sexes, 16 - 19 years															
Civilian noninstitutional population[1]	16,447	16,379	16,422	16,400	16,391	16,404	16,397	16,389	16,381	16,387	16,377	16,367	16,370	16,360	16,326
Civilian labor force	9,540	9,512	9,600	9,663	9,631	9,616	9,544	9,491	9,453	9,481	9,227	9,520	9,473	9,498	9,559
Employed	7,981	7,984	8,026	8,121	8,088	8,110	7,989	7,926	7,994	7,996	7,693	7,976	7,919	7,986	8,032
Agriculture	395	356	390	361	385	375	348	368	355	365	340	359	351	335	350
Nonagricultural industries	7,586	7,628	7,636	7,760	7,703	7,735	7,641	7,558	7,639	7,631	7,353	7,617	7,568	7,651	7,682
Unemployed	1,559	1,528	1,574	1,542	1,543	1,506	1,555	1,565	1,459	1,485	1,534	1,544	1,554	1,512	1,527
Unemployment rate	16.3	16.1	16.4	16.0	16.0	15.7	16.3	16.5	15.4	15.8	16.6	16.2	16.4	15.9	16.0
Not in labor force	6,907	6,867	6,822	6,737	6,760	6,788	6,853	6,898	6,928	6,906	7,150	6,847	6,897	6,862	6,767
WHITE															
Civilian noninstitutional population[1]	139,580	141,614	140,507	140,683	140,825	141,063	141,123	141,331	141,492	141,661	141,822	141,981	142,296	142,401	142,645
Civilian labor force	88,456	90,602	89,666	89,973	90,250	90,260	89,996	90,120	90,215	90,659	90,759	91,082	91,147	91,242	91,579
Employed	83,836	86,025	85,080	85,434	85,786	85,754	85,497	85,632	85,775	86,120	85,976	86,425	86,454	86,571	86,894
Unemployed	4,620	4,577	4,586	4,539	4,464	4,506	4,499	4,488	4,440	4,539	4,783	4,657	4,693	4,671	4,685
Unemployment rate	5.2	5.1	5.1	5.0	4.9	5.0	5.0	5.0	4.9	5.0	5.3	5.1	5.1	5.1	5.1
Not in labor force	51,124	51,011	50,760	50,580	50,430	50,648	51,200	51,313	51,213	51,107	51,161	50,900	51,149	51,219	51,066
BLACK AND OTHER															
Civilian noninstitutional population[1]	19,361	19,918	19,635	19,670	19,714	19,755	19,802	19,850	19,901	19,943	19,979	20,032	20,079	20,128	20,631
Civilian labor force	11,964	12,306	12,141	12,101	12,177	12,238	12,191	12,219	12,260	12,386	12,343	12,404	12,512	12,391	12,432
Employed	10,537	10,920	10,752	10,736	10,746	10,860	10,767	10,816	10,887	11,023	10,962	11,063	11,076	11,044	11,024
Unemployed	1,427	1,386	1,389	1,365	1,431	1,378	1,424	1,403	1,373	1,363	1,381	1,341	1,436	1,347	1,408
Unemployment rate	11.9	11.3	11.4	11.3	11.8	11.3	11.7	11.5	11.2	11.0	11.0	10.8	11.5	10.9	11.3
Not in labor force	7,397	7,612	7,482	7,583	7,486	7,504	7,627	7,674	7,629	7,579	7,639	7,264	7,567	7,737	7,731

[1] As in table 1, population figures are not seasonally adjusted.

3. Selected employment indicators, seasonally adjusted

[In thousands]

Selected categories	Annual average		1978	1979											
	1978	1979	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
CHARACTERISTIC															
Total employed, 16 years and over	94,373	96,945	95,831	96,157	96,496	96,623	96,254	96,495	96,652	97,184	97,004	97,504	97,474	97,608	97,912
Men	55,491	56,499	56,087	56,326	56,476	56,449	56,294	56,372	56,477	56,570	56,408	56,714	56,629	56,580	56,734
Women	38,882	40,446	39,744	39,831	40,020	40,174	39,960	40,123	40,175	40,614	40,596	40,790	40,845	41,028	41,178
Married men, spouse present	38,688	39,090	39,030	39,139	39,291	39,193	38,910	39,045	39,079	39,176	39,180	39,198	39,124	38,845	38,924
Married women, spouse present	21,861	22,724	22,284	22,372	22,522	22,605	22,376	22,547	22,664	22,908	22,869	22,937	22,919	22,940	23,027
OCCUPATION															
White-collar workers	47,205	49,342	48,108	48,303	48,836	48,996	49,061	49,136	49,192	49,536	49,663	49,816	49,738	49,912	49,911
Professional and technical	14,245	15,050	14,645	14,734	14,950	15,012	15,091	15,100	15,010	15,057	15,068	15,141	15,067	15,131	15,272
Managers and administrators, except farm	10,105	10,516	10,284	10,312	10,379	10,392	10,398	10,427	10,534	10,612	10,698	10,659	10,630	10,617	10,535
Salesworkers	5,951	6,163	6,058	6,048	6,090	6,055	6,084	6,101	6,103	6,163	6,145	6,181	6,261	6,362	6,346
Clerical workers	16,904	17,613	17,121	17,209	17,417	17,537	17,488	17,508	17,545	17,704	17,752	17,835	17,781	17,802	17,758
Blue-collar workers	31,531	32,066	31,966	32,290	32,176	32,041	31,705	31,904	31,992	32,051	31,849	32,209	32,205	32,110	32,302
Craft and kindred workers	12,386	12,880	12,666	12,807	12,898	12,792	12,703	12,820	12,944	12,876	12,761	12,993	13,001	12,925	13,041
Operatives, except transport	10,875	10,909	10,868	10,958	10,901	10,991	10,770	10,755	10,804	10,884	10,909	10,964	10,967	10,963	11,042
Transport equipment operatives	3,541	3,612	3,613	3,651	3,602	3,569	3,564	3,644	3,605	3,627	3,604	3,617	3,593	3,628	3,635
Nonfarm laborers	4,729	4,665	4,819	4,874	4,775	4,689	4,668	4,685	4,639	4,664	4,575	4,635	4,644	4,594	4,584
Service workers	12,839	12,834	12,942	12,817	12,804	12,847	12,907	12,772	12,805	12,766	12,621	12,859	12,937	12,899	12,970
Farmworkers	2,798	2,703	2,802	2,764	2,746	2,774	2,659	2,628	2,679	2,678	2,707	2,722	2,695	2,718	2,694
MAJOR INDUSTRY AND CLASS OF WORKER															
Agriculture:															
Wage and salary workers	1,419	1,413	1,447	1,387	1,425	1,415	1,379	1,424	1,423	1,419	1,384	1,399	1,381	1,475	1,451
Self-employed workers	1,607	1,580	1,608	1,564	1,558	1,583	1,553	1,519	1,539	1,558	1,614	1,642	1,602	1,622	1,596
Unpaid family workers	316	304	312	295	334	314	291	283	291	291	310	325	313	310	310
Nonagricultural industries:															
Wage and salary workers	84,253	86,540	85,461	86,029	86,192	86,439	86,105	86,232	86,309	86,454	86,421	86,912	86,982	87,020	87,384
Government	15,289	15,369	15,326	15,251	15,322	15,281	15,359	15,616	15,318	15,393	15,279	15,407	15,423	15,358	15,397
Private industries	68,966	71,171	70,135	70,778	70,870	71,158	70,746	70,616	70,991	71,061	71,142	71,505	71,559	71,662	71,987
Private households	1,363	1,240	1,302	1,247	1,328	1,262	1,172	1,195	1,235	1,219	1,211	1,313	1,261	1,211	1,228
Other industries	67,603	69,931	68,833	69,531	69,542	69,896	69,574	69,421	69,756	69,842	69,931	70,192	70,298	70,451	70,759
Self-employed workers	6,305	6,652	6,506	6,497	6,591	6,542	6,463	6,608	6,629	6,752	6,689	6,731	6,812	6,781	6,737
Unpaid family workers	472	455	460	475	455	446	465	460	474	519	450	449	430	417	409
PERSONS AT WORK[1]															
Nonagricultural industries	85,693	88,133	87,050	87,520	87,543	87,847	86,608	87,785	87,749	88,769	88,855	88,723	88,638	88,617	89,180
Full-time schedules	70,543	72,647	71,903	72,176	72,212	72,529	71,659	72,496	72,243	72,915	73,053	73,159	73,204	72,997	73,137
Part time for economic reasons	3,216	3,281	3,082	3,203	3,176	3,211	3,279	3,283	3,284	3,274	3,298	3,167	3,315	3,392	3,519
Usually work full time	1,249	1,325	1,202	1,252	1,246	1,254	1,287	1,273	1,322	1,334	1,401	1,273	1,354	1,413	1,491
Usually work part time	1,967	1,956	1,880	1,951	1,930	1,957	1,992	2,010	1,962	1,940	1,897	1,894	1,961	1,979	2,028
Part time for noneconomic reasons	11,934	12,205	12,065	12,141	12,155	12,107	11,670	12,006	12,222	12,580	12,504	12,397	12,119	12,228	12,524

[1] Excludes persons "with a job but not at work" during the survey period for such reasons as vacation, illness, or industrial disputes.

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4. Selected unemployment indicators, seasonally adjusted

Employment status	Annual average		1978	1979											
	1978	1979	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
CHARACTERISTIC															
Total, 16 years and over	6.0	5.8	5.9	5.8	5.7	5.7	5.8	5.8	5.7	5.7	5.9	5.8	5.9	5.8	5.9
Men, 20 years and over	4.2	4.1	4.1	4.0	3.9	4.0	4.0	3.9	4.0	4.1	4.2	4.2	4.2	4.3	4.2
Women, 20 years and over	6.0	5.7	5.8	5.7	5.7	5.7	5.7	5.7	5.7	5.5	5.9	5.5	5.7	5.6	5.7
Both sexes, 16 - 19 years	16.3	16.1	16.4	16.0	16.0	15.7	16.3	16.5	15.4	15.8	16.6	16.2	16.4	15.9	16.0
White, total	5.2	5.1	5.1	5.0	4.9	5.0	5.0	5.0	4.9	5.0	5.3	5.1	5.1	5.1	5.1
Men, 20 years and over	3.7	3.6	3.5	3.5	3.4	3.4	3.5	3.4	3.5	3.6	3.7	3.7	3.7	3.7	3.7
Women, 20 years and over	5.2	5.0	5.1	5.0	5.0	5.0	5.0	5.0	4.9	4.8	5.2	4.8	5.0	4.9	5.0
Both sexes, 16 - 19 years	13.9	13.9	14.2	13.8	13.6	13.6	13.9	14.2	13.2	13.8	14.6	14.3	14.1	13.9	13.9
Black and other, total	11.9	11.3	11.4	11.3	11.8	11.3	11.7	11.5	11.2	11.0	11.0	10.8	11.5	10.9	11.3
Men, 20 years and over	8.6	8.4	8.3	8.0	8.6	8.7	8.6	8.4	8.1	8.4	8.1	8.0	8.6	8.4	8.6
Women, 20 years and over	10.6	10.1	10.2	10.5	10.4	10.0	10.5	10.0	10.4	10.0	10.3	9.8	10.2	9.5	10.0
Both sexes, 16 - 19 years	36.3	33.5	34.6	33.0	34.9	31.5	34.3	36.1	33.5	31.5	32.6	32.3	35.1	32.8	34.3
Married men, spouse present	2.8	2.7	2.6	2.6	2.6	2.6	2.7	2.5	2.7	2.8	2.9	2.9	2.9	2.9	2.8
Married women, spouse present	5.5	5.1	5.5	5.3	5.3	5.2	5.2	5.2	5.1	4.9	5.3	4.8	5.2	4.8	5.0
Women who head families	8.5	8.3	7.9	8.0	8.3	8.2	8.3	8.6	9.0	8.1	7.9	7.7	8.4	8.4	8.4
Full-time workers	5.5	5.3	5.3	5.2	5.2	5.2	5.3	5.2	5.2	5.3	5.4	5.3	5.4	5.4	5.4
Part-time workers	9.0	8.7	9.1	9.1	8.8	9.0	8.7	9.3	8.6	8.3	8.8	8.4	8.9	8.3	8.5
Unemployed 15 weeks and over	1.4	1.2	1.2	1.2	1.2	1.3	1.2	1.2	1.1	1.0	1.1	1.1	1.2	1.1	1.2
Labor force time lost[1]	6.5	6.3	6.3	6.2	6.2	6.2	6.4	6.3	6.3	6.4	6.4	6.2	6.4	6.4	6.4
OCCUPATION															
White-collar workers	3.5	3.3	3.5	3.4	3.4	3.3	3.3	3.2	3.4	3.3	3.5	3.3	3.4	3.2	3.3
Professional and technical	2.6	2.4	3.0	2.5	2.4	2.2	2.3	2.1	2.5	2.5	2.5	2.4	2.7	2.4	2.3
Managers and administrators, except farm	2.1	2.1	1.9	2.0	2.0	2.1	2.3	2.2	2.1	2.0	2.3	2.2	2.2	1.9	2.0
Salesworkers	4.1	3.9	3.7	4.0	4.2	4.1	4.0	4.0	4.4	3.5	4.0	3.8	3.8	3.7	3.8
Clerical workers	4.9	4.6	4.7	4.7	4.7	4.8	4.5	4.5	4.6	4.5	4.9	4.5	4.7	4.4	4.6
Blue-collar workers	6.9	6.9	6.7	6.5	6.5	6.6	6.9	6.8	6.6	6.8	7.3	7.1	7.2	7.5	7.2
Craft and kindred workers	4.6	4.5	4.6	4.4	4.5	4.5	4.4	4.2	4.3	4.4	4.7	4.3	4.6	4.9	4.4
Operatives, except transport	8.1	8.4	7.8	7.8	7.8	7.8	8.5	8.2	7.7	8.3	8.9	9.0	9.1	9.0	9.0
Transport equipment operatives	5.2	5.4	5.3	5.0	5.0	5.2	5.9	5.4	5.7	5.1	6.2	6.1	5.6	5.2	5.0
Nonfarm laborers	10.7	10.8	10.4	9.7	9.7	10.2	10.6	11.1	10.6	11.0	11.3	11.0	10.7	12.2	12.2
Service workers	7.4	7.1	7.7	7.7	7.3	7.3	7.3	7.2	7.2	7.1	7.1	6.7	6.8	6.6	6.6
Farmworkers	3.8	3.8	3.3	2.9	3.4	3.3	3.4	3.6	3.2	4.2	3.9	4.1	4.3	4.5	4.3
INDUSTRY															
Nonagricultural private wage and salary workers[2]	5.9	5.7	5.8	5.7	5.6	5.6	5.7	5.7	5.6	5.7	6.0	5.8	5.9	5.8	5.8
Construction	10.6	10.2	11.4	10.3	10.9	10.1	10.5	10.0	10.0	10.0	10.1	9.6	9.9	10.2	10.3
Manufacturing	5.5	5.5	5.1	5.1	4.9	5.2	5.3	5.4	5.4	5.7	5.9	6.0	6.0	5.9	5.9
Durable goods	4.9	5.0	4.4	4.4	4.2	4.4	4.7	4.4	4.9	5.4	5.4	5.3	5.5	5.6	5.5
Nondurable goods	6.3	6.4	6.1	6.1	5.9	6.4	6.3	6.9	6.3	6.2	6.8	7.1	6.8	6.3	6.4
Transportation and public utilities	3.7	3.7	3.3	3.5	3.2	3.9	3.0	3.6	3.1	3.6	3.7	4.0	3.8	4.2	4.1
Wholesale and retail trade	6.9	6.5	6.9	6.6	6.5	6.3	6.6	6.4	6.7	6.3	6.5	6.4	6.4	6.5	6.4
Finance and service industries	5.1	4.9	5.1	5.1	4.8	4.8	4.8	4.9	4.7	4.9	5.2	4.7	4.9	4.6	4.7
Government workers	3.9	3.7	3.9	3.9	3.8	4.1	3.7	3.6	3.6	3.6	3.7	3.3	4.0	3.6	3.6
Agricultural wage and salary workers	8.8	9.1	8.0	7.5	8.6	8.0	8.7	9.3	7.8	9.7	9.8	10.0	9.9	10.1	9.4

[1] Aggregate hours lost by the unemployed and persons on part time for economic reasons as a percent of potentially available labor force hours.

[2] Includes mining, not shown separately.

5. Unemployment rates, by sex and age, seasonally adjusted

Sex and age	Annual average		1978	1979											
	1978	1979	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Total, 16 years and over	6.0	5.8	5.9	5.8	5.7	5.7	5.8	5.8	5.7	5.7	5.9	5.8	5.9	5.8	5.9
16 to 19 years	16.3	16.1	16.4	16.0	16.0	15.7	16.3	16.5	15.4	15.8	16.6	16.2	16.4	15.9	16.0
16 to 17 years	19.3	18.1	19.6	18.6	18.5	18.5	18.7	18.9	17.5	17.3	18.5	18.9	18.4	17.3	18.0
18 to 19 years	14.2	14.6	14.0	13.8	14.3	13.5	14.3	15.0	14.4	14.5	15.4	15.6	15.0	14.7	14.5
20 to 24 years	9.5	9.0	9.0	8.7	8.6	8.8	8.6	8.9	8.9	9.1	9.3	9.2	9.6	8.8	9.8
25 years and over	4.0	3.9	3.9	3.9	3.9	3.9	4.0	3.9	3.9	3.9	4.0	3.9	4.0	4.0	3.8
25 to 54 years	4.2	4.1	4.2	4.1	4.1	4.1	4.2	4.0	4.1	4.0	4.2	4.1	4.2	4.3	4.1
55 years and over	3.2	3.0	2.9	3.0	3.0	3.1	3.1	3.1	2.9	3.2	3.1	2.9	3.0	2.7	2.7
Men, 16 years and over	5.2	5.1	5.1	5.1	5.0	5.0	5.1	5.0	4.9	5.1	5.2	5.2	5.2	5.2	5.2
16 to 19 years	15.7	15.8	16.5	16.2	16.1	15.8	16.0	16.1	14.5	15.4	16.3	16.1	15.7	15.8	15.6
16 to 17 years	19.2	17.9	19.9	19.2	19.2	18.6	17.9	18.9	16.8	16.1	18.0	16.7	17.1	17.8	17.9
18 to 19 years	13.2	14.2	13.8	13.7	14.2	13.6	14.1	14.0	14.0	14.8	15.1	15.3	14.4	14.0	13.6
20 to 24 years	9.1	8.6	8.6	8.4	8.1	8.3	8.0	8.2	8.3	8.8	8.8	8.8	9.5	8.4	9.4
25 years and over	3.3	3.3	3.2	3.2	3.2	3.2	3.3	3.1	3.2	3.3	3.4	3.3	3.4	3.5	3.2
25 to 54 years	3.4	3.4	3.4	3.3	3.3	3.3	3.3	3.2	3.2	3.4	3.5	3.6	3.5	3.6	3.4
55 years and over	3.1	2.9	2.8	2.9	2.8	2.8	3.0	2.8	3.1	3.3	3.1	2.8	2.8	2.6	2.6
Women, 16 years and over	7.2	6.8	6.9	6.8	6.8	6.8	6.9	6.9	6.8	6.6	7.0	6.6	6.9	6.6	6.8
16 to 19 years	17.0	16.4	16.2	15.7	15.9	15.5	16.6	16.9	16.5	16.2	17.0	16.4	17.2	16.1	16.4
16 to 17 years	19.5	18.3	19.4	17.8	17.7	18.0	19.6	18.8	18.3	18.6	19.0	17.2	19.8	16.7	18.0
18 to 19 years	15.3	15.0	14.2	14.0	14.5	13.3	14.5	16.0	14.9	14.2	15.7	15.9	15.6	15.5	15.5
20 to 24 years	10.1	9.6	9.5	9.1	9.3	9.5	9.4	9.7	9.7	9.4	9.8	9.6	9.7	9.3	10.2
25 years and over	5.1	4.8	5.0	5.0	5.0	4.9	4.9	4.9	4.8	4.7	4.9	4.6	4.9	4.7	4.7
25 to 54 years	5.4	5.2	5.4	5.4	5.4	5.3	5.3	5.2	5.2	5.0	5.3	5.0	5.2	5.0	5.1
55 years and over	3.3	3.2	3.3	3.2	3.3	3.6	3.2	3.6	2.8	3.1	3.2	2.9	3.4	2.9	2.9

6. Unemployed persons, by reason for unemployment, seasonally adjusted

[Numbers in thousands]

Reason for unemployment	1978	1979											
	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
NUMBER OF UNEMPLOYED													
Lost last job	2,443	2,441	2,475	2,457	2,520	2,356	2,449	2,526	2,680	2,632	2,731	2,729	2,728
On layoff	735	752	779	791	839	725	816	797	915	855	929	987	944
Other job losers	1,708	1,689	1,696	1,666	1,681	1,631	1,633	1,729	1,765	1,777	1,802	1,742	1,784
Left last job	912	900	826	864	847	940	857	846	875	825	835	845	800
Reentered labor force	1,904	1,721	1,766	1,766	1,778	1,767	1,753	1,762	1,788	1,760	1,762	1,698	1,771
Seeking first job	826	824	856	806	800	824	781	726	745	801	804	736	858
PERCENT DISTRIBUTION													
Total unemployed	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Job losers	40.1	41.5	41.8	41.7	42.4	40.0	41.9	43.1	44.0	43.7	44.5	45.4	44.3
On layoff	12.1	12.8	13.1	13.4	14.1	12.3	14.0	13.6	15.0	14.2	15.2	16.4	15.3
Other job losers	28.1	28.7	28.6	28.3	28.3	27.7	28.0	29.5	29.0	29.5	29.4	29.0	29.0
Job leavers	15.0	15.3	14.0	14.7	14.2	16.0	14.7	14.4	14.4	13.7	13.6	14.1	13.0
Reentrants	31.3	29.2	29.8	30.0	29.9	30.0	30.0	30.1	29.4	29.2	28.7	28.3	28.8
New entrants	13.6	14.0	14.5	13.7	13.5	14.0	13.4	12.4	12.2	13.3	13.1	12.3	13.9
UNEMPLOYED AS A PERCENT OF THE CIVILIAN LABOR FORCE													
Job losers	2.4	2.4	2.4	2.4	2.5	2.3	2.4	2.5	2.6	2.5	2.6	2.6	2.6
Job leavers	.9	.9	.8	.8	.8	.9	.8	.8	.8	.8	.8	.8	.8
Reentrants	1.9	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.7
New entrants	.8	.8	.8	.8	.8	.8	.8	.7	.7	.8	.8	.7	.8

7. Duration of unemployment, seasonally adjusted

[Numbers in thousands]

Weeks of unemployment	Annual average		1978	1979											
	1978	1979	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Less than 5 weeks	2,793	2,869	2,858	2,751	2,779	2,799	2,876	2,823	2,880	2,820	3,166	2,778	2,856	2,919	2,916
5 to 14 weeks	1,875	1,892	1,837	1,881	1,677	1,860	1,884	1,919	1,806	1,934	1,738	2,035	1,863	1,869	1,966
15 weeks and over	1,379	1,202	1,217	1,229	1,239	1,291	1,223	1,212	1,152	1,067	1,185	1,152	1,195	1,191	1,230
15 to 26 weeks	748	694	732	708	700	729	687	705	656	615	658	644	679	660	711
27 weeks and over	633	518	485	521	539	562	536	507	496	452	527	508	517	531	519
Average (mean) duration, in weeks	11.9	10.8	10.6	11.2	11.3	11.8	11.0	10.9	10.5	10.1	10.7	10.7	10.5	10.6	10.5

EMPLOYMENT, HOURS, AND EARNINGS DATA FROM ESTABLISHMENT SURVEYS

EMPLOYMENT, HOURS, AND EARNINGS DATA in this section are compiled from payroll records reported monthly on a voluntary basis to the Bureau of Labor Statistics and its cooperating State agencies by 162,000 establishments representing all industries except agriculture. In most industries, the sampling probabilities are based on the size of the establishment; most large establishments are therefore in the sample. (An establishment is not necessarily a firm; it may be a branch plant, for example, or warehouse.) Self-employed persons and others not on a regular civilian payroll are outside the scope of the survey because they are excluded from establishment records. This largely accounts for the difference in employment figures between the household and establishment surveys.

LABOR TURNOVER DATA in this section are compiled from personnel records reported monthly on a voluntary basis to the Bureau of Labor Statistics and its cooperating State agencies. A sample of 40,000 establishments represents all industries in the manufacturing and mining sectors of the economy.

Definitions

Employed persons are all persons who received pay (including holiday and sick pay) for any part of the payroll period including the 12th of the month. Persons holding more than one job (about 5 percent of all persons in the labor force) are counted in each establishment which reports them.

Production workers in manufacturing include blue-collar worker supervisors and all nonsupervisory workers closely associated with production operations. Those workers mentioned in tables 14–20 include production workers in manufacturing and mining; construction workers in construction; and nonsupervisory workers in transportation and public utilities, in wholesale and retail trade, in finance, insurance, and real estate, and in service industries. These groups account for about four-fifths of the total employment on private nonagricultural payrolls.

Earnings are the payments production or nonsupervisory workers receive during the survey period, including premium pay for overtime or late-shift work but excluding irregular bonuses and other special payments. **Real earnings** are earnings adjusted to eliminate the effects of price change. The **Hourly Earnings Index** is calculated from average hourly earnings data adjusted to exclude the effects of two types of changes that are unrelated to underlying wage-rate developments: fluctuations in overtime premiums in manufacturing (the only sector for which overtime data are available) and the effects of changes and seasonal factors in the proportion of workers in high-wage and low-wage industries. **Spendable earnings** are earnings from which estimated social security and Federal income taxes have been deducted. The Bureau of Labor Statistics computes spendable earnings from gross weekly earnings for only two illustrative cases: (1) a worker with no dependents and (2) a married worker with three dependents.

Hours represent the average weekly hours of production or nonsupervisory workers for which pay was received and are different from standard or scheduled hours. **Overtime hours** represent the portion of gross average weekly hours which were in excess of regular hours and for which overtime premiums were paid.

Labor turnover is the movement of all wage and salary workers from one employment status to another. **Accession rates** indicate the average number of persons added to a payroll in a given period per 100 employees; **separation rates** indicate the average number dropped from a payroll per 100 employees. Although month-to-month changes in employment can be calculated from the labor turnover data, the results are not comparable with employment data from the employment and payroll survey. The labor turnover survey measures changes during the calendar month while the employment and payroll survey measures changes from midmonth to midmonth.

Notes on the data

Establishment data collected by the Bureau of Labor Statistics are periodically adjusted to comprehensive counts of employment (called "benchmarks"). The latest complete adjustment was made with the release of September 1979 data, published in the November 1979 issue of the *Review*. Consequently, data published in the *Review* prior to that issue are not necessarily comparable to current data. Complete comparable historical unadjusted and seasonally adjusted data are published in a Supplement to Employment and Earnings (unadjusted data from April 1977 through June 1979 and seasonally adjusted data from January 1974 through June 1979) and in *Employment and Earnings, United States, 1909–78*, BLS Bulletin 1312–11 (for prior periods).

Data on recalls were shown for the first time in tables 12 and 13 in the January 1978 issue of the *Review*. For a detailed discussion of the recalls series, along with historical data, see "New Series on Recalls from the Labor Turnover Survey," *Employment and Earnings*, December 1977, pp. 10–19.

A comprehensive discussion of the differences between household and establishment data on employment appears in Gloria P. Green, "Comparing employment estimates from household and payroll surveys," *Monthly Labor Review*, December 1969, pp. 9–20. See also *BLS Handbook of Methods for Surveys and Studies*, Bulletin 1910 (Bureau of Labor Statistics, 1976).

The formulas used to construct the spendable average weekly earnings series reflect the latest provisions of the Federal income tax and social security tax laws. For the spendable average weekly earnings formulas for the years 1977–79, see *Employment and Earnings*, September 1979, pp. 6–8. Beginning with data for January 1978, real earnings data are adjusted using the revised Consumer Price Index for Urban Wage Earners and Clerical Workers. Data prior to January 1978 are based on the unrevised Consumer Price Index for Urban Wage Earners and Clerical Workers.

8. Employment by industry, 1949–78

[Nonagricultural payroll data, in thousands]

Year	Total	Mining	Construction	Manufacturing	Transportation and public utilities	Wholesale and retail trade	Wholesale trade	Retail trade	Finance, insurance, and real estate	Services	Government		
											Total	Federal	State and local
1949	43,754	930	2,194	14,441	4,001	9,264	2,602	6,662	1,828	5,240	5,856	1,908	3,948
1950	45,197	901	2,364	15,241	4,034	9,386	2,635	6,751	1,888	5,357	6,026	1,928	4,098
1951	47,819	929	2,637	16,393	4,226	9,742	2,727	7,015	1,956	5,547	6,389	2,302	4,087
1952	48,793	898	2,668	16,632	4,248	10,004	2,812	7,192	2,035	5,699	6,609	2,420	4,188
1953	50,202	866	2,659	17,549	4,290	10,247	2,854	7,393	2,111	5,835	6,645	2,305	4,340
1954	48,990	791	2,646	16,314	4,084	10,235	2,867	7,368	2,200	5,969	6,751	2,188	4,563
1955	50,641	792	2,839	16,882	4,141	10,535	2,926	7,610	2,298	6,240	6,914	2,187	4,727
1956	52,369	822	3,039	17,243	4,244	10,858	3,018	7,840	2,389	6,497	7,278	2,209	5,069
1957	52,853	828	2,962	17,174	4,241	10,886	3,028	7,858	2,438	6,708	7,616	2,217	5,399
1958	51,324	751	2,817	15,945	3,976	10,750	2,980	7,770	2,481	6,765	7,839	2,191	5,648
1959[1]	53,268	732	3,004	16,675	4,011	11,127	3,082	8,045	2,549	7,087	8,083	2,233	5,850
1960	54,189	712	2,926	16,796	4,004	11,391	3,143	8,248	2,629	7,378	8,353	2,270	6,083
1961	53,999	672	2,859	16,326	3,903	11,337	3,133	8,204	2,688	7,620	8,594	2,279	6,315
1962	55,549	650	2,948	16,853	3,906	11,566	3,198	8,368	2,754	7,982	8,890	2,340	6,550
1963	56,653	635	3,010	16,995	3,903	11,778	3,248	8,530	2,830	8,277	9,225	2,358	6,868
1964	58,283	634	3,097	17,274	3,951	12,160	3,337	8,823	2,911	8,660	9,596	2,348	7,248
1965	60,765	632	3,232	18,062	4,036	12,716	3,466	9,250	2,977	9,036	10,074	2,378	7,696
1966	63,901	627	3,317	19,214	4,158	13,245	3,597	9,648	3,058	9,498	10,784	2,564	8,220
1967	65,803	613	3,248	19,447	4,268	13,606	3,689	9,917	3,185	10,045	11,391	2,719	8,672
1968	67,897	606	3,350	19,781	4,318	14,099	3,779	10,320	3,337	10,567	11,839	2,737	9,102
1969	70,384	619	3,575	20,167	4,442	14,705	3,907	10,798	3,512	11,169	12,195	2,758	9,437
1970	70,880	623	3,588	19,367	4,515	15,040	3,993	11,047	3,645	11,548	12,554	2,731	9,823
1971	71,214	609	3,704	18,623	4,476	15,352	4,001	11,351	3,772	11,797	12,881	2,696	10,185
1972	73,675	628	3,889	19,151	4,541	15,949	4,113	11,836	3,908	12,276	13,334	2,684	10,649
1973	76,790	642	4,097	20,154	4,656	16,607	4,277	12,329	4,046	12,857	13,732	2,663	11,068
1974	78,265	697	4,020	20,077	4,725	16,987	4,433	12,554	4,148	13,441	14,170	2,724	11,446
1975	76,945	752	3,525	18,323	4,542	17,060	4,415	12,645	4,165	13,892	14,686	2,748	11,937
1976	79,382	779	3,576	18,997	4,582	17,755	4,546	13,209	4,271	14,551	14,871	2,733	12,138
1977	82,423	813	3,851	19,682	4,713	18,516	4,708	13,808	4,467	15,303	15,079	2,727	12,352
1978	86,446	851	4,271	20,476	4,927	19,499	4,957	14,542	4,727	16,220	15,476	2,753	12,723

[1] Data include Alaska and Hawaii beginning in 1959.

9. Employment by State

[Nonagricultural payroll data, in thousands]

State	Nov. 1978	Oct. 1979	Nov. 1979^{p}	State	Nov. 1978	Oct. 1979	Nov. 1979^{p}
Alabama	1,361.7	1,365.0	1,364.0	Montana	282.0	294.2	291.8
Alaska	160.6	177.4	162.1	Nebraska	609.9	619.1	620.5
Arizona	924.4	973.5	985.0	Nevada	368.1	383.3	384.4
Arkansas	733.8	755.8	750.4	New Hampshire	371.8	389.6	387.8
California	9,463.0	9,811.6	9,827.7	New Jersey	3,025.0	3,053.8	3,056.7
Colorado	1,168.0	1,207.8	1,203.4	New Mexico	455.0	475.3	474.7
Connecticut	1,386.7	1,414.5	1,422.9	New York	7,139.0	7,154.4	7,172.7
Delaware	248.4	250.2	247.9	North Carolina	2,316.3	2,371.7	2,375.5
District of Columbia	590.5	596.6	599.1	North Dakota	240.1	252.0	250.0
Florida	3,206.3	3,301.0	3,350.1	Ohio	4,490.4	4,526.6	4,522.5
Georgia	2,019.0	2,029.1	2,033.3	Oklahoma	1,047.2	1,083.3	1,088.5
Hawaii	384.2	399.1	397.8	Oregon	1,029.5	1,072.1	1,066.5
Idaho	341.3	345.4	343.0	Pennsylvania	4,738.2	4,735.7	4,745.5
Illinois	4,841.7	4,880.8	4,833.0	Rhode Island	409.6	405.2	406.5
Indiana	2,233.5	2,258.4	2,243.1	South Carolina	1,150.9	1,174.0	1,175.8
Iowa	1,126.6	1,131.0	1,147.0	South Dakota	234.4	240.7	238.3
Kansas	931.7	958.8	963.5	Tennessee	1,741.6	1,740.8	1,737.8
Kentucky	1,270.2	1,290.0	1,295.6	Texas	5,369.6	5,594.1	5,621.3
Louisiana	1,431.6	1,458.5	1,467.9	Utah	546.2	574.6	578.2
Maine	410.5	416.2	413.1	Vermont	193.5	200.3	197.6
Maryland	1,623.5	1,626.1	1,632.6	Virginia[1]	2,085.2	2,124.4	2,128.5
Massachusetts	2,557.8	2,602.2	2,614.3	Washington	1,557.2	1,650.6	1,644.7
Michigan	3,706.1	3,608.1	3,597.3	West Virginia	638.7	639.9	639.1
Minnesota	1,727.4	1,795.6	1,797.7	Wisconsin	1,933.8	2,007.3	2,002.4
Mississippi	832.1	838.9	836.9	Wyoming	195.9	221.2	221.2
Missouri	1,958.0	1,976.5	1,985.4				

[1] Revised series; not strictly comparable with previously published data.

10. Employment by industry division and major manufacturing group

[Nonagricultural payroll data, in thousands]

Industry division and group	Annual average		1978	1979											
	1977	1978	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.ᵖ	Dec.ᵖ
TOTAL	82,423	86,446	88,893	87,128	87,331	88,207	88,820	89,671	90,541	89,818	89,873	90,211	90,678	90,908	91,179
MINING	813	851	916	910	915	926	932	944	968	976	986	980	982	985	992
CONSTRUCTION	3,851	4,271	4,402	3,998	3,957	4,226	4,413	4,662	4,881	4,993	5,048	4,984	4,976	4,877	4,888
MANUFACTURING	19,682	20,476	20,902	20,763	20,775	20,887	20,907	20,988	21,234	20,965	20,996	21,192	21,094	20,974	20,975
Production workers	14,135	14,714	15,047	14,910	14,908	14,993	15,002	15,061	15,240	14,946	14,960	15,172	15,082	14,961	14,989
Durable goods	11,597	12,246	12,616	12,561	12,579	12,664	12,697	12,739	12,877	12,712	12,598	12,805	12,737	12,669	12,694
Production workers	8,307	8,786	9,061	9,016	9,018	9,081	9,105	9,129	9,223	9,031	8,907	9,116	9,058	8,991	9,019
Lumber and wood products	721.9	752.4	753.9	739.0	737.7	745.5	748.8	763.8	783.2	776.8	780.0	776.3	771.3	749.9	731.4
Furniture and fixtures	464.3	491.1	496.4	497.0	495.2	491.8	487.8	483.9	484.2	475.5	483.5	485.3	487.6	488.3	488.1
Stone, clay, and glass products	668.7	698.0	703.6	681.6	680.6	697.2	706.6	718.6	733.1	727.1	728.2	723.6	721.0	713.0	700.4
Primary metal industries	1,181.6	1,212.7	1,243.0	1,243.8	1,244.8	1,251.1	1,259.0	1,258.6	1,274.3	1,260.7	1,244.5	1,244.3	1,225.1	1,217.2	1,218.5
Fabricated metal products	1,582.8	1,673.4	1,723.6	1,716.0	1,715.6	1,719.8	1,723.7	1,727.8	1,749.0	1,715.7	1,716.1	1,735.3	1,738.3	1,737.4	1,731.6
Machinery, except electrical	2,174.7	2,319.2	2,415.7	2,428.7	2,446.4	2,459.5	2,468.0	2,463.6	2,491.2	2,485.1	2,467.1	2,496.4	2,447.2	2,447.4	2,468.0
Electric and electronic equipment	1,878.0	1,999.5	2,062.4	2,060.9	2,071.0	2,082.6	2,086.1	2,095.2	2,128.2	2,111.7	2,089.5	2,136.1	2,143.7	2,145.8	2,163.8
Transportation equipment	1,871.5	1,991.7	2,087.6	2,075.2	2,062.7	2,083.9	2,082.2	2,091.8	2,077.9	2,027.7	1,933.2	2,051.0	2,040.9	2,011.8	2,046.4
Instruments and related products	615.1	653.5	675.6	677.5	680.2	683.2	686.5	686.5	698.8	692.9	695.3	692.7	695.4	695.9	701.7
Miscellaneous manufacturing	438.4	454.0	452.3	441.2	444.8	449.0	448.0	448.9	457.4	438.6	460.6	463.8	466.9	462.5	444.1
Nondurable goods	8,086	8,230	8,286	8,202	8,196	8,223	8,210	8,249	8,357	8,253	8,398	8,387	8,357	8,306	8,281
Production workers	5,828	5,928	5,986	5,894	5,890	5,912	5,897	5,932	6,017	5,915	6,053	6,056	6,024	5,970	5,950
Food and kindred products	1,711.0	1,721.2	1,717.2	1,678.0	1,658.1	1,666.9	1,657.3	1,669.6	1,716.6	1,737.8	1,810.0	1,814.1	1,766.8	1,726.5	1,703.4
Tobacco manufactures	70.7	69.6	73.9	69.8	66.4	64.4	62.5	61.9	62.1	62.1	69.0	72.2	71.9	64.6	66.9
Textile mill products	910.2	900.2	899.9	896.3	896.4	894.4	890.4	892.5	900.4	875.5	890.4	888.9	889.8	891.8	893.3
Apparel and other textile products	1,316.3	1,332.5	1,327.4	1,313.6	1,320.0	1,326.6	1,323.7	1,327.5	1,333.1	1,278.7	1,308.9	1,309.1	1317.0	1,304.8	1,295.2
Paper and allied products	691.6	700.9	704.1	700.0	703.4	708.8	710.8	712.7	724.6	719.6	723.3	718.5	717.7	715.8	716.4
Printing and publishing	1,141.4	1,193.1	1,226.4	1,221.0	1,225.7	1,229.5	1,231.0	1,234.7	1,243.4	1,245.8	1,245.4	1,246.1	1,254.5	1,265.5	1,273.5
Chemicals and allied products	1,073.7	1,096.3	1,103.0	1,100.0	1,099.7	1,103.9	1,106.7	1,110.9	1,126.6	1,123.0	1,121.2	1,114.9	1,115.0	1,116.6	1,122.3
Petroleum and coal products	202.3	208.7	209.0	205.8	206.4	208.3	210.8	212.9	216.8	218.0	218.3	218.1	218.1	217.3	214.7
Rubber and miscellaneous plastics products	713.5	751.9	773.5	771.0	773.8	774.4	772.0	777.0	779.4	767.4	765.8	762.0	762.6	759.2	753.6
Leather and leather products	254.8	255.6	251.5	246.3	245.1	245.7	245.1	249.2	253.7	224.7	245.8	243.1	243.1	242.6	241.7
TRANSPORTATION AND PUBLIC UTILITIES	4,713	4,927	5,084	5,010	5,028	5,060	4,989	5,125	5,231	5,200	5,210	5,242	5,244	5,253	5,255
WHOLESALE AND RETAIL TRADE	18,516	19,499	20,523	19,765	19,548	19,690	19,957	20,119	20,222	20,118	20,137	20,260	20,314	20,575	20,978
WHOLESALE TRADE	4,708	4,957	5,092	5,066	5,067	5,098	5,112	5,146	5,211	5,208	5,211	5,206	5,235	5,249	5,262
RETAIL TRADE	13,808	14,542	15,431	14,699	14,481	14,592	14,845	14,973	15,011	14,910	14,926	15,054	15,079	15,326	15,716
FINANCE, INSURANCE, AND REAL ESTATE	4,467	4,727	4,832	4,829	4,845	4,870	4,900	4,936	5,003	5,032	5,053	5,002	5,013	5,031	5,055
SERVICES	15,303	16,220	16,547	16,353	16,545	16,749	16,897	17,039	17,239	17,314	17,312	17,225	17,292	17,297	17,298
GOVERNMENT	15,079	15,476	15,687	15,500	15,718	15,799	15,825	15,858	15,763	15,020	14,931	15,326	15,763	15,916	15,938
Federal	2,727	2,753	2,733	2,730	2,738	2,740	2,750	2,773	2,824	2,838	2,844	2,751	2,756	2,760	2,770
State and local	12,352	12,723	12,954	12,770	12,980	13,059	13,075	13,085	12,939	12,182	12,087	12,575	13,007	13,156	13,168

11. Employment by industry division and major manufacturing group, seasonally adjusted

[Nonagricultural payroll data, in thousands]

Industry division and group	1978	1979											
	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.^{p}	Dec.^{p}
TOTAL	88,133	88,433	88,700	89,039	89,036	89,398	89,626	89,713	89,762	89,803	89,982	90,109	90,426
MINING	922	927	937	940	940	944	949	956	968	973	979	984	999
CONSTRUCTION	4,469	4,497	4,486	4,614	4,559	4,648	4,662	4,688	4,674	4,671	4,694	4,712	4,759
MANUFACTURING	20,881	20,958	21,025	21,073	21,066	21,059	21,063	21,079	20,957	20,949	20,899	20,846	20,954
Production workers	15,021	15,085	15,128	15,153	15,134	15,112	15,098	15,090	14,956	14,957	14,894	14,838	14,944
Durable goods	12,583	12,640	12,715	12,751	12,752	12,739	12,760	12,786	12,714	12,737	12,650	12,597	12,660
Production workers	9,042	9,085	9,138	9,158	9,146	9,119	9,123	9,124	9,044	9,066	8,972	8,918	8,980
Lumber and wood products	765	768	768	769	761	762	757	753	752	758	760	752	742
Furniture and fixtures	494	497	496	493	490	487	485	488	484	480	482	483	484
Stone, clay, and glass products	710	709	712	718	714	715	715	711	710	708	709	705	707
Primary metal industries	1,247	1,250	1,256	1,259	1,260	1,254	1,257	1,256	1,245	1,236	1,226	1,223	1,222
Fabricated metal products	1,718	1,725	1,733	1,732	1,732	1,730	1,737	1,730	1,714	1,716	1,723	1,725	1,726
Machinery, except electrical	2,404	2,419	2,437	2,450	2,466	2,471	2,484	2,500	2,492	2,498	2,455	2,445	2,456
Electric and electronic equipment	2,050	2,065	2,079	2,093	2,101	2,106	2,124	2,131	2,092	2,117	2,125	2,125	2,151
Transportation equipment	2,063	2,069	2,094	2,094	2,084	2,077	2,057	2,073	2,079	2,086	2,025	1,996	2,022
Instruments and related products	674	679	682	685	689	688	693	694	695	692	696	694	700
Miscellaneous manufacturing	458	459	458	458	455	449	451	450	451	448	449	449	450
Nondurable goods	8,298	8,318	8,310	8,322	8,314	8,320	8,303	8,293	8,243	8,212	8,249	8,249	8,294
Production workers	5,979	6,000	5,990	5,995	5,988	5,993	5,973	5,966	5,912	5,891	5,922	5,920	5,964
Food and kindred products	1,736	1,735	1,729	1,736	1,728	1,725	1,720	1,707	1,696	1,691	1,707	1,711	1,722
Tobacco manufactures	69	68	68	69	69	70	69	68	64	65	65	60	62
Textile mill products	899	900	899	897	892	893	892	892	886	884	887	887	892
Apparel and other textile products	1,333	1,339	1,327	1,324	1,325	1,324	1,312	1,324	1,302	1,294	1,299	1,291	1,300
Paper and allied products	703	706	711	716	717	714	715	718	717	714	715	714	718
Printing and publishing	1,218	1,225	1,229	1,232	1,234	1,236	1,242	1,250	1,247	1,245	1,252	1,262	1,265
Chemicals and allied products	1,106	1,109	1,108	1,108	1,111	1,114	1,119	1,116	1,111	1,110	1,113	1,115	1,128
Petroleum and coal products	211	211	212	213	213	213	212	212	213	215	217	217	217
Rubber and miscellaneous plastics products	770	774	779	780	781	784	775	777	764	751	751	750	751
Leather and leather products	253	251	248	247	244	247	247	229	243	243	243	242	243
TRANSPORTATION AND PUBLIC UTILITIES	5,054	5,071	5,094	5,116	5,024	5,130	5,190	5,169	5,194	5,180	5,218	5,227	5,224
WHOLESALE AND RETAIL TRADE	19,858	19,965	20,016	20,054	20,088	20,129	20,116	20,122	20,126	20,169	20,243	20,303	20,300
WHOLESALE TRADE	5,077	5,102	5,118	5,134	5,138	5,156	5,180	5,182	5,185	5,190	5,209	5,233	5,246
RETAIL TRADE	14,781	14,863	14,898	14,920	14,950	14,973	14,936	14,940	14,941	14,979	15,034	15,070	15,054
FINANCE, INSURANCE, AND REAL ESTATE	4,847	4,868	4,884	4,899	4,915	4,936	4,958	4,972	5,003	4,997	5,018	5,041	5,070
SERVICES	16,630	16,670	16,763	16,833	16,880	16,954	17,051	17,092	17,141	17,191	17,257	17,314	17,385
GOVERNMENT	15,472	15,477	15,495	15,510	15,564	15,598	15,637	15,635	15,699	15,673	15,674	15,682	15,735
Federal	2,734	2,758	2,757	2,757	2,758	2,770	2,788	2,785	2,813	2,762	2,770	2,771	2,787
State and local	12,738	12,719	12,738	12,753	12,806	12,828	12,849	12,850	12,886	12,911	12,904	12,911	12,948

12. Labor turnover rates in manufacturing, 1976 to date

[Per 100 employees]

Year	Annual average	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
							Total accessions						
1976	3.9	3.9	3.5	4.2	3.9	4.5	4.8	4.2	5.1	4.4	3.5	2.9	2.2
1977	4.0	3.7	3.7	4.0	3.8	4.6	4.9	4.3	5.3	4.6	3.9	3.1	2.4
1978	4.1	3.8	3.2	3.8	4.0	4.7	4.9	4.4	5.4	4.9	4.3	3.3	2.4
1979	...	4.0	3.4	3.8	3.9	4.7	4.8	4.3	4.9	4.4	4.1	p2.9	...
							New hires						
1976	2.6	2.1	2.1	2.7	2.6	3.1	3.6	2.9	3.6	3.2	2.5	1.9	1.3
1977	2.8	2.2	2.1	2.6	2.7	3.5	3.7	3.0	4.0	3.5	3.0	2.2	1.6
1978	3.1	2.5	2.2	2.7	2.9	3.6	3.9	3.3	4.2	3.9	3.5	2.6	1.7
1979	...	2.8	2.5	2.8	2.9	3.6	3.8	3.1	3.7	3.4	3.1	p2.1	...
							Recalls						
1976	1.0	1.4	1.0	1.2	1.0	1.0	.9	1.1	1.1	.8	.7	.7	.7
1977	.9	1.2	1.3	1.1	.9	.8	.8	.9	1.0	.8	.6	.6	.6
1978	.7	1.0	.7	.8	.8	.8	.7	.8	.9	.7	.6	.5	.5
1979	...	.9	.7	.7	.7	.8	.7	.9	.9	.8	.7	p.6	...
							Total separations						
1976	3.8	3.7	3.0	3.5	3.6	3.4	3.6	4.3	4.9	4.7	4.1	3.4	3.5
1977	3.8	3.9	3.4	3.4	3.4	3.5	3.5	4.3	5.1	4.9	3.8	3.4	3.4
1978	3.9	3.6	3.1	3.5	3.6	3.7	3.8	4.1	5.3	4.8	4.1	3.5	3.4
1979	...	3.8	3.2	3.6	3.6	3.8	3.9	4.3	5.7	4.7	4.2	p3.8	...
							Quits						
1976	1.7	1.3	1.2	1.6	1.7	1.7	1.8	1.9	2.8	2.5	1.7	1.2	1.0
1977	1.8	1.4	1.3	1.6	1.7	1.9	1.9	1.9	3.1	2.8	1.9	1.5	1.2
1978	2.1	1.5	1.4	1.8	2.0	2.1	2.2	2.1	3.5	3.1	2.3	1.7	1.3
1979	...	1.8	1.6	1.9	2.0	2.1	2.1	2.0	3.3	2.7	2.1	p1.5	...
							Layoffs						
1976	1.3	1.6	1.0	1.1	1.1	.9	.9	1.6	1.1	1.3	1.5	1.5	1.8
1977	1.1	1.7	1.4	1.0	.9	.8	.8	1.5	1.0	1.1	1.1	1.1	1.5
1978	.9	1.2	.9	.9	.8	.7	.7	1.0	.8	.8	.9	1.0	1.4
1979	...	1.1	.8	.8	.9	.7	.8	1.4	1.3	1.1	1.2	p1.5	...

13. Labor turnover rates in manufacturing, by major industry group

[Per 100 employees]

Major industry group	Accession rates									Separation rates								
	Total			New hires			Recalls			Total			Quits			Layoffs		
	Nov. 1978	Oct. 1979	Nov. 1979p	Nov. 1978	Oct. 1979	Nov. 1979p	Nov. 1978	Oct. 1979	Nov. 1979p	Nov. 1978	Oct. 1979	Nov. 1979p	Nov. 1978	Oct. 1979	Nov. 1979p	Nov. 1978	Oct. 1979	Nov. 1979p
MANUFACTURING	3.3	4.1	2.9	2.6	3.1	2.1	0.5	0.7	0.6	3.5	4.2	3.8	1.7	2.1	1.5	1.0	1.2	1.5
Seasonally adjusted	4.4	4.1	3.9	3.4	2.9	2.8	...	...	...	4.0	3.9	4.1	2.2	2.0	1.9	.9	1.1	1.3
Durable goods	3.1	3.7	2.6	2.4	2.8	1.9	.4	.6	.5	3.0	3.6	3.5	1.5	1.7	1.3	.7	1.0	1.4
Lumber and wood products	4.6	5.1	3.2	4.0	4.4	2.5	.4	.5	.5	4.9	6.4	6.5	3.0	3.5	2.4	.8	1.8	3.0
Furniture and fixtures	5.0	5.5	4.0	4.4	4.8	3.3	.3	.5	.6	5.1	5.2	4.6	3.2	3.2	2.4	.7	.7	1.0
Stone, clay, and glass products	2.8	3.5	2.7	2.3	2.8	1.9	.3	.5	.6	3.5	4.2	4.4	1.6	1.9	1.5	1.1	1.4	2.2
Primary metal industries	2.3	2.8	2.0	1.4	1.5	1.1	.6	.7	.7	2.1	3.5	3.2	.7	.9	.7	.6	1.7	1.9
Fabricated metal products	3.4	4.4	2.9	2.8	3.5	2.3	.4	.7	.5	3.6	4.4	3.9	1.6	2.1	1.5	1.0	1.4	1.9
Machinery, except electrical	2.7	3.0	2.3	2.2	2.5	1.8	.2	.3	.2	2.1	2.7	2.4	1.1	1.3	1.0	.3	.5	.6
Electric and electronic equipment	3.0	3.3	2.5	2.3	2.6	1.9	.3	.3	.3	2.7	3.1	2.8	1.3	1.6	1.3	.5	.5	.7
Transportation equipment	2.8	3.5	...	1.8	2.1	...	.6	1.1	...	2.4	2.9	...	1.0	1.1	...	.6	.9	...
Instruments and related products	2.8	3.1	2.5	2.4	2.6	2.0	.2	.2	.2	2.2	2.7	2.3	1.3	1.6	1.1	.4	.5	.5
Miscellaneous manufacturing	3.9	6.2	3.4	3.3	5.2	2.7	.4	.7	.6	7.0	8.2	6.5	2.5	3.4	2.5	3.2	1.5	3.1
Nondurable goods	3.7	4.7	3.4	2.8	3.8	2.5	.7	.8	.7	4.2	5.0	4.2	2.1	2.7	1.9	1.4	1.5	1.6
Food and kindred products	5.0	6.5	4.6	3.5	4.9	3.2	1.3	1.3	1.2	6.7	6.3	6.0	2.8	4.0	2.5	3.1	3.3	2.7
Tobacco manufacturers	4.6	2.9	...	1.6	1.6	...	2.1	.7	...	4.8	4.7	...	1.1	1.2	...	3.2	2.6	...
Textile mill products	4.0	5.1	4.7	3.2	4.1	3.0	.5	.6	.5	4.3	4.9	4.1	2.5	3.1	2.4	.8	.7	.8
Apparel and other products	4.3	6.1	4.5	3.2	4.5	3.0	1.0	1.5	1.2	5.3	6.1	5.7	2.7	3.4	2.6	1.7	1.8	2.4
Paper and allied products	2.1	2.9	1.9	1.6	2.2	1.4	.3	.4	.4	2.4	2.8	2.6	1.1	1.3	.9	.8	.7	1.0
Printing and publishing	3.3	3.8	3.1	2.8	3.4	2.6	.5	.4	.5	2.8	3.4	2.9	1.9	2.2	1.8	.5	.5	.5
Chemicals and allied products	1.3	1.7	1.4	1.0	1.4	1.0	.2	.2	.2	1.3	1.7	1.4	.6	.8	.6	.4	.4	.4
Petroleum and coal products	1.3	2.3	1.3	1.1	2.1	1.3	.0	.1	.1	1.9	2.0	1.9	.6	.8	.7	.7	.6	.7
Rubber and miscellaneous plastics products	4.2	4.9	3.5	3.4	3.9	2.5	.5	.7	.9	4.5	5.3	5.1	2.4	2.8	2.1	1.0	1.2	2.1
Leather and leather products	5.6	7.2	5.1	4.2	5.6	3.7	1.1	1.2	1.0	6.6	7.2	6.7	3.6	4.5	3.0	2.0	1.6	2.7

14. Hours and earnings, by industry division, 1947–78

[Gross averages, production or nonsupervisory workers on nonagricultural payrolls]

Year	Total private: Average weekly earnings	Total private: Average weekly hours	Total private: Average hourly earnings	Mining: Average weekly earnings	Mining: Average weekly hours	Mining: Average hourly earnings	Construction: Average weekly earnings	Construction: Average weekly hours	Construction: Average hourly earnings	Manufacturing: Average weekly earnings	Manufacturing: Average weekly hours	Manufacturing: Average hourly earnings
1947	$45.58	40.3	$1.131	$59.94	40.8	$1.469	$56.87	38.2	$1.541	$49.17	40.4	$1.217
1948	49.00	40.0	1.225	65.56	39.4	1.664	65.27	38.1	1.713	53.12	40.0	1.328
1949	50.24	39.4	1.275	62.33	36.3	1.717	67.56	37.7	1.792	53.88	39.1	1.378
1950	53.13	39.8	1.335	67.16	37.9	1.772	69.68	37.4	1.863	58.32	40.5	1.440
1951	57.86	39.9	1.45	74.11	38.4	1.93	76.96	38.1	2.02	63.34	40.6	1.56
1952	60.65	39.9	1.52	77.59	38.6	2.01	82.86	38.9	2.13	66.75	40.7	1.64
1953	63.76	39.6	1.61	83.03	38.8	2.14	86.41	37.9	2.28	70.47	40.5	1.74
1954	64.52	39.1	1.65	82.60	38.6	2.14	88.91	37.2	2.39	70.49	39.6	1.78
1955	67.72	39.6	1.71	89.54	40.7	2.20	90.90	37.1	2.45	75.30	40.7	1.85
1956	70.74	39.3	1.80	95.06	40.8	2.33	96.38	37.5	2.57	78.78	40.4	1.95
1957	73.33	38.8	1.89	98.25	40.1	2.45	100.27	37.0	2.71	81.19	39.8	2.04
1958	75.08	38.5	1.95	96.08	38.9	2.47	103.78	36.8	2.82	82.32	39.2	2.10
1959[1]	78.78	39.0	2.02	103.68	40.5	2.56	108.41	37.0	2.93	88.26	40.3	2.19
1960	80.67	38.6	2.09	105.04	40.4	2.60	112.67	36.7	3.07	89.72	39.7	2.26
1961	82.60	38.6	2.14	106.92	40.5	2.64	118.08	36.9	3.20	92.34	39.8	2.32
1962	85.91	38.7	2.22	110.70	41.0	2.70	122.47	37.0	3.31	96.56	40.4	2.39
1963	88.46	38.8	2.28	114.40	41.6	2.75	127.19	37.3	3.41	99.23	40.5	2.45
1964	91.33	38.7	2.36	117.74	41.9	2.81	132.06	37.2	3.55	102.97	40.7	2.53
1965	95.45	38.8	2.46	123.52	42.3	2.92	138.38	37.4	3.70	107.53	41.2	2.61
1966	98.82	38.6	2.56	130.24	42.7	3.05	146.26	37.6	3.89	112.19	41.4	2.71
1967	101.84	38.0	2.68	135.89	42.6	3.19	154.95	37.7	4.11	114.49	40.6	2.82
1968	107.73	37.8	2.85	142.71	42.6	3.35	164.49	37.3	4.41	122.51	40.7	3.01
1969	114.61	37.7	3.04	154.80	43.0	3.60	181.54	37.9	4.79	129.51	40.6	3.19
1970	119.83	37.1	3.23	164.40	42.7	3.85	195.45	37.3	5.24	133.33	39.8	3.35
1971	127.31	36.9	3.45	172.14	42.4	4.06	211.67	37.2	5.69	142.44	39.9	3.57
1972	136.90	37.0	3.70	189.14	42.6	4.44	221.19	36.5	6.06	154.71	40.5	3.82
1973	145.39	36.9	3.94	201.40	42.4	4.75	235.89	36.8	6.41	166.46	40.7	4.09
1974	154.76	36.5	4.24	219.14	41.9	5.23	249.25	36.6	6.81	176.80	40.0	4.42
1975	163.53	36.1	4.53	249.31	41.9	5.95	266.08	36.4	7.31	190.79	39.5	4.83
1976	175.45	36.1	4.86	273.90	42.4	6.46	283.73	36.8	7.71	209.32	40.1	5.22
1977	189.00	36.0	5.25	301.20	43.4	6.94	295.65	36.5	8.10	228.90	40.3	5.68
1978	203.70	35.8	5.69	332.11	43.3	7.67	318.32	36.8	8.65	249.27	40.4	6.17

Year	Transportation and public utilities: Average weekly earnings	Transportation and public utilities: Average weekly hours	Transportation and public utilities: Average hourly earnings	Wholesale and retail trade: Average weekly earnings	Wholesale and retail trade: Average weekly hours	Wholesale and retail trade: Average hourly earnings	Finance, insurance, and real estate: Average weekly earnings	Finance, insurance, and real estate: Average weekly hours	Finance, insurance, and real estate: Average hourly earnings	Services: Average weekly earnings	Services: Average weekly hours	Services: Average hourly earnings
1947	....	....	....	$38.07	40.5	$0.940	$43.21	37.9	$1.140	....	....	....
1948	....	....	....	40.80	40.4	1.010	45.48	37.9	1.200	....	....	....
1949	....	....	....	42.93	40.5	1.060	47.63	37.8	1.260	....	....	....
1950	....	....	....	44.55	40.5	1.100	50.52	37.7	1.340	....	....	....
1951	....	....	....	47.79	40.5	1.18	54.67	37.7	1.45	....	....	....
1952	....	....	....	49.20	40.0	1.23	57.08	37.8	1.51	....	....	....
1953	....	....	....	51.35	39.5	1.30	59.57	37.7	1.58	....	....	....
1954	....	....	....	53.33	39.5	1.35	62.04	37.6	1.65	....	....	....
1955	....	....	....	55.16	39.4	1.40	63.92	37.6	1.70	....	....	....
1956	....	....	....	57.48	39.1	1.47	65.68	36.9	1.78	....	....	....
1957	....	....	....	59.60	38.7	1.54	67.53	36.7	1.84	....	....	....
1958	....	....	....	61.76	38.6	1.60	70.12	37.1	1.89	....	....	....
1959[1]	....	....	....	64.41	38.8	1.66	72.74	37.3	1.95	....	....	....
1960	....	....	....	66.01	38.6	1.71	75.14	37.2	2.02	....	....	....
1961	....	....	....	67.41	38.3	1.76	77.12	36.9	2.09	....	....	....
1962	....	....	....	69.91	38.2	1.83	80.94	37.3	2.17	....	....	....
1963	....	....	....	72.01	38.1	1.89	84.38	37.5	2.25	....	....	....
1964	$118.78	41.1	$2.89	74.66	37.9	1.97	85.79	37.3	2.30	$70.03	36.1	$1.94
1965	125.14	41.3	3.03	76.91	37.7	2.04	88.91	37.2	2.39	73.60	35.9	2.05
1966	128.13	41.2	3.11	79.39	37.1	2.14	92.13	37.3	2.47	77.04	35.5	2.17
1967	130.82	40.5	3.23	82.35	36.6	2.25	95.72	37.1	2.58	80.38	35.1	2.29
1968	138.85	40.6	3.42	87.00	36.1	2.41	101.75	37.0	2.75	83.97	34.7	2.42
1969	147.74	40.7	3.63	91.39	35.7	2.56	108.70	37.1	2.93	90.57	34.7	2.61
1970	155.93	40.5	3.85	96.02	35.3	2.72	112.67	36.7	3.07	96.66	34.4	2.81
1971	168.82	40.1	4.21	101.09	35.1	2.88	117.85	36.6	3.22	103.06	33.9	3.04
1972	187.86	40.4	4.65	106.45	34.9	3.05	122.98	36.6	3.36	110.85	33.9	3.27
1973	203.31	40.5	5.02	111.76	34.6	3.23	129.20	36.6	3.53	117.29	33.8	3.47
1974	217.48	40.2	5.41	119.02	34.2	3.48	137.61	36.5	3.77	126.00	33.6	3.75
1975	233.44	39.7	5.88	126.45	33.9	3.73	148.19	36.5	4.06	134.67	33.5	4.02
1976	256.71	39.8	6.45	133.79	33.7	3.97	155.43	36.4	4.27	143.52	33.3	4.31
1977	278.90	39.9	6.99	142.52	33.3	4.28	165.26	36.4	4.54	153.45	33.0	4.65
1978	302.80	40.0	7.57	153.64	32.9	4.67	178.36	36.4	4.90	163.67	32.8	4.99

[1] Data include Alaska and Hawaii beginning in 1959.

15. Weekly hours, by industry division and major manufacturing group

[Gross averages, production or nonsupervisory workers on private nonagricultural payrolls]

Industry division and group	Annual Average		1978	1979											
	1977	1978	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.ᵖ	Dec.ᵖ
TOTAL PRIVATE	36.0	35.8	36.1	35.2	35.4	35.7	35.1	35.5	35.9	36.0	36.0	35.8	35.7	35.6	35.9
MINING	43.4	43.3	43.4	42.4	42.6	42.9	42.6	42.8	43.3	41.7	43.1	43.5	43.7	43.8	43.9
CONSTRUCTION	36.5	36.8	37.0	34.6	35.4	37.0	35.5	37.2	37.9	37.7	38.0	37.9	37.6	36.5	37.1
MANUFACTURING	40.3	40.4	41.4	40.1	40.2	40.6	38.9	40.1	40.4	39.9	40.0	40.3	40.3	40.4	41.0
Overtime hours	3.5	3.6	3.9	3.5	3.5	3.6	2.5	3.3	3.4	3.2	3.3	3.6	3.4	3.4	3.4
Durable goods	41.0	41.1	42.3	40.9	41.1	41.4	39.3	40.8	41.0	40.4	40.4	40.8	40.8	40.9	41.7
Overtime hours	3.7	3.8	4.3	3.8	3.9	3.9	2.6	3.8	3.6	3.4	3.4	3.6	3.5	3.5	3.5
Lumber and wood products	39.8	39.8	40.1	38.5	39.0	39.7	39.1	39.6	40.2	39.4	38.9	40.1	39.8	39.2	40.0
Furniture and fixtures	39.0	39.3	40.1	38.3	38.1	39.0	37.5	38.2	38.8	38.0	38.6	39.0	39.3	39.2	39.7
Stone, clay, and glass products	41.3	41.6	42.2	40.5	40.6	41.8	41.1	41.9	42.1	41.5	41.7	41.7	41.7	41.7	42.0
Primary metal industries	41.3	41.8	42.5	42.2	42.1	41.9	41.7	41.4	41.6	41.3	40.8	41.3	40.9	40.7	40.9
Fabricated metal products	41.0	41.0	42.2	40.8	40.9	41.3	38.8	40.7	41.0	40.3	40.5	40.8	41.0	40.9	41.6
Machinery except electrical	41.5	42.0	43.6	42.1	42.5	42.6	40.3	41.7	42.0	41.2	41.3	41.9	41.5	41.9	42.9
Electric and electronic equipment	40.4	40.3	41.3	40.3	40.5	40.7	38.8	40.2	40.5	39.6	39.7	40.5	40.3	40.8	41.4
Transportation equipment	42.5	42.2	44.5	41.9	42.1	42.3	37.9	41.6	41.3	40.9	40.5	40.7	41.3	40.8	42.7
Instruments and related products	40.6	40.9	41.7	40.6	41.0	41.3	40.0	40.8	40.7	40.3	40.3	40.7	40.8	41.3	41.8
Miscellaneous manufacturing	38.8	38.8	39.4	38.6	38.6	39.2	37.6	38.5	39.0	38.7	38.9	39.3	39.3	39.6	39.7
Nondurable goods	39.4	39.4	39.9	38.9	38.9	39.3	38.2	39.1	39.4	39.2	39.4	39.6	39.4	39.6	40.0
Overtime hours	3.2	3.2	3.3	3.0	3.0	3.1	2.5	2.9	3.0	3.0	3.2	3.5	3.2	3.3	3.3
Food and kindred products	40.0	39.7	40.3	39.5	39.2	39.6	39.0	39.6	39.8	40.1	40.3	40.6	40.0	40.1	40.4
Tobacco manufactures	37.8	38.1	38.8	36.1	36.2	38.1	37.6	38.9	39.0	36.1	37.6	39.1	38.8	38.9	39.4
Textile mill products	40.4	40.4	40.8	39.9	39.9	40.4	38.6	40.1	40.6	39.9	40.3	40.8	40.8	41.2	41.7
Apparel and other textile products	35.6	35.6	35.8	34.6	34.9	35.4	33.9	35.1	35.6	35.4	35.6	35.4	35.5	35.6	36.0
Paper and allied products	42.9	42.9	43.4	42.6	42.2	42.6	41.6	42.4	42.8	42.5	42.6	42.7	42.6	42.9	43.5
Printing and publishing	37.7	37.6	38.3	37.1	37.3	37.7	36.8	37.3	37.4	37.4	37.9	37.9	37.5	37.9	38.2
Chemicals and allied products	41.7	41.9	42.3	41.7	41.7	41.9	41.9	41.8	41.8	41.7	41.8	41.8	41.7	42.1	42.4
Petroleum and coal products	42.7	43.6	43.7	42.8	42.7	43.8	43.9	43.7	43.4	44.1	43.6	44.7	44.1	44.7	44.1
Rubber and miscellaneous plastics products	41.0	40.9	42.0	41.1	41.2	41.4	39.4	40.5	40.7	40.2	40.0	40.5	40.5	40.2	40.5
Leather and leather products	36.9	37.1	37.1	36.3	35.9	35.9	35.3	36.4	37.1	36.9	36.6	36.8	36.5	36.8	37.1
TRANSPORTATION AND PUBLIC UTILITIES	39.9	40.0	40.2	39.6	39.9	39.8	39.0	39.6	40.0	40.0	40.3	39.9	39.9	40.0	40.2
WHOLESALE AND RETAIL TRADE	33.3	32.9	33.1	32.0	32.1	32.4	32.5	32.4	32.9	33.3	33.2	32.7	32.5	32.4	32.9
WHOLESALE TRADE	38.8	38.8	39.1	38.4	38.4	38.9	38.6	38.9	39.0	39.0	38.9	38.8	38.9	39.0	39.2
RETAIL TRADE	31.6	31.0	31.3	29.9	30.1	30.3	30.6	30.4	31.0	31.5	31.4	30.7	30.4	30.4	30.9
FINANCE, INSURANCE, AND REAL ESTATE	36.4	36.4	36.3	36.4	36.4	36.3	36.4	36.1	36.2	36.4	36.2	36.3	36.3	36.4	36.4
SERVICES	33.0	32.8	32.5	32.4	32.4	32.6	32.5	32.5	32.9	33.3	33.2	32.7	32.6	32.6	32.7

16. Weekly hours, by industry division and major manufacturing group, seasonally adjusted

[Gross averages, production or nonsupervisory workers on private nonagricultural payrolls]

Industry division and group	1978	1979											
	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.p	Dec.p
TOTAL PRIVATE	35.8	35.8	35.7	35.9	35.3	35.7	35.6	35.6	35.6	35.7	35.6	35.7	35.7
MINING	43.4	43.4	43.1	43.1	42.9	42.8	43.0	41.6	43.2	43.1	43.1	43.3	43.9
CONSTRUCTION	37.0	37.1	36.6	37.1	35.5	37.1	37.2	36.8	37.2	37.5	36.6	36.8	37.1
MANUFACTURING	40.6	40.6	40.6	40.6	39.1	40.2	40.1	40.2	40.1	40.2	40.2	40.1	40.3
Overtime hours	3.7	3.7	3.7	3.7	2.7	3.5	3.4	3.3	3.2	3.2	3.2	3.2	3.3
Durable goods	41.4	41.4	41.4	41.4	39.5	40.9	40.7	40.7	40.7	40.7	40.8	40.6	40.8
Overtime hours	4.0	4.1	4.1	4.0	2.7	3.8	3.6	3.5	3.3	3.3	3.3	3.4	3.3
Lumber and wood products	38.9	39.9	39.6	40.0	39.1	39.4	39.4	39.3	39.5	39.7	39.4	39.3	39.8
Furniture and fixtures	39.2	38.9	38.8	39.1	38.1	38.5	38.5	38.4	38.3	38.6	38.8	38.9	38.8
Stone, clay, and glass products	41.9	41.8	41.6	42.0	41.2	41.7	41.6	41.4	41.3	41.5	41.3	41.5	41.7
Primary metal industries	42.2	42.3	42.2	42.0	41.8	41.4	41.2	41.3	41.0	41.0	41.1	40.7	40.6
Fabricated metal products	41.3	41.1	41.3	41.3	39.1	40.7	40.7	40.8	40.6	40.7	40.9	40.6	40.9
Machinery, except electrical	42.4	42.3	42.5	42.4	40.5	42.0	42.0	41.9	41.6	41.9	41.6	41.6	41.7
Electric and electronic equipment	40.5	40.5	40.7	40.7	39.0	40.4	40.3	40.2	39.8	40.3	40.3	40.5	40.6
Transportation equipment	42.8	42.8	42.7	42.3	37.9	41.5	40.8	40.9	41.7	40.6	41.3	40.6	41.1
Instruments and related products	40.9	41.1	41.2	41.2	40.3	40.8	40.6	40.7	40.5	40.6	40.7	40.9	41.0
Miscellaneous manufacturing	38.9	39.0	39.0	39.0	37.6	38.6	38.9	39.3	39.1	39.1	39.1	39.1	39.2
Nondurable goods	39.4	39.5	39.3	39.4	38.6	39.2	39.2	39.2	39.2	39.3	39.3	39.4	39.5
Overtime hours	3.2	3.2	3.2	3.3	2.7	3.0	3.0	3.0	3.0	3.1	3.0	3.2	3.2
Food and kindred products	39.9	40.0	39.8	40.0	39.6	39.8	39.8	39.8	39.7	40.0	39.9	39.9	40.0
Tobacco manufactures	38.1	37.2	36.9	38.0	37.6	38.9	37.6	38.5	38.0	38.6	38.3	37.7	38.7
Textile mill products	40.4	40.7	40.1	40.3	38.8	40.0	40.1	40.1	40.1	40.6	40.8	41.0	41.2
Apparel and other textile products	35.5	35.3	35.4	35.4	34.2	35.2	35.2	35.5	35.3	35.3	35.3	35.3	35.7
Paper and allied products	42.8	42.8	42.7	42.8	41.8	42.6	42.5	42.5	42.6	42.4	42.6	42.7	42.9
Printing and publishing	37.6	37.7	37.7	37.7	37.1	37.4	37.4	37.5	37.7	37.5	37.4	37.6	37.5
Chemicals and allied products	41.8	42.0	42.0	41.9	41.7	41.9	41.7	41.9	42.0	41.7	41.7	41.9	41.9
Petroleum and coal products	43.8	43.5	43.6	44.0	43.9	43.7	43.3	43.6	43.7	44.1	43.7	44.3	44.2
Rubber and miscellaneous plastics products	41.2	41.4	41.2	41.3	39.7	40.9	40.7	40.6	40.2	40.3	40.3	39.9	39.7
Leather and leather products	36.7	36.8	36.4	36.3	35.6	36.1	36.4	36.6	36.5	37.0	36.5	36.7	36.7
TRANSPORTATION AND PUBLIC UTILITIES	40.0	40.0	40.0	40.0	39.2	39.8	39.8	39.7	39.9	39.9	39.9	40.0	40.0
WHOLESALE AND RETAIL TRADE	32.8	32.5	32.5	32.7	32.8	32.6	32.6	32.6	32.5	32.6	32.6	32.7	32.6
WHOLESALE TRADE	38.9	38.7	38.7	39.0	38.7	39.0	38.8	38.8	38.7	38.7	38.8	39.0	39.0
RETAIL TRADE	30.9	30.6	30.6	30.7	30.9	30.6	30.6	30.6	30.5	30.7	30.6	30.7	30.5
FINANCE, INSURANCE, AND REAL ESTATE	36.3	36.3	36.4	36.4	36.5	36.1	36.2	36.3	36.1	36.4	36.2	36.5	36.4
SERVICES	32.6	32.6	32.6	32.8	32.7	32.7	32.7	32.8	32.7	32.7	32.8	32.7	32.8

17. Hourly earnings, by industry division and major manufacturing group

[Gross averages, production or nonsupervisory workers on private nonagricultural payrolls]

Industry division and group	Annual average		1978	1979											
	1977	1978	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.^{p}	Dec.^{p}
TOTAL PRIVATE	$5.25	$5.69	$5.91	$5.97	$6.00	$6.02	$6.03	$6.09	$6.12	$6.16	$6.19	$6.31	$6.32	$6.34	$6.38
MINING	6.94	7.67	8.06	8.20	8.21	8.27	8.54	8.45	8.49	8.52	8.48	8.57	8.57	8.70	8.78
CONSTRUCTION	8.10	8.65	8.92	8.98	9.02	8.97	9.02	9.14	9.13	9.24	9.32	9.51	9.49	9.50	9.52
MANUFACTURING	5.68	6.17	6.46	6.49	6.52	6.56	6.54	6.63	6.66	6.71	6.69	6.80	6.82	6.87	6.97
Durable goods	6.06	6.58	6.93	6.92	6.96	6.99	6.96	7.07	7.11	7.15	7.12	7.24	7.25	7.29	7.42
Lumber and wood products	5.10	5.60	5.79	5.79	5.83	5.84	5.90	5.97	6.16	6.23	6.23	6.32	6.24	6.24	6.25
Furniture and fixtures	4.34	4.68	4.86	4.87	4.93	4.95	4.94	4.97	5.05	5.04	5.10	5.18	5.20	5.22	5.26
Stone, clay, and glass products	5.81	6.32	6.58	6.57	6.58	6.64	6.73	6.78	6.85	6.89	6.90	6.98	7.00	7.06	7.06
Primary metal industries	7.40	8.20	8.56	8.62	8.75	8.75	8.82	8.83	8.91	9.04	9.10	9.16	9.10	9.27	9.26
Fabricated metal products	5.91	6.34	6.62	6.60	6.66	6.72	6.62	6.77	6.81	6.80	6.83	6.93	6.96	7.00	7.11
Machinery, except electrical	6.26	6.77	7.15	7.10	7.18	7.19	7.10	7.25	7.34	7.36	7.35	7.49	7.46	7.53	7.66
Electric and electronic equipment	5.39	5.82	6.09	6.11	6.13	6.16	6.11	6.21	6.25	6.27	6.36	6.46	6.48	6.52	6.63
Transportation equipment	7.28	7.91	8.41	8.34	8.35	8.42	8.26	8.56	8.53	8.55	8.44	8.59	8.67	8.70	8.88
Instruments and related products	5.29	5.71	5.96	5.98	6.02	6.04	6.03	6.11	6.11	6.16	6.14	6.21	6.32	6.39	6.45
Miscellaneous manufacturing	4.36	4.69	4.86	4.93	4.95	4.95	4.96	5.00	4.99	5.03	5.04	5.07	5.12	5.14	5.24
Nondurable goods	5.11	5.53	5.75	5.81	5.82	5.85	5.90	5.91	5.94	6.03	6.04	6.11	6.14	6.20	6.26
Food and kindred products	5.37	5.80	6.02	6.09	6.10	6.12	6.19	6.22	6.22	6.26	6.28	6.33	6.36	6.50	6.54
Tobacco manufactures	5.54	6.13	6.18	6.36	6.53	6.64	6.80	6.83	6.82	6.83	6.59	6.54	6.43	7.01	7.02
Textile mill products	3.99	4.30	4.46	4.52	4.51	4.52	4.48	4.52	4.54	4.65	4.77	4.82	4.83	4.86	4.89
Apparel and other textile products	3.62	3.94	4.08	4.17	4.17	4.19	4.19	4.20	4.21	4.23	4.21	4.28	4.32	4.32	4.38
Paper and allied products	5.96	6.52	6.79	6.80	6.83	6.88	6.92	6.96	7.05	7.17	7.22	7.32	7.34	7.41	7.45
Printing and publishing	6.12	6.50	6.70	6.72	6.73	6.77	6.72	6.83	6.88	6.90	6.94	7.04	7.06	7.10	7.16
Chemicals and allied products	6.43	7.01	7.28	7.32	7.32	7.38	7.50	7.47	7.53	7.60	7.65	7.73	7.82	7.88	7.92
Petroleum and coal products	7.83	8.63	8.80	9.01	9.10	9.31	9.44	9.38	9.32	9.39	9.35	9.51	9.49	9.59	9.57
Rubber and miscellaneous plastics products	5.17	5.52	5.77	5.82	5.84	5.86	5.82	5.90	5.91	5.95	5.94	6.03	6.12	6.13	6.23
Leather and leather products	3.61	3.89	4.01	4.13	4.14	4.17	4.18	4.18	4.19	4.19	4.22	4.29	4.31	4.34	4.39
TRANSPORTATION AND PUBLIC UTILITIES	6.99	7.57	7.85	7.90	7.92	7.90	7.88	7.94	8.03	8.23	8.32	8.45	8.45	8.49	8.55
WHOLESALE AND RETAIL TRADE	4.28	4.67	4.81	4.96	4.97	4.98	5.00	5.00	5.02	5.05	5.06	5.13	5.15	5.16	5.17
WHOLESALE TRADE	5.39	5.88	6.14	6.18	6.21	6.23	6.30	6.29	6.34	6.38	6.41	6.51	6.51	6.57	6.64
RETAIL TRADE	3.85	4.20	4.31	4.47	4.47	4.47	4.49	4.49	4.50	4.51	4.52	4.58	4.59	4.62	4.59
FINANCE, INSURANCE, AND REAL ESTATE	4.54	4.90	5.07	5.13	5.19	5.16	5.23	5.22	5.22	5.29	5.29	5.38	5.37	5.42	5.49
SERVICES	4.65	4.99	5.16	5.23	5.27	5.26	5.29	5.27	5.27	5.29	5.30	5.45	5.48	5.53	5.59

18. Hourly Earnings Index for production or nonsupervisory workers on private nonagricultural payrolls, by industry division

[Seasonally adjusted data: 1967 = 100]

Industry	1978	1979												Percent change	
	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.^{p}	Dec.^{p}	Nov. 1979 to Dec. 1979	Dec. 1978 to Dec. 1979
TOTAL PRIVATE (in current dollars)	220.9	222.6	224.0	225.2	226.8	227.5	229.0	230.9	232.2	234.3	234.9	237.1	239.1	0.8	8.2
Mining	250.9	252.1	253.7	256.1	264.1	262.7	264.9	268.9	265.6	268.1	268.0	271.4	274.0	.9	9.2
Construction	213.0	213.8	216.7	216.5	218.1	220.4	220.4	222.1	223.1	224.4	224.0	225.6	226.5	.4	6.4
Manufacturing	224.2	225.4	227.2	228.7	231.0	232.3	233.9	235.4	236.9	238.7	240.0	242.1	244.2	.9	8.9
Transportation and public utilities	239.0	240.8	241.7	243.1	241.7	243.7	246.4	251.3	252.6	255.6	256.8	258.0	260.5	1.0	9.0
Wholesale and retail trade	214.7	217.7	218.1	219.4	220.9	221.0	222.6	223.8	225.4	227.0	227.4	229.4	230.4	.4	7.3
Finance, insurance, and real estate	202.1	202.4	204.2	204.8	207.5		208.0	210.8	211.5	214.4	213.1	216.2	218.4	1.0	8.1
Services	219.3	220.8	222.2	223.3	225.0	224.3	225.7	227.0	228.4	231.5	232.3	234.6	237.4	1.2	8.2
TOTAL PRIVATE (in constant dollars)	108.7	108.5	107.8	107.3	106.9	106.1	105.7	105.6	105.1	104.8	104.2	104.1	(1)	(1)	(1)

[1] Not available.

19. Weekly earnings, by industry division and major manufacturing group

[Gross averages, production or nonsupervisory workers on private nonagricultural payrolls]

Industry division and group	Annual average		1978	1979											
	1977	1978	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.[p]	Dec.[p]
TOTAL PRIVATE	$189.00	$203.70	$213.35	$210.14	$212.40	$214.91	$211.65	$216.20	$219.71	$221.76	$222.84	$225.90	$225.82	$225.70	$229.04
MINING	301.20	332.11	349.80	347.88	349.75	354.78	363.60	361.66	367.62	355.28	365.49	372.80	374.51	381.06	384.56
CONSTRUCTION	295.65	318.32	330.04	310.71	319.31	331.89	320.21	340.01	346.03	348.35	354.16	360.43	356.82	346.75	353.19
MANUFACTURING	228.90	249.27	268.27	260.25	262.10	266.34	254.41	265.86	269.06	267.73	267.80	274.04	274.85	277.55	285.77
Durable goods	248.46	270.44	293.14	283.03	286.06	289.39	273.14	288.46	291.51	289.86	287.65	295.39	295.60	298.16	309.41
Lumber and wood products	202.98	222.86	232.16	222.92	227.37	231.85	230.89	236.41	247.63	245.46	248.58	253.43	248.35	244.61	250.00
Furniture and fixtures	169.26	183.92	194.89	186.52	187.83	193.06	185.25	189.85	195.94	191.52	196.86	202.02	204.36	204.82	209.82
Stone, clay, and glass products	239.95	262.91	277.88	266.09	267.15	277.55	276.60	284.08	288.30	285.94	287.73	291.07	291.90	294.40	296.52
Primary metal industries	305.82	342.76	363.80	363.76	368.38	366.63	371.96	365.56	370.66	373.35	371.28	378.31	372.19	377.29	382.42
Fabricated metal products	242.31	259.94	279.36	269.26	271.90	277.54	258.66	275.54	279.21	274.04	276.62	282.74	285.36	286.30	297.20
Machinery except electrical	259.79	284.34	311.74	298.91	304.30	306.29	286.13	302.33	308.28	302.82	300.56	313.41	309.92	315.51	328.19
Electric and electronic equipment	217.76	234.56	251.52	246.23	248.27	250.71	237.07	249.64	253.13	248.29	252.40	261.63	261.14	266.02	274.46
Transportation equipment	309.40	333.80	374.25	340.45	351.54	356.17	313.05	356.10	352.29	349.70	341.82	349.61	356.07	354.90	379.18
Instruments and related products	214.77	233.54	248.12	243.19	246.82	249.45	241.20	249.29	248.68	248.25	247.44	252.75	257.86	263.91	268.61
Miscellaneous manufacturing	169.17	181.97	191.49	190.30	191.07	194.04	188.50	192.50	194.61	194.66	196.06	199.25	201.22	203.54	208.03
Nondurable goods	201.33	217.88	229.43	226.01	226.40	229.91	225.38	231.08	234.04	236.38	237.96	241.96	241.92	245.52	250.40
Food and kindred products	214.80	230.26	242.61	240.56	239.12	242.35	241.41	246.31	247.56	251.83	253.08	257.00	254.40	260.65	264.22
Tobacco manufactures	209.41	233.55	239.76	229.60	236.39	252.98	255.68	265.69	265.98	246.56	247.78	255.71	249.48	272.89	276.59
Textile mill products	161.20	173.72	182.78	180.35	179.50	182.61	172.93	181.25	184.32	185.54	192.23	196.66	197.06	200.23	203.91
Apparel and other textile products	128.87	140.26	146.06	144.28	145.53	148.33	142.04	147.42	148.88	148.74	149.88	151.51	153.36	153.79	157.68
Paper and allied products	255.68	279.71	294.09	289.66	288.23	293.09	287.87	296.10	302.74	304.73	307.57	312.56	312.66	317.88	324.08
Printing and publishing	230.72	244.40	256.61	249.31	251.03	255.23	247.30	254.76	257.31	259.06	263.03	268.82	264.75	269.09	273.51
Chemicals and allied products	268.13	293.72	307.94	305.24	305.24	308.38	314.25	312.25	314.75	316.92	319.77	323.11	326.09	330.91	335.81
Petroleum and coal products	334.34	376.27	386.40	385.63	388.57	407.78	414.42	410.34	404.49	414.10	407.88	425.10	418.51	426.67	422.04
Rubber and miscellaneous plastics products	211.87	225.77	242.34	239.20	240.61	242.60	229.31	238.96	240.54	239.19	237.60	244.22	247.86	246.43	252.32
Leather and leather products	133.21	144.32	148.77	149.92	148.63	149.70	147.56	152.15	155.45	154.61	154.45	157.87	157.32	159.71	162.87
TRANSPORTATION AND PUBLIC UTILITIES	278.90	302.80	315.57	312.84	316.01	314.42	307.32	314.42	321.20	329.20	335.30	337.16	337.16	339.60	343.71
WHOLESALE AND RETAIL TRADE	142.52	153.64	159.21	156.72	159.54	161.36	162.50	162.00	165.16	166.17	167.99	167.75	167.38	167.83	170.09
WHOLESALE TRADE	209.13	228.14	240.07	237.31	238.46	242.35	243.18	244.68	247.26	249.21	249.35	252.59	253.24	256.23	260.29
RETAIL TRADE	121.66	130.20	134.90	133.65	134.55	135.44	137.39	136.50	139.50	142.07	141.83	140.61	139.54	140.45	141.83
FINANCE, INSURANCE, AND REAL ESTATE	165.26	178.36	184.04	186.73	186.92	187.31	190.37	188.44	188.96	192.56	191.50	195.29	194.93	197.29	199.84
SERVICES	153.45	163.67	167.70	169.45	170.75	171.46	171.93	171.28	173.38	176.16	175.96	178.22	178.65	180.26	182.7

20. Gross and spendable weekly earnings, in current and 1967 dollars, 1960 to date

[Averages for production or nonsupervisory workers on private nonagricultural payrolls]

Year and month	Private nonagricultural workers						Manufacturing workers					
	Gross average weekly earnings		Spendable average weekly earnings				Gross average weekly earnings		Spendable average weekly earnings			
			Worker with no dependents		Married worker with 3 dependents				Worker with no dependents		Married worker with 3 dependents	
	Current dollars	1967 dollars	Current dollars	1967 dollars	Current dollars	1967 dollars	Current dollars	1967 dollars	Current dollars	1967 dollars	Current dollars	1967 dollars
1960	$80.67	$90.95	$65.59	$73.95	$72.96	$82.25	$89.72	$101.15	$72.57	$81.82	$80.11	$90.32
1961	82.60	92.19	67.08	74.87	74.48	83.13	92.34	103.06	74.60	83.26	82.18	91.72
1962	85.91	94.82	69.56	76.78	76.99	84.98	96.56	106.58	77.86	85.94	85.53	94.40
1963	88.46	96.47	71.05	77.48	78.56	85.67	99.23	108.21	79.51	86.71	87.25	95.15
1964	91.33	98.31	75.04	80.78	82.57	88.88	102.97	110.84	84.40	90.85	92.18	99.22
1965	95.45	101.01	79.32	83.94	86.63	91.67	107.53	113.79	88.08	94.26	96.78	102.41
1966	98.82	101.67	81.29	83.63	88.66	91.21	112.19	115.42	91.45	94.08	99.33	102.19
1967	101.84	101.84	83.38	83.38	90.86	90.86	114.49	114.49	92.97	92.97	100.93	100.93
1968	107.73	103.39	86.71	83.21	95.28	91.44	122.51	117.57	97.70	93.76	106.75	102.45
1969	114.61	104.38	90.96	82.84	99.99	91.07	129.51	117.95	101.90	92.81	111.44	101.49
1970	119.83	103.04	96.21	82.73	104.90	90.20	133.33	114.64	106.32	91.42	115.58	99.38
1971	127.31	104.95	103.80	85.57	112.43	92.69	142.44	117.43	114.97	94.78	124.24	102.42
1972	136.90	109.26	112.19	89.54	121.68	97.11	154.71	123.47	125.34	100.03	135.57	108.20
1973	145.39	109.23	117.51	88.29	127.38	95.70	166.46	125.06	132.57	99.60	143.50	107.81
1974	154.76	104.78	124.37	84.20	134.61	91.14	176.80	119.70	140.19	94.92	151.56	102.61
1975	163.53	101.45	132.49	82.19	145.65	90.35	190.79	118.36	151.61	94.05	166.29	103.16
1976	175.45	102.90	143.30	84.05	155.87	91.42	209.32	122.77	167.83	98.43	181.32	106.35
1977	189.00	104.13	155.19	85.50	169.93	93.63	228.90	126.12	183.80	101.27	200.06	110.23
1978	203.70	104.30	165.39	84.69	186.71	92.53	249.27	127.63	197.40	101.06	214.87	110.02
1978: December	213.35	105.15	172.31	84.92	187.95	92.63	268.27	132.22	210.12	103.56	229.40	113.06
1979: January	210.14	102.66	170.88	83.48	187.22	91.46	260.25	127.14	206.40	100.83	225.48	110.15
February	212.40	102.56	172.53	83.31	188.98	91.25	262.10	126.56	207.69	100.28	226.89	109.56
March	214.91	102.68	174.35	83.30	190.93	91.22	266.34	127.25	210.65	100.65	230.10	109.94
April	211.65	99.93	171.98	81.20	188.39	88.95	254.41	120.12	202.32	95.52	221.05	104.37
May	216.20	100.89	175.29	81.80	191.93	89.56	265.86	124.06	210.04	98.14	229.74	107.20
June	219.71	101.30	177.85	82.00	194.67	89.75	269.06	124.05	212.51	97.98	232.17	107.04
July	221.76	101.08	179.35	81.75	196.26	89.45	267.73	122.03	211.61	96.45	231.16	105.36
August	222.84	100.60	180.13	81.32	197.11	88.99	267.60	120.81	211.52	95.49	231.06	104.32
September	225.90	100.98	182.36	81.52	199.42	89.15	274.04	122.50	215.89	96.51	235.94	105.47
October	225.62	100.01	182.16	80.74	199.21	88.30	274.85	121.83	216.44	95.94	236.56	104.86
November[p]	225.70	99.17	182.22	80.06	199.27	87.55	277.55	121.95	218.27	95.90	238.61	104.84
December[p]	229.04	(1)	184.59	(1)	201.80	(1)	285.77	(1)	223.85	(1)	244.84	(1)

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[1] Not available.

NOTE: The earnings expressed in 1967 dollars have been adjusted for changes in price level as measured by the Bureau's Consumer Price Index for Urban Wage Earners and Clerical Workers (revised). These series are described in "The Spendable Earnings Series: A Technical Note on its Calculation", **Employment and Earnings and Monthly Report on the Labor Force,** February 1969, pp. 6 - 13, See also "Spendable Earnings Formulas, 1977 - 79" **Employment and Earnings,** September 1979, pp. 6 - 8.

UNEMPLOYMENT INSURANCE DATA

UNEMPLOYMENT INSURANCE DATA are compiled monthly by the Employment and Training Administration of the U.S. Department of Labor from records of State and Federal unemployment insurance claims filed and benefits paid. Railroad unemployment insurance data are prepared by the U.S. Railroad Retirement Board.

Definitions

Data for **all programs** represent an unduplicated count of insured unemployment under the State, Ex-Servicemen, and UCFE programs, and the Railroad Insurance Act.

Under both State and Federal unemployment insurance programs for civilian employees, insured workers must report the completion of at least 1 week of unemployment before they are defined as unemployed. Persons not covered by unemployment insurance (about one-third of the labor force) and those who have exhausted or not yet earned benefit rights are excluded from the scope of the survey. **Initial claims** are notices filed by persons in unemployment insurance programs to indicate they are out of work and wish to begin receiving compensation. A claimant who continued to be unemployed a full week is then counted in the insured unemployment figure. The **rate of insured unemployment** expresses the number of insured unemployed as a percent of the average insured employment in a 12-month period.

An **application** for benefits is filed by a railroad worker at the beginning of his first period of unemployment in a benefit year; no application is required for subsequent periods in the same year. **Number of payments** are payments made in 14-day registration periods. The **average amount of benefit payment** is an average for all compensable periods, not adjusted for recovery of overpayments or settlement of underpayments. However, **total benefits paid** have been adjusted.

21. Unemployment insurance and employment service operations

[All items except average benefits amounts are in thousands]

Item	1978		1979										
	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.
All programs:													
Insured unemployment	2,148	2,567	3,198	3,209	2,921	2,610	2,230	2,119	2,429	2,377	2,184	2,298	2,589
State unemployment insurance program:[1]													
Initial claims[2]	1,526	1,882	2,421	1,576	1,396	1,589	1,309	1,400	1,976	1,545	1,219	1,840	......
Insured unemployment (average weekly volume)	2,009	2,421	3,037	3,053	2,750	2,440	2,078	1,991	2,300	2,245	2,034	2,057	2,384
Rate of insured unemployment	2.7	3.2	3.9	4.0	3.6	3.1	2.6	2.5	2.8	2.7	2.4	2.4	2.8
Weeks of unemployment compensated	6,744	7,807	11,371	10,762	11,105	8,956	8,442	7,187	7,980	8,030	6,886	7,638	......
Average weekly benefit amount for total unemployment	$83.98	$85.34	$88.28	$90.31	$90.28	$89.25	$88.37	$87.25	$86.40	$88.56	$89.07	$90.59	......
Total benefits paid	$560,691	$645,084	$972,820	$915,146	$975,841	$777,869	$725,229	$610,289	$665,687	$767,025	$606,086	$673,927	......
Unemployment compensation for ex-servicemen:[3]													
Initial claims[1]	23	24	24	21	21	20	20	24	28	29	23	26	......
Insured unemployment (average weekly volume)	43	50	54	53	52	48	45	45	51	52	52	52	54
Weeks of unemployment compensated	244	228	262	219	241	207	214	193	218	234	211	236	......
Total benefits paid	$20,591	$21,040	$24,425	$20,489	$22,794	$19,617	$20,440	$18,623	$20,965	$22,580	$19,634	$23,333	......
Unemployment compensation for Federal civilian employees:[4]													
Initial claims	18	18	21	13	12	12	12	13	19	13	13	18	......
Insured unemployment (average weekly volume)	32	34	37	35	33	27	24	23	25	25	25	26	29
Weeks of unemployment compensated	135	136	168	133	143	112	108	91	98	107	91	108	......
Total benefits paid	$11,626	$12,174	$14,222	$12,256	$13,168	$10,345	$9,330	$8,341	$8,002	$9,039	$8,456	$10,088	......
Railroad unemployment insurance:													
Applications	15	10	8	6	5	3	3	9	15	8	13	11	10
Insured unemployment (average weekly volume)	17	17	28	24	23	18	16	6	11	12	21	18	29
Number of payments	33	30	60	50	23	40	28	19	20	26	32	61	36
Average amount of benefit payment	$171.84	$189.89	$200.60	$200.64	$204.72	$185.55	$177.30	$183.13	$180.16	$185.61	$189.08	$188.61	$188.38
Total benefits paid	$5,284	$5,678	$9,684	$9,871	$10,536	$7,276	$5,681	$3,314	$3,609	$3,767	$5,747	$9,808	$6,462
Employment service:[5]													
New applications and renewals	3,028	414	5,820	.....	8,080	9,160	10,452	11,607	13,166	14,478	.....	......	......
Nonfarm placements	827	1,120	1,414	.....	1,881	2,291	2,616	3,051	3,482	3,906	.....	......	......

[1] Initial claims and State insured unemployment include data under the program for Puerto Rican sugarcane workers.

[2] Includes interstate claims for the Virgin Islands. Excludes transition claims under State programs.

[3] Excludes data on claims and payments made jointly with other programs.

[4] Includes the Virgin Islands. Excludes data on claims and payments made jointly with State programs.

[5] Cumulative total for fiscal year (October 1 – September 30).

NOTE: Data for Puerto Rico included. Dashes indicate data not available.

PRICE DATA

PRICE DATA are gathered by the Bureau of Labor Statistics from retail and primary markets in the United States. Price indexes are given in relation to a base period (1967 = 100, unless otherwise noted).

Definitions

The **Consumer Price Index** is a monthly statistical measure of the average change in prices in a fixed market basket of goods and services. Effective with the January 1978 index, the Bureau of Labor Statistics began publishing CPI's for two groups of the population. One index, a new CPI for All Urban Consumers, covers 80 percent of the total noninstitutional population; and the other index, a revised CPI for Urban Wage Earners and Clerical Workers, covers about half the new index population. The All Urban Consumers index includes, in addition to wage earners and clerical workers, professional, managerial, and technical workers, the self-employed, short-term workers, the unemployed, retirees, and others not in the labor force.

The CPI is based on prices of food, clothing, shelter, fuel, drugs, transportation fares, doctor's and dentist's fees, and other goods and services that people buy for day-to-day living. The quantity and quality of these items is kept essentially unchanged between major revisions so that only price changes will be measured. Prices are collected from over 18,000 tenants, 24,000 retail establishments, and 18,000 housing units for property taxes in 85 urban areas across the country. All taxes directly associated with the purchase and use of items are included in the index. Because the CPI's are based on the expenditures of two population groups in 1972–73, they may not accurately reflect the experience of individual families and single persons with different buying habits.

Though the CPI is often called the "Cost-of-Living Index," it measures only price change, which is just one of several important factors affecting living costs. Area indexes do not measure differences in the level of prices among cities. They only measure the average change in prices for each area since the base period.

Producer Price Indexes measure average changes in prices received in primary markets of the United States by producers of commodities in all stages of processing. The sample used for calculating these indexes contains about 2,800 commodities and about 10,000 quotations per month selected to represent the movement of prices of all commodities produced in the manufacturing, agriculture, forestry, fishing, mining, gas and electricity, and public utilities sectors. The universe includes all commodities produced or imported for sale in commercial transactions in primary markets in the United States.

Producer Price Indexes can be organized by stage of processing or by commodity. The stage of processing structure organizes products by degree of fabrication (that is, finished goods, intermediate or semifinished goods, and crude materials). The commodity structure organizes products by similarity of end-use or material composition.

To the extent possible, prices used in calculating Producer Price Indexes apply to the first significant commercial transaction in the United States, from the production or central marketing point. Price data are generally collected monthly, primarily by mail questionnaire. Most prices are obtained directly from producing companies on a voluntary and confidential basis. Prices generally are reported for the Tuesday of the week containing the 13th day of the month.

In calculating Producer Price Indexes, price changes for the various commodities are averaged together with implicit quantity weights representing their importance in the total net selling value of all commodities as of 1972. The detailed data are aggregated to obtain indexes for stage of processing groupings, commodity groupings, durability of product groupings, and a number of special composite groupings.

Price indexes for the output of selected SIC industries measure average price changes in commodities produced by particular industries, as defined in the *Standard Industrial Classification Manual 1972* (Washington, U.S. Office of Management and Budget, 1972). These indexes are derived from several price series, combined to match the economic activity of the specified industry and weighted by the value of shipments in the industry. They use data from comprehensive industrial censuses conducted by the U.S. Bureau of the Census and the U.S. Department of Agriculture.

Notes on the data

Beginning with the May 1978 issue of the *Review*, regional CPI's cross classified by population size, were introduced. These indexes will enable users in local areas for which an index is not published to get a better approximation of the CPI for their area by using the appropriate population size class measure for their region. The cross-classified indexes will be published bimonthly. (See table 24.)

For further details about the new and the revised indexes and a comparison of various aspects of these indexes with the old unrevised CPI, see *Facts About the Revised Consumer Price Index*, a pamphlet in the Consumer Price Index Revision 1978 series. See also *The Consumer Price Index: Concepts and Content Over the Years*. Report 517, revised edition (Bureau of Labor Statistics, May 1978).

For interarea comparisons of living costs at three hypothetical standards of living, see the family budget data published in the *Handbook of Labor Statistics, 1977*, Bulletin 1966 (Bureau of Labor Statistics, 1977), tables 122–133. Additional data and analysis on price changes are provided in the *CPI Detailed Report* and *Producer Prices and Price Indexes*, both monthly publications of the Bureau.

As of January 1976, the Wholesale Price Index (as it was then called) incorporated a revised weighting structure reflecting 1972 values of shipments. From January 1967 through December 1975, 1963 values of shipments were used as weights.

For a discussion of the general method of computing consumer, producer, and industry price indexes, see *BLS Handbook of Methods for Surveys and Studies*, Bulletin 1910 (Bureau of Labor Statistics, 1976), chapters 13–15. See also John F. Early, "Improving the measurement of producer price change," *Monthly Labor Review*, April 1978, pp. 7–15. For industry prices, see also Bennett R. Moss, "Industry and Sector Price Indexes," *Monthly Labor Review*, August 1965, pp. 974–82.

22. Consumer Price index for Urban Wage Earners and Clerical Workers, annual averages and changes, 1967–78

[1967 = 100]

Year	All items		Food and beverages		Housing		Apparel and upkeep		Transportation		Medical care		Entertainment		Other goods and services	
	Index	Percent change	Index	Percent change	Index	Percent change	Index	Percent change	Index	Percent change	Index	Percent change	Index	Percent change	Index	Percent change
1967	100.0	..	100.0	...	100.0	...	100.0	..	100.0	..	100.0	...	100.0	...	100.0	...
1968	104.2	4.2	103.6	3.6	104.0	4.0	105.4	5.4	103.2	3.2	106.1	6.1	105.7	5.7	105.2	5.2
1969	109.8	5.4	108.8	5.0	110.4	6.2	111.5	5.8	107.2	3.9	113.4	6.9	111.0	5.0	110.4	4.9
1970	116.3	5.9	114.7	5.4	118.2	7.1	116.1	4.1	112.7	5.1	120.6	6.3	116.7	5.1	116.8	5.8
1971	121.3	4.3	118.3	3.1	123.4	4.4	119.8	3.2	118.6	5.2	128.4	6.5	122.9	5.3	122.4	4.8
1972	125.3	3.3	123.2	4.1	128.1	3.8	122.3	2.1	119.9	1.1	132.5	3.2	126.5	2.9	127.5	4.2
1973	133.1	6.2	139.5	13.2	133.7	4.4	126.8	3.7	123.8	3.3	137.7	3.9	130.0	2.8	132.5	3.9
1974	147.7	11.0	158.7	13.8	148.8	11.3	136.2	7.4	137.7	11.2	150.5	9.3	139.8	7.5	142.0	7.2
1975	161.2	9.1	172.1	8.4	164.5	10.6	142.3	4.5	150.6	9.4	168.6	12.0	152.2	8.9	153.9	8.4
1976	170.5	5.8	177.4	3.1	174.6	6.1	147.6	3.7	165.5	9.9	184.7	9.5	159.8	5.0	162.7	5.7
1977	181.5	6.5	188.0	6.0	186.5	6.8	154.2	4.5	177.2	7.1	202.4	9.6	167.7	4.9	172.2	5.8
1978	195.3	7.6	206.2	9.7	202.6	8.6	159.5	3.4	185.8	4.9	219.4	8.4	176.2	5.1	183.2	6.4

23. Consumer Price Index for All Urban Consumers and revised CPI for Urban Wage Earners and Clerical Workers, U.S. city average—general summary and groups, subgroups, and selected items

[1967 = 100 unless otherwise specified]

General summary	All Urban Consumers							Urban Wage Earners and Clerical Workers (revised)						
	1978	1979						1978	1979					
	Nov.	June	July	Aug.	Sept.	Oct.	Nov.	Nov.	June	July	Aug.	Sept.	Oct.	Nov.
All items	202.0	216.6	218.9	221.1	223.4	225.4	227.5	201.8	216.9	219.4	221.5	223.7	225.6	227.6
Food and beverages	212.5	229.3	230.7	230.2	231.0	232.1	233.1	212.4	229.3	230.9	230.4	231.2	232.3	233.1
Housing	210.6	225.5	228.4	231.5	234.6	237.7	240.8	210.1	225.5	228.4	231.5	234.5	237.7	240.7
Apparel and upkeep	164.1	165.7	164.3	166.3	169.8	171.0	171.7	164.0	165.3	164.5	166.2	169.3	170.8	171.3
Transportation	191.4	212.6	216.6	219.6	221.4	222.7	224.9	191.9	213.7	217.8	220.7	222.4	223.4	225.7
Medical care	227.0	237.7	239.9	241.8	243.7	245.9	248.0	226.8	238.2	240.5	242.6	244.7	247.2	249.1
Entertainment	179.5	188.2	189.1	190.2	191.1	192.0	192.8	178.8	187.5	188.6	188.9	190.2	191.4	192.0
Other goods and services	188.8	194.5	195.2	197.0	201.7	202.3	202.9	188.2	194.3	195.1	197.2	200.6	201.4	202.0
Commodities	192.9	208.4	210.5	212.2	214.1	215.6	217.4	192.9	208.7	211.0	212.6	214.4	215.8	217.4
Commodities less food and beverages	181.4	196.0	198.4	200.9	203.3	204.9	206.9	181.2	196.3	198.8	201.3	203.5	205.0	206.9
Nondurables less food and beverages	181.1	200.5	204.2	208.8	213.2	214.9	216.6	181.2	201.6	205.6	210.5	214.8	216.6	218.1
Durables	180.0	191.1	192.6	193.6	194.5	196.0	198.4	179.8	190.8	192.2	192.9	193.5	194.8	196.9
Services	218.6	232.1	234.7	237.6	240.7	243.6	246.2	218.3	232.3	235.1	237.9	241.0	244.0	246.7
Rent, residential	168.5	174.7	175.9	177.5	179.0	181.4	182.1	168.4	174.7	175.8	177.3	178.9	181.2	181.9
Household services less rent	245.0	264.5	268.6	272.8	276.7	280.7	284.6	244.8	265.6	269.8	274.1	278.2	282.3	286.3
Transportation services	202.2	210.9	212.6	214.9	216.6	218.5	221.5	202.5	211.6	213.3	215.3	216.8	218.6	221.5
Medical care services	244.1	255.9	258.5	260.6	262.8	265.3	267.6	243.6	256.1	258.8	261.2	263.8	266.8	268.8
Other services	190.5	198.4	199.3	200.5	204.7	205.7	206.5	190.5	198.7	200.1	201.2	204.9	206.4	207.3
Special indexes:														
All items less food	197.8	211.8	214.2	216.9	219.6	221.8	224.1	197.5	212.0	214.6	217.3	219.8	222.0	224.2
All items less mortgage interest costs	197.9	211.0	213.0	214.7	216.7	218.3	219.8	197.7	211.5	213.7	215.3	217.2	218.7	220.1
Commodities less food	180.3	194.7	197.0	199.5	201.8	203.4	205.4	180.1	194.9	197.4	199.9	202.0	203.5	205.4
Nondurables less food	179.1	197.6	201.1	205.4	209.6	211.3	212.9	179.2	198.6	202.5	207.0	211.0	212.9	214.4
Nondurables less food and apparel	190.0	217.0	222.8	228.3	232.7	234.8	236.8	190.1	218.0	223.9	229.7	234.2	236.3	238.2
Nondurables	197.5	215.7	218.3	220.4	223.1	224.5	225.8	197.6	216.3	219.2	221.3	223.9	225.3	226.5
Services less rent	227.8	242.6	245.6	248.8	252.1	255.1	258.2	227.4	243.0	246.1	249.2	252.6	255.7	258.6
Services less medical care	214.5	228.0	230.6	233.6	236.7	239.6	242.3	214.2	228.2	231.0	233.9	236.9	239.9	242.6
Domestically produced farm foods	205.9	224.9	225.9	223.5	223.7	224.1	224.5	205.8	224.6	225.8	223.4	223.6	224.0	224.4
Selected beef cuts	213.7	268.3	267.8	253.0	255.3	257.3	256.5	215.6	269.9	270.1	255.5	258.0	259.1	259.2
Energy	225.9	275.4	287.1	296.3	304.3	307.5	307.8	226.0	277.3	289.2	296.8	307.0	310.2	310.7
All items less energy	200.4	212.2	213.8	215.4	217.3	219.2	221.4	200.2	212.3	213.9	215.3	217.0	218.8	221.0
All items less food and energy	196.3	205.8	207.3	209.4	211.5	213.6	216.1	195.0	205.5	207.2	209.0	211.0	213.0	215.4
Commodities less food and energy	176.2	184.8	185.6	186.8	188.2	189.6	191.4	175.9	184.5	185.4	186.4	187.5	188.7	190.4
Energy commodities	220.2	284.9	300.8	314.5	325.3	329.0	332.5	220.5	286.2	301.9	315.8	326.5	330.2	333.8
Services less energy	217.4	229.9	232.4	235.4	238.4	241.3	244.6	217.1	230.1	232.7	235.7	238.7	241.7	245.1
Purchasing power of the consumer dollar, 1967 = $1	$0.495	$0.462	$0.457	$0.452	$0.448	$0.444	$0.440	$0.496	$0.461	$0.456	$0.451	$0.447	$0.443	$0.439

23. Continued—Consumer Price Index—U.S. city average

[1967 = 100 unless otherwise specified]

General summary	All Urban Consumers							Urban Wage Earners and Clerical Workers (revised)						
	1978	1979						1978	1979					
	Nov.	June	July	Aug.	Sept.	Oct.	Nov.	Nov.	June	July	Aug.	Sept.	Oct.	Nov.
BEVERAGES	212.5	229.3	230.7	230.2	231.0	232.1	233.1	212.4	229.3	230.9	230.4	231.2	232.3	233.1
Food	217.8	235.4	236.9	236.3	237.1	238.2	239.1	217.7	235.4	237.1	236.5	237.3	238.3	239.1
Food at home	216.1	234.2	235.5	233.9	234.7	235.4	236.0	215.9	233.6	235.0	233.5	234.2	234.8	235.4
Cereals and bakery products	206.6	217.8	220.1	223.7	225.6	227.0	228.7	207.6	218.2	221.1	224.1	226.6	227.9	229.7
Cereals and cereal products (12/77 = 100)	110.6	115.5	116.6	118.5	120.0	120.8	121.1	110.6	115.4	117.0	119.0	120.6	121.4	122.1
Flour and prepared flour mixes (12/77 = 100)	111.0	117.8	119.4	122.5	123.4	124.0	122.8	111.8	118.4	120.3	123.3	125.1	125.0	124.6
Cereal (12/77 = 100)	109.6	115.8	117.0	118.0	118.8	119.2	119.7	109.6	116.0	117.4	118.5	118.7	119.3	119.9
Rice, pasta, and cornmeal (12/77 = 100)	111.7	112.8	113.6	115.7	118.6	120.4	121.6	110.9	111.8	113.4	115.8	119.1	120.8	122.7
Bakery products (12/77 = 100)	108.9	115.2	116.4	118.3	119.2	119.9	121.0	109.6	115.5	117.0	118.5	119.7	120.3	121.3
White bread	181.1	190.3	194.2	198.4	200.7	202.5	204.5	181.7	189.5	194.3	198.0	200.5	202.3	203.9
Other breads (12/77 = 100)	109.7	115.3	116.2	118.6	119.6	120.5	121.3	111.0	117.1	118.5	120.8	122.5	123.8	124.2
Fresh biscuits, rolls, and muffins (12/77 = 100)	109.3	115.8	116.1	118.1	119.0	119.4	121.2	109.8	115.4	115.8	117.7	118.6	118.7	120.8
Fresh cakes and cupcakes (12/77 = 100)	107.9	114.0	114.8	116.6	116.7	117.6	119.4	108.6	114.8	115.9	116.3	116.8	118.1	119.1
Cookies (12/77 = 100)	107.8	114.1	114.8	115.6	115.9	116.6	117.1	108.9	116.2	117.2	117.2	117.8	118.3	118.4
Crackers and bread and cracker products (12/77 = 100)	107.2	112.2	112.7	114.7	114.8	115.0	114.5	107.3	112.7	112.9	114.9	114.9	115.0	116.1
Fresh sweetrolls, coffeecake, and donuts (12/77 = 100)	107.3	115.9	116.0	117.5	118.8	118.9	119.9	108.8	117.8	117.8	119.3	121.6	120.7	121.9
Frozen and refrigerated bakery products and fresh pies, tarts, and turnovers (12/77 = 100)	109.7	117.6	119.8	120.8	121.7	122.5	123.7	109.0	113.9	116.5	117.1	118.6	118.8	120.8
Meats, poultry, fish, and eggs	214.0	239.8	239.0	230.2	231.0	230.3	230.2	213.9	239.0	238.3	229.6	230.5	229.7	230.0
Meats, poultry, and fish	218.0	246.1	245.0	235.8	236.0	235.9	235.2	217.8	245.3	244.2	235.3	235.4	235.3	235.0
Meats	217.6	249.6	248.0	237.8	238.1	238.6	237.4	217.5	248.8	247.4	237.6	237.7	238.1	237.3
Beef and veal	212.5	266.9	266.4	251.9	254.2	256.2	255.5	214.4	268.2	268.4	254.1	256.4	257.5	257.7
Ground beef other than canned	212.2	278.7	274.5	260.3	261.4	263.4	264.2	213.9	278.8	274.7	261.9	263.5	265.8	266.0
Chuck roast	215.1	279.7	280.5	257.5	261.0	263.3	263.1	221.5	286.0	288.7	264.0	267.9	268.3	273.1
Round roast	193.0	236.8	239.1	222.2	229.2	230.3	229.1	194.7	240.0	242.7	225.9	231.0	233.0	232.7
Round steak	200.5	250.0	248.1	238.1	239.2	242.2	241.9	201.6	247.5	246.4	235.4	235.7	239.4	239.7
Sirloin steak	214.9	259.8	260.7	247.5	251.0	250.4	247.0	213.8	261.1	260.7	247.3	253.9	249.6	247.4
Other beef and veal (12/77 = 100)	124.2	151.3	151.8	145.0	145.6	147.1	146.3	124.9	151.6	152.8	146.0	146.6	147.0	146.6
Pork	222.6	217.2	215.1	207.4	206.5	204.3	201.0	221.5	217.2	214.9	207.6	206.1	204.7	201.5
Bacon	222.1	203.9	200.0	192.5	194.0	190.5	186.3	222.1	206.0	201.6	195.0	195.6	194.4	188.7
Pork chops	209.7	206.4	207.7	195.3	198.1	195.1	188.8	208.9	207.4	209.2	196.2	195.1	194.9	188.1
Ham other than canned (12/77 = 100)	108.8	99.5	97.2	96.4	95.2	94.8	95.9	108.3	97.0	96.1	94.9	94.3	94.0	95.4
Sausage	269.8	276.1	270.4	263.8	258.4	257.6	254.5	266.3	276.0	269.5	263.2	258.4	258.1	255.8
Canned ham	227.8	226.0	224.4	221.1	216.6	218.2	214.8	226.4	226.4	222.3	218.9	215.3	215.8	214.6
Other pork (12/77 = 100)	120.7	124.4	124.2	118.3	117.4	115.2	112.9	120.1	124.4	123.2	118.4	117.5	115.1	112.7
Other meats	219.4	248.9	245.1	243.5	240.2	240.7	242.0	216.5	245.2	241.0	239.9	236.6	238.0	238.5
Frankfurters	215.1	249.3	243.2	241.9	235.9	236.8	238.9	214.6	249.0	243.0	242.6	236.1	237.7	237.2
Bologna, liverwurst, and salami (12/77 = 100)	122.2	136.7	135.4	134.3	133.2	134.2	133.4	120.3	133.4	132.3	129.7	129.5	130.7	130.4
Other lunchmeats (12/77 = 100)	113.9	123.1	122.0	122.7	121.6	120.3	121.6	111.7	120.6	119.4	120.8	119.0	118.8	119.5
Lamb and organ meats (12/77 = 100)	118.5	143.9	141.0	137.6	135.6	137.7	138.3	117.7	145.9	141.1	137.9	136.9	138.8	139.8
Poultry	176.0	187.2	186.2	177.1	174.8	170.3	171.6	174.9	185.1	184.0	174.3	172.8	168.3	170.1
Fresh whole chicken	175.5	185.8	184.1	171.3	169.9	159.7	166.7	172.6	181.5	179.6	166.7	165.8	157.7	163.3
Fresh and frozen chicken parts (12/77 = 100)	112.3	120.3	119.4	112.1	111.8	110.1	110.8	112.3	120.1	119.1	111.1	110.9	108.4	110.7
Other poultry (12/77 = 100)	116.3	123.4	123.6	123.0	119.2	120.3	115.9	116.4	122.7	123.2	122.1	119.8	119.8	116.0
Fish and seafood	285.4	301.0	304.3	306.5	309.7	311.5	312.2	282.5	295.9	298.3	301.4	304.4	306.5	307.5
Canned fish and seafood (12/77 = 100)	107.3	110.3	111.4	112.7	113.9	115.2	116.8	106.6	109.2	110.2	111.5	113.5	114.5	116.0
Fresh and frozen fish and seafood (12/77 = 100)	109.5	117.2	118.6	119.2	120.4	120.7	120.1	108.2	114.9	115.7	116.9	117.5	118.1	117.8
Eggs	167.0	161.9	165.6	161.8	170.7	161.3	170.1	167.8	161.6	165.4	160.5	170.5	160.3	169.6
Dairy Products	193.2	205.5	206.3	208.6	211.3	213.3	216.0	193.5	205.9	206.7	208.9	212.0	214.0	216.3
Fresh milk and cream (12/77 = 100)	108.9	115.7	116.1	117.7	119.0	120.3	121.9	108.8	116.0	116.3	117.9	119.5	120.4	121.8
Fresh whole milk	178.4	189.4	190.0	192.8	195.4	197.6	200.4	178.3	189.8	190.3	193.0	195.6	197.4	199.7
Other fresh milk and cream (12/77 = 100)	108.5	115.6	116.3	117.4	118.1	119.2	120.6	108.4	116.0	116.5	117.7	119.3	119.8	121.1
Processed dairy products (12/77 = 100)	109.7	116.8	117.3	118.2	120.1	120.9	122.3	110.2	117.0	117.6	118.4	120.5	121.7	123.0
Butter	190.7	199.9	200.6	203.0	209.9	213.3	214.4	191.1	202.0	202.6	205.7	212.3	216.6	217.1
Cheese (12/77 = 100)	109.4	116.9	117.7	118.4	120.1	121.0	122.7	109.6	116.3	117.4	118.4	120.2	121.1	122.5
Ice cream and related products (12/77 = 100)	109.4	116.9	117.0	117.8	120.1	120.4	121.4	110.7	117.8	118.4	118.1	120.7	121.9	123.4
Other dairy products (12/77 = 100)	107.7	114.5	114.5	115.4	115.5	116.4	117.8	108.0	114.6	114.3	115.4	115.6	116.9	118.2
Fruits and vegetables	210.4	233.8	238.1	237.8	231.8	232.0	229.5	208.2	231.5	236.6	237.0	229.6	230.2	226.7
Fresh fruits and vegetables	207.7	243.3	249.4	247.5	234.7	235.5	230.1	205.0	240.4	248.1	247.9	232.9	233.6	226.7
Fresh fruits	215.9	266.0	278.2	286.9	271.6	260.4	242.7	212.4	261.1	278.2	289.9	271.2	260.6	238.3
Apples	197.4	232.9	250.2	275.2	244.7	212.7	207.2	192.2	233.7	248.4	275.9	243.1	212.9	207.7
Bananas	175.4	225.3	221.0	202.3	210.3	206.6	209.0	176.3	221.7	218.5	202.5	208.4	199.7	206.5
Oranges	274.5	311.5	313.5	316.2	312.3	306.7	293.9	261.2	293.0	306.1	298.6	291.8	290.3	283.3
Other fresh fruits (12/77 = 100)	109.1	141.4	151.3	157.5	147.1	143.9	127.5	109.5	140.7	154.2	163.5	152.3	149.7	125.7
Fresh vegetables	200.1	222.0	222.4	210.7	200.3	212.2	218.4	198.4	221.8	221.0	211.0	198.4	209.4	216.4
Potatoes	191.3	221.5	225.7	211.4	199.3	191.1	195.7	191.8	224.3	227.9	212.1	193.4	183.8	191.7
Lettuce	223.2	193.1	200.0	235.7	219.6	262.9	244.2	221.0	186.0	195.9	240.3	222.9	264.2	239.0
Tomatoes	182.7	222.0	185.8	187.0	178.5	194.4	225.3	181.9	223.0	189.4	185.6	179.2	194.1	225.4
Other fresh vegetables (12/77 = 100)	110.0	128.1	132.1	113.8	109.5	114.0	119.1	108.4	128.7	130.2	113.3	108.0	112.5	118.9
Processed fruits and vegetables	215.3	225.4	227.8	229.2	230.6	230.1	231.0	213.6	223.5	225.8	226.9	227.9	228.3	228.6
Processed fruits (12/77 = 100)	110.5	117.6	118.5	119.7	120.6	120.4	121.2	110.4	117.0	118.1	119.0	119.8	120.3	121.1
Frozen fruit and fruit juices (12/77 = 100)	110.5	114.3	114.3	115.5	116.3	116.3	116.6	110.1	114.4	113.6	114.4	114.9	115.2	115.7
Fruit juices and other than frozen (12/77 = 100)	108.5	115.6	117.0	117.9	119.3	119.8	122.1	109.3	115.1	117.4	118.2	119.7	120.7	122.4
Canned and dried fruits (12/77 = 100)	112.7	122.5	123.8	125.0	125.5	124.6	124.2	111.9	121.2	122.7	123.8	123.9	124.0	124.0
Processed vegetables (12/77 = 100)	105.7	108.9	110.4	110.7	111.2	110.9	110.9	104.5	108.1	108.3	108.5	108.9	108.8	108.4
Frozen vegetables (12/77 = 100)	106.0	107.1	109.6	109.7	109.8	110.2	110.2	105.3	107.7	108.7	108.9	109.4	110.2	109.6

23. Continued — Consumer Price Index — U.S. city average

[1967 = 100 unless otherwise specified]

General summary	All Urban Consumers							Urban Wage Earners and Clerical Workers (revised)						
	1978	1979						1978	1979					
	Nov.	June	July	Aug.	Sept.	Oct.	Nov.	Nov.	June	July	Aug.	Sept.	Oct.	Nov.
FOOD AND BEVERAGES Continued														
Food Continued														
Food at home Continued														
Fruits and vegetables Continued														
Cut corn and canned beans except lima (12/77 = 100)	108.0	113.2	114.3	113.9	114.7	113.6	113.4	106.7	112.0	112.4	112.0	112.6	111.9	111.8
Other canned and dried vegetables (12/77 = 100)	104.5	107.7	108.8	109.7	110.1	109.9	110.0	103.1	106.3	107.5	108.1	108.7	108.5	108.1
Other foods at home	255.9	267.1	269.5	272.8	276.0	278.0	279.6	255.4	266.2	268.7	271.8	274.7	276.5	278.3
Sugar and sweets	263.8	277.4	279.4	281.0	282.0	283.1	283.2	263.4	276.6	278.3	279.9	281.2	282.2	281.9
Candy and chewing gum (12/77 = 100)	110.9	117.4	118.5	119.4	119.7	119.9	120.1	111.1	117.0	118.1	[c]119.0	119.3	119.6	119.8
Sugar and artificial sweeteners (12/77 = 100)	110.8	115.4	115.4	115.6	115.9	119.0	116.2	110.8	115.3	115.4	115.5	116.4	116.9	116.2
Other sweets (12/77 = 100)	107.5	112.6	113.8	114.6	115.3	115.9	116.4	106.4	111.9	112.6	113.6	114.0	114.8	114.6
Fats and oils (12/77 = 100)	216.9	226.3	227.4	228.9	231.5	231.9	232.3	217.1	226.6	227.6	228.9	230.7	231.9	232.8
Margarine	232.1	239.1	240.2	240.3	245.5	244.4	246.2	232.1	238.4	239.7	239.8	242.8	244.9	246.7
Nondairy substitutes and peanut butter (12/77 = 100)	107.6	112.8	113.7	114.0	114.6	115.1	115.1	107.2	112.5	113.6	114.0	114.5	114.6	115.0
Other fats, oils, and salad dressings (12/77 = 100)	112.3	117.8	118.3	119.7	120.6	121.1	121.0	112.7	118.2	118.5	119.6	120.4	121.0	121.3
Nonalcoholic beverages	340.9	350.4	354.6	361.8	367.7	372.1	374.3	339.8	348.5	353.6	360.0	365.0	368.2	370.7
Cola drinks, excluding diet cola	224.0	237.9	238.3	239.2	242.7	246.4	247.5	222.9	234.7	236.5	236.9	240.1	242.0	243.6
Carbonated drinks, including diet cola (12/77 = 100)	109.8	115.3	115.6	116.2	117.9	118.5	118.4	107.3	112.5	113.0	114.2	115.7	116.1	115.6
Roasted coffee	370.6	347.3	376.5	411.7	425.9	432.4	438.1	369.9	347.3	375.1	406.1	418.2	424.4	430.8
Freeze dried and instant coffee	345.0	330.2	335.6	349.5	359.9	366.5	370.2	344.7	328.9	336.2	349.4	358.9	365.3	369.3
Other noncarbonated drinks (12/77 = 100)	108.5	113.4	113.1	114.2	114.0	114.8	115.7	108.0	112.3	112.2	113.0	112.7	113.5	114.8
Other prepared foods	195.6	207.8	208.1	210.5	212.6	213.4	215.3	195.6	207.9	208.8	210.4	212.4	213.4	215.7
Canned and packaged soup (12/77 = 100)	105.0	112.6	113.2	113.2	113.1	113.4	114.3	104.9	112.6	113.1	113.3	113.3	113.3	114.8
Frozen prepared foods (12/77 = 100)	110.3	119.2	121.4	120.7	123.1	123.1	124.5	110.3	118.6	119.5	118.7	121.1	122.0	122.9
Snacks (12/77 = 100)	105.2	113.3	114.0	115.7	118.4	119.6	120.4	105.6	113.7	114.8	116.4	119.0	120.6	121.7
Seasonings, olives, pickles, and relish (12/77 = 100)	110.8	114.4	115.0	115.9	117.4	118.8	118.9	110.7	114.0	114.2	115.4	116.3	117.6	118.2
Other condiments (12/77 = 100)	107.7	113.6	114.3	115.2	115.9	115.8	116.8	107.7	114.9	115.2	116.2	117.5	117.0	118.5
Miscellaneous prepared foods (12/77 = 100)	109.3	115.1	115.3	116.3	116.8	117.2	119.0	109.6	114.8	115.2	116.3	116.3	116.7	118.6
Other canned and packaged prepared foods (12/77 = 100)	109.3	115.6	115.8	116.8	116.7	116.7	117.7	108.8	115.3	115.3	116.7	116.7	116.9	118.0
Food away from home	225.9	242.7	244.9	246.5	247.6	249.6	251.3	226.0	244.4	246.5	248.3	249.3	251.3	252.7
Lunch (12/77 = 100)	110.1	118.5	119.6	120.3	120.7	121.3	122.3	110.0	119.6	120.4	121.3	121.7	122.2	123.2
Dinner (12/77 = 100)	109.4	117.7	118.9	119.8	120.3	121.6	122.4	109.5	118.2	119.7	120.5	120.9	122.4	123.0
Other meals and snacks (12/77 = 100)	109.1	116.6	117.3	117.8	118.6	119.5	120.2	109.2	117.4	118.2	119.1	119.9	120.5	120.9
Alcoholic beverages	163.9	172.1	172.7	173.3	174.2	176.0	177.4	164.3	172.4	173.3	173.6	174.9	176.9	178.0
Alcoholic beverages at home (12/77 = 100)	106.5	111.9	112.2	112.7	113.3	114.6	115.6	107.2	112.7	113.3	113.4	114.3	115.7	116.5
Beer and ale	158.6	170.0	170.3	170.6	172.3	175.1	176.9	159.5	169.8	170.5	170.3	171.8	175.2	176.9
Whiskey	123.9	126.8	127.4	128.4	129.0	129.4	130.7	124.6	128.2	129.2	129.9	130.4	131.0	131.9
Wine	182.7	193.2	194.1	196.0	195.2	198.0	198.1	186.1	196.2	197.8	199.4	202.7	202.5	201.5
Other alcoholic beverages (12/77 = 100)	103.5	105.2	105.2	105.4	105.5	105.9	107.0	102.7	104.9	105.0	105.1	106.3	105.9	106.2
Alcoholic beverages away from home (12/77 = 100)	108.8	113.9	114.5	114.6	115.1	115.9	116.4	107.1	111.7	112.3	112.8	113.4	114.2	114.9
HOUSING	210.6	225.5	228.4	231.5	234.6	237.7	240.8	210.1	225.5	228.4	231.5	234.5	237.7	240.7
Shelter	220.1	236.7	240.1	243.9	247.4	251.5	255.9	220.0	237.2	240.7	244.5	248.2	252.4	256.9
Rent, residential	168.5	174.7	175.9	177.5	179.0	181.4	182.1	168.4	174.7	175.8	177.3	178.9	181.2	181.9
Other rental costs	215.1	232.3	236.0	238.2	239.3	241.6	243.1	214.9	231.8	235.2	237.6	238.6	241.3	242.6
Lodging while out of town	221.9	244.3	248.8	251.2	251.8	254.2	256.2	221.2	243.1	246.7	249.5	249.9	253.0	254.6
Tenants' insurance (12/77 = 100)	103.7	108.0	110.9	112.0	113.7	114.1	114.6	103.8	108.2	111.5	112.6	114.1	114.7	115.0
Homeownership	238.8	258.8	263.0	267.6	271.9	276.7	282.4	238.7	259.9	264.2	268.9	273.3	278.3	284.1
Home purchase	204.8	220.9	224.0	226.9	229.8	233.4	237.3	204.6	220.8	224.0	227.0	230.0	233.6	237.7
Financing, taxes, and insurance	274.7	302.2	308.6	316.4	323.0	330.5	340.1	275.4	304.2	310.6	318.7	325.6	333.5	343.5
Property insurance	286.5	310.6	312.6	314.6	316.7	319.9	320.8	286.2	310.1	312.1	314.2	318.5	321.9	322.6
Property taxes	186.3	181.3	181.8	183.1	184.7	185.1	185.1	187.0	182.8	183.3	184.6	186.1	186.5	186.6
Contracted mortgage interest cost	317.9	368.0	375.6	387.2	396.7	408.1	423.1	317.7	366.2	375.8	387.4	397.1	408.8	424.2
Mortgage interest rates	152.8	163.0	164.9	167.7	169.7	172.0	175.4	152.8	163.1	164.9	167.8	169.7	172.0	175.6
Maintenance and repairs	242.3	255.5	257.9	259.7	262.5	264.7	266.4	240.1	256.7	259.1	260.8	263.4	265.3	266.5
Maintenance and repair services	261.9	277.4	280.0	281.8	284.4	287.0	288.8	259.4	280.2	282.8	284.2	287.2	289.4	290.3
Maintenance and repair commodities	196.7	204.4	206.1	208.1	211.5	212.5	214.0	196.3	204.9	206.5	209.0	210.8	211.9	213.6
Paint and wallpaper, supplies, tools, and equipment (12/77 = 100)	107.2	111.8	112.5	114.3	117.0	117.4	118.8	106.6	112.1	112.8	115.0	116.1	116.6	118.1
Lumber, awnings, glass, and masonry (12/77 = 100)	108.5	112.9	113.7	113.7	115.2	116.0	115.5	109.7	113.9	114.4	114.8	115.7	116.2	117.2
Plumbing, electrical, heating, and cooling supplies (12/77 = 100)	104.4	108.6	110.1	110.8	111.9	112.8	113.4	105.0	109.3	110.2	111.5	112.6	113.8	114.0
Miscellaneous supplies and equipment (12/77 = 100)	106.0	109.3	110.3	111.1	112.9	113.3	113.8	104.1	107.6	109.5	110.3	111.2	111.9	112.2
Fuel and other utilities	218.5	239.0	243.5	247.2	251.2	252.9	252.0	218.7	239.4	244.1	247.7	251.7	253.4	252.4
Fuels	250.6	286.2	293.8	299.7	306.6	310.3	307.0	250.0	286.1	293.9	299.8	306.6	310.1	306.9
Fuel oil, coal, and bottled gas	306.1	391.2	412.9	438.6	461.6	470.8	477.4	306.4	391.6	413.5	439.0	462.5	471.7	478.2
Fuel oil	307.2	405.9	429.5	458.2	482.5	491.2	497.2	307.4	406.1	430.0	458.5	483.3	491.9	497.7
Other fuels (6/78 = 100)	98.7	102.6	106.2	109.3	114.4	118.5	121.7	98.9	102.6	106.5	109.4	114.6	118.8	122.2
Gas (piped) and electricity	234.9	258.9	264.5	266.5	270.1	272.5	267.3	235.0	259.8	264.6	266.5	269.9	272.2	267.1
Electricity	201.9	223.7	227.4	229.2	230.6	226.7	221.5	202.2	224.3	228.0	229.7	231.1	228.8	221.5
Utility (piped) gas	273.3	301.8	307.7	309.7	317.5	329.1	328.9	272.8	300.1	306.5	308.5	315.8	327.4	327.8

23. Continued—Consumer Price Index—U.S. city average

[1967 = 100 unless otherwise specified]

General summary	All Urban Consumers							Urban Wage Earners and Clerical Workers (revised)						
	1978	1979						1978	1979					
	Nov.	June	July	Aug.	Sept.	Oct.	Nov.	Nov.	June	July	Aug.	Sept.	Oct.	Nov.
HOUSING—Continued														
Fuel and other utilities—Continued														
Other utilities and public services	159.7	159.2	159.4	159.8	159.8	158.8	161.0	159.6	159.2	159.4	159.8	159.8	158.9	160.9
Telephone services	133.0	132.0	132.1	132.5	132.4	131.2	133.3	133.1	132.0	132.2	132.5	132.4	131.3	133.3
Local charges (12/77 = 100)	101.5	100.0	100.1	100.5	100.4	98.7	101.8	101.6	100.1	100.2	100.6	100.5	98.8	101.8
Interstate toll calls (12/77 = 100)	99.2	98.4	98.4	98.5	98.4	98.4	98.4	99.2	98.5	98.5	98.5	98.4	98.4	98.4
Intrastate toll calls (12/77 = 100)	100.3	101.2	101.3	101.5	101.4	101.7	101.5	100.1	101.1	101.2	101.4	101.3	101.5	101.3
Water and sewerage maintenance	240.4	243.1	244.0	244.6	245.3	245.6	247.1	240.2	243.3	244.0	244.6	245.5	245.8	247.2
Household furnishings and operations	183.0	190.1	190.4	191.2	192.2	193.3	195.1	181.8	188.8	189.0	189.8	190.6	191.7	193.2
Housefurnishings	158.3	163.1	162.9	163.2	164.1	165.2	166.6	157.5	162.8	162.5	163.0	163.5	164.4	165.5
Textile housefurnishings	167.1	174.9	173.6	172.8	175.3	177.8	178.9	167.7	174.0	171.6	173.0	174.9	177.2	178.4
Household linens (12/77 = 100)	102.9	106.8	104.3	103.6	106.7	107.7	108.8	103.6	105.1	103.1	103.7	106.3	107.4	108.3
Curtains, drapes, slipcovers, and sewing materials (12/77 = 100)	105.5	111.4	112.4	112.0	112.0	114.2	114.4	105.7	112.3	111.4	112.7	112.2	114.1	114.5
Furniture and bedding	171.9	177.5	176.8	177.1	178.3	180.0	182.2	170.2	177.6	177.2	177.3	178.5	180.3	182.1
Bedroom furniture (12/77 = 100)	108.6	112.9	113.2	114.0	114.8	116.4	117.7	106.8	111.7	112.1	112.7	113.0	114.8	115.9
Sofas (12/77 = 100)	104.3	107.8	106.2	106.3	107.1	107.3	107.9	104.7	110.1	108.7	108.2	108.6	109.6	111.7
Living room chairs and tables (12/77 = 100)	103.2	103.5	104.5	104.9	105.1	106.2	107.7	102.8	105.4	106.2	106.1	106.7	107.5	108.6
Other furniture (12/77 = 100)	109.7	114.7	113.3	112.7	113.9	115.0	116.8	108.2	113.3	112.5	112.5	114.2	114.7	115.3
Appliances including TV and sound equipment	133.1	135.6	135.4	135.8	136.2	136.9	137.5	132.5	135.3	135.0	135.5	135.7	135.7	136.2
Television and sound equipment (12/77 = 100)	103.3	104.0	103.9	104.3	104.7	104.9	105.0	102.2	103.3	103.3	104.0	104.4	104.1	104.4
Television	102.4	102.7	102.6	102.8	102.9	103.4	103.6	101.4	102.0	101.6	101.9	101.9	102.0	102.4
Sound equipment (12/77 = 100)	105.1	106.3	106.1	106.8	107.5	107.4	107.4	103.8	105.5	105.8	106.7	107.4	106.9	107.1
Household appliances	150.8	155.4	155.1	155.5	155.8	156.9	158.2	151.0	155.6	154.9	155.1	155.2	155.6	156.2
Refrigerators and home freezer	149.5	151.9	152.9	154.6	154.1	155.3	156.0	152.9	156.0	157.3	157.9	156.5	157.9	158.1
Laundry equipment (12/77 = 100)	105.7	110.8	110.7	110.7	110.9	112.1	113.1	105.7	110.5	110.1	110.2	111.2	111.3	112.2
Other household appliances (12/77 = 100)	106.3	109.5	108.7	108.6	109.1	109.8	110.8	105.3	108.3	107.1	107.1	107.2	107.2	107.6
Stoves, dishwashers, vacuums, and sewing machines (12/77 = 100)	108.1	109.8	109.0	108.5	108.6	109.0	109.7	106.3	108.9	107.6	107.7	107.7	106.9	107.1
Office machines, small electric appliances, and air conditioners (12/77 = 100)	104.3	109.2	108.5	108.8	109.7	110.7	112.1	104.0	107.6	106.5	106.4	106.8	107.6	108.2
Other household equipment (12/77 = 100)	105.8	109.5	110.3	110.7	110.9	111.2	112.4	105.3	109.6	110.4	110.6	110.3	110.8	111.6
Floor and window coverings, infants' laundry cleaning and outdoor equipment (12/77 = 100)	105.2	108.5	109.1	109.5	111.1	109.8	111.1	100.9	104.2	104.6	105.9	105.8	105.5	107.7
Clocks, lamps, and decor items (12/77 = 100)	102.7	105.9	107.5	107.1	108.0	108.6	110.0	104.0	106.3	107.2	106.7	107.0	107.1	108.2
Tableware, serving pieces, and nonelectric kitchenware (12/77 = 100)	108.6	113.2	114.4	115.1	114.7	115.4	116.8	107.5	112.9	114.1	113.9	114.5	114.7	115.2
Lawn equipment, power tools, and other hardware (12/77 = 100)	104.6	107.9	107.6	108.5	107.6	108.5	109.0	105.9	110.6	111.0	111.5	109.5	111.0	111.1
Housekeeping supplies	212.0	221.5	222.3	223.4	224.1	224.8	228.3	211.0	219.9	220.7	221.6	222.6	223.9	226.7
Soaps and detergents	206.9	210.2	210.9	212.5	215.1	217.9	220.6	204.8	208.8	210.5	210.9	214.5	216.3	218.2
Other laundry and cleaning products (12/77 = 100)	107.3	110.7	111.3	112.0	112.3	113.7	114.1	107.1	110.8	111.3	111.9	112.4	113.5	113.7
Cleansing and toilet tissue, paper towels and napkins (12/77 = 100)	109.5	116.7	116.5	116.2	116.4	117.2	119.2	110.1	117.2	116.9	116.3	117.1	117.9	119.6
Stationery, stationery supplies, and gift wrap (12/77 = 100)	103.7	108.2	108.9	109.5	109.9	109.5	111.3	103.7	107.0	107.5	108.5	108.3	108.6	109.2
Miscellaneous household products (12/77 = 100)	107.5	111.8	112.3	112.9	113.3	114.3	115.6	106.0	110.1	110.5	111.3	111.6	112.7	114.1
Lawn and garden supplies (12/77 = 100)	103.6	112.3	113.0	113.8	112.7	110.0	113.8	101.7	110.3	110.4	111.3	109.9	108.8	113.2
Housekeeping services	235.7	248.0	249.7	251.6	253.4	254.6	256.6	235.3	247.0	248.6	250.4	252.1	253.9	255.9
Postage	257.3	257.3	257.3	257.3	257.3	257.3	257.3	257.2	257.2	257.2	257.2	257.2	257.2	257.2
Moving, storage, freight, household laundry, and drycleaning services (12/77 = 100)	108.3	115.1	116.3	117.3	118.1	118.8	120.4	109.0	115.5	116.5	117.7	118.6	119.7	121.2
Appliance and furniture repair (12/77 = 100)	105.2	109.1	109.5	110.7	111.7	112.3	112.9	104.7	108.8	109.4	110.3	111.1	112.1	112.9
APPAREL AND UPKEEP	164.1	165.7	164.3	166.3	169.8	171.0	171.7	164.0	165.3	164.5	166.2	169.3	170.8	171.3
Apparel commodities	160.0	160.2	158.6	160.6	164.2	165.2	165.9	160.0	160.0	159.1	160.7	163.9	165.3	165.7
Apparel commodities less footwear	158.4	157.4	155.6	157.7	161.5	162.3	162.9	158.4	157.2	156.0	157.9	161.2	162.4	162.7
Men's and boys'	160.1	160.4	159.2	159.6	162.7	164.2	165.4	160.5	160.9	160.6	161.1	163.2	164.4	165.3
Men's (12/77 = 100)	101.5	101.1	100.0	100.6	102.7	103.5	104.3	102.1	101.6	101.3	101.9	103.2	103.8	104.5
Suits, sport coats, and jackets (12/77 = 100)	100.1	98.5	96.8	97.1	100.0	101.6	101.2	99.0	96.8	95.8	96.2	98.3	99.1	98.7
Coats and jackets (12/77 = 100)	99.6	94.5	94.4	95.5	96.5	97.8	98.1	101.3	97.8	97.6	99.2	99.1	99.5	99.7
Furnishings and special clothing (12/77 = 100)	104.1	108.1	108.4	109.3	110.6	109.9	112.4	103.9	106.2	106.6	107.8	108.6	109.1	110.0
Shirts (12/77 = 100)	103.1	103.5	100.9	103.2	107.2	108.5	109.7	104.6	104.5	104.1	104.9	107.1	108.3	109.4
Dungarees, jeans, and trousers (12/77 = 100)	100.8	99.9	99.0	98.1	99.0	99.5	100.5	102.0	101.7	101.5	101.9	102.5	102.8	104.0
Boys' (12/77 = 100)	101.3	103.5	104.2	103.3	104.8	106.3	106.6	103.5	103.1	103.5	102.7	103.9	105.3	105.6
Coats, jackets, sweaters, and shirts (12/77 = 100)	96.9	100.0	101.7	101.1	102.7	103.9	103.2	96.0	99.4	101.3	100.3	102.0	103.8	103.4
Furnishings (12/77 = 100)	106.0	108.3	108.0	107.9	109.4	110.8	111.5	104.7	107.8	107.1	107.0	108.8	110.1	109.7
Suits, trousers, sport coats, and jackets (12/77 = 100)	102.8	104.4	104.8	103.1	104.5	106.5	107.4	102.3	104.1	103.9	102.9	103.5	104.7	105.8
Women's and girls'	154.1	150.8	147.8	151.3	155.9	155.5	155.1	153.8	149.9	147.5	150.5	154.4	154.8	154.5
Women's (12/77 = 100)	102.8	100.8	98.4	100.7	103.9	103.4	103.0	102.6	100.6	98.7	100.4	103.0	103.3	103.0
Coats and jackets	169.7	162.4	162.1	170.4	174.1	173.9	173.3	172.0	166.9	166.8	173.1	175.7	174.1	172.4
Dresses	167.7	163.5	157.2	162.8	171.1	167.2	164.3	166.8	156.6	152.8	152.8	158.5	159.1	156.8
Separates and sportswear (12/77 = 100)	101.3	98.4	95.0	96.3	99.8	98.6	99.2	99.9	98.5	98.7	97.7	100.4	100.4	100.7
Underwear, nightwear, and hosiery (12/77 = 100)	102.7	105.6	105.6	106.2	106.2	106.6	108.1	103.4	106.5	106.1	107.0	107.4	107.9	108.9
Suits (12/77 = 100)	98.5	91.7	87.3	89.8	96.7	97.1	95.2	98.0	92.4	87.9	91.0	98.1	99.9	97.5
Girls (12/77 = 100)	101.2	99.0	98.1	100.5	102.4	103.6	103.9	100.9	95.9	95.5	98.8	101.1	101.5	101.7
Coats, jackets, dresses, and suits (12/77 = 100)	98.7	95.8	98.7	100.8	102.8	102.8	102.2	98.8	93.4	94.6	95.9	98.5	97.9	97.5
Separates and sportswear (12/77 = 100)	101.9	95.7	93.9	98.3	100.3	102.5	103.6	102.5	93.8	92.5	99.7	102.1	103.5	104.3
Underwear, nightwear, hosiery, and accessories (12/77 = 100)	102.4	105.7	104.6	104.1	105.7	106.7	107.2	101.8	103.4	102.0	101.8	103.5	103.9	104.2

23. Continued—Consumer Price Index—U.S. city average

[1967 = 100 unless otherwise specified]

General summary	All Urban Consumers							Urban Wage Earners and Clerical Workers (revised)						
	1978	1979						1978	1979					
	Nov.	June	July	Aug.	Sept.	Oct.	Nov.	Nov.	June	July	Aug.	Sept.	Oct.	Nov.
APPAREL AND UPKEEP—Continued														
Apparel commodities—Continued														
Apparel commodities less footwear—Continued														
Infants' and toddlers'	220.9	220.9	219.0	221.2	223.4	224.8	226.3	219.1	223.9	221.9	224.2	226.0	228.7	228.7
Other apparel commodities	163.4	167.3	167.9	169.8	172.6	175.5	177.8	164.7	167.8	168.4	170.2	174.9	176.7	179.8
Sewing materials and notions (12/77 = 100)	98.7	101.0	101.3	102.3	102.3	102.2	100.8	98.3	95.7	95.6	96.8	100.4	100.8	99.7
Jewelry and luggage (12/77 = 100)	106.6	111.3	111.7	113.0	115.6	118.3	121.0	110.3	114.3	114.9	116.1	118.9	122.3	123.8
Footwear	169.1	176.7	176.6	177.5	180.1	182.6	183.8	168.4	176.0	176.6	176.9	179.4	181.9	183.2
Men's (12/77 = 100)	106.7	114.0	113.4	114.5	115.0	116.7	117.7	106.2	113.2	114.5	115.2	116.3	118.0	119.0
Boys' and girls' (12/77 = 100)	104.7	110.3	111.0	112.0	111.6	113.0	114.0	106.1	110.0	111.2	111.4	111.6	113.0	114.5
Womens' (12/77 = 100)	106.2	108.4	108.3	108.1	112.0	113.5	113.9	104.5	107.9	108.9	108.5	109.6	111.1	111.2
Apparel services	191.3	204.8	205.7	207.7	210.2	212.5	214.2	191.1	203.6	204.9	206.7	208.7	210.8	212.0
Laundry and drycleaning other than coin operated (12/77 = 100)	109.8	119.7	120.6	122.1	123.6	125.2	126.3	110.4	119.2	120.3	121.8	123.2	124.7	125.7
Other apparel services (12/77 = 100)	107.6	111.4	111.2	111.9	113.0	114.0	114.7	106.5	111.1	111.2	111.5	112.3	112.9	113.3
TRANSPORTATION	191.4	212.6	216.6	219.6	221.4	222.7	224.9	191.9	213.7	217.8	220.7	222.4	223.4	225.7
Private	191.1	213.3	217.4	220.4	222.0	223.1	225.0	191.5	214.1	218.3	221.2	222.7	223.7	225.7
New cars	158.5	166.3	166.7	166.6	166.1	167.5	170.6	158.1	165.9	166.6	166.3	165.9	167.4	170.9
Used cars	194.7	208.9	209.2	207.0	202.9	199.9	198.4	194.7	208.9	209.2	207.0	202.9	199.9	198.4
Gasoline	203.5	265.0	280.0	292.0	301.0	303.8	306.9	203.7	266.2	281.0	293.3	302.3	305.2	308.3
Automobile maintenance and repair	226.2	242.0	244.0	245.7	247.1	249.1	250.8	226.4	242.3	244.2	246.0	247.5	249.4	251.1
Body work (12/77 = 100)	108.6	116.0	117.4	118.6	119.4	120.6	121.6	109.2	116.0	117.6	118.6	119.2	120.4	121.7
Automobile drive train, brake, and miscellaneous mechanical repair (12/77 = 100)	109.4	115.8	116.7	117.4	118.1	119.4	120.1	110.1	116.7	117.5	118.2	119.0	120.2	120.8
Maintenance and servicing (12/77 = 100)	108.4	115.0	115.9	116.3	116.9	117.5	118.4	107.7	114.6	115.3	116.0	116.8	117.3	118.2
Power plant repair (12/77 = 100)	107.8	113.9	114.8	116.0	116.7	117.8	118.5	108.2	114.3	115.2	116.3	117.0	118.0	118.6
Other private transportation	189.0	197.3	198.5	200.5	201.7	203.7	205.5	189.5	197.7	199.1	201.0	202.3	204.0	206.3
Other private transportation commodities	162.9	171.8	173.3	175.1	177.7	182.0	183.4	165.6	172.6	174.4	176.1	178.7	181.6	183.9
Motor oil, coolant, and other products (12/77 = 100)	104.5	110.3	110.5	112.2	114.4	115.9	117.4	104.9	109.3	109.9	112.0	114.5	115.9	118.1
Automobile parts and equipment (12/77 = 100)	105.4	111.2	112.3	113.4	114.9	117.9	118.7	107.5	111.9	113.2	114.1	115.7	117.6	119.0
Tires	144.9	151.9	153.7	154.7	156.4	160.7	161.5	148.4	153.7	155.7	158.1	158.1	161.1	163.0
Other parts and equipment (12/77 = 100)	106.8	114.1	114.8	116.7	119.1	121.8	123.0	107.7	113.4	114.3	116.8	118.6	120.0	121.5
Other private transportation services	197.7	206.0	207.1	209.1	210.1	211.4	213.4	197.7	206.3	207.8	209.6	210.6	211.9	214.3
Automobile insurance	220.6	227.3	229.1	232.3	233.5	233.8	233.9	220.5	227.2	229.0	232.3	233.5	233.7	233.9
Automobile finance charges (12/77 = 100)	107.6	116.3	116.8	117.2	117.7	120.4	124.6	107.0	115.6	116.4	116.4	117.0	119.4	124.1
Automobile rental, registration, and other fees (12/77 = 100)	103.8	106.8	106.9	107.5	107.8	107.9	108.3	104.1	107.2	107.3	108.1	108.4	108.6	108.9
State registration	143.8	144.0	144.0	144.0	144.0	144.0	144.1	143.6	143.9	143.9	143.9	143.9	143.9	144.0
Drivers' license (12/77 = 100)	104.5	104.5	104.5	104.5	104.5	104.5	104.5	104.3	104.3	104.3	104.3	104.3	104.2	104.2
Vehicle inspection (12/77 = 100)	110.2	114.6	114.6	114.6	114.6	114.6	115.6	111.4	115.5	115.5	115.5	115.5	115.5	116.5
Other vehicle related fees (12/77 = 100)	106.8	113.6	114.0	115.5	116.1	116.4	117.1	108.5	116.6	116.9	119.3	120.3	120.8	121.3
Public	189.7	194.0	197.1	200.8	205.2	209.1	216.5	190.4	194.8	197.6	200.6	204.1	207.3	214.0
Airline fare	190.0	194.3	198.5	205.2	214.1	220.6	232.1	189.6	193.8	198.4	205.2	214.2	220.7	232.4
Intercity bus fare	244.0	253.9	258.8	263.2	268.0	276.0	279.8	244.2	253.2	258.5	263.0	268.0	275.5	279.9
Intracity mass transit	185.6	188.4	189.8	190.5	190.5	191.3	195.6	185.4	188.4	189.7	190.2	190.2	191.0	195.1
Taxi fare	207.8	217.2	220.6	224.7	228.5	233.6	237.0	211.9	223.3	226.5	230.3	233.9	238.7	242.4
Intercity train fare	193.1	205.3	218.1	220.6	221.0	221.1	231.0	193.0	205.2	217.1	220.8	221.3	221.4	232.1
MEDICAL CARE	227.0	237.7	239.9	241.8	243.7	245.9	248.0	226.8	238.2	240.5	242.6	244.7	247.2	249.1
Medical care commodities	147.0	153.3	154.1	155.0	155.8	156.6	157.8	147.6	154.5	155.3	156.2	156.7	157.4	158.5
Prescription drugs	134.9	141.3	141.9	142.8	143.5	144.5	145.5	135.7	142.4	143.0	143.7	144.4	145.2	146.2
Anti-infective drugs (12/77 = 100)	106.4	112.0	112.0	112.5	113.1	113.5	113.9	107.4	112.9	113.0	113.2	114.1	114.8	115.5
Tranquilizers and sedatives (12/77 = 100)	109.0	113.7	114.0	114.6	114.9	115.8	117.1	108.7	114.2	114.4	114.8	115.0	115.6	116.8
Circulatories and diuretics (12/77 = 100)	104.5	108.3	108.6	109.3	109.3	109.7	111.0	105.4	109.2	109.1	109.7	110.0	110.8	111.6
Hormones, diabetic drugs, biologicals, and prescription and supplies (12/77 = 100)	111.2	117.9	118.9	120.3	120.9	122.5	123.2	111.7	118.0	119.3	120.4	120.8	122.2	122.6
Pain and symptom control drugs (12/77 = 100)	108.4	112.1	113.1	113.7	114.8	115.6	116.8	107.2	113.4	114.7	115.2	116.0	116.3	117.5
Supplements, cough and cold preparations, and respiratory agents (12/77 = 100)	105.7	109.4	109.5	110.3	110.9	111.3	111.9	106.4	110.9	111.0	111.7	112.2	112.6	112.8
Nonprescription drugs and medical supplies (12/77 = 100)	106.0	110.2	110.8	111.4	112.0	112.5	113.4	106.4	111.2	111.9	112.5	112.8	113.2	114.0
Eyeglasses (12/77 = 100)	103.8	107.4	108.2	108.7	109.2	110.2	110.9	104.1	107.7	108.5	108.9	109.3	110.0	110.4
Internal and respiratory over-the-counter drugs	162.9	170.3	171.3	172.2	173.0	173.7	175.4	163.4	172.0	173.2	174.3	174.7	175.2	176.6
Nonprescription medical equipment and supplies (12/77 = 100)	106.0	108.1	109.7	110.4	110.8	111.0	111.8	106.5	110.3	110.7	111.3	111.2	111.8	112.7
Medical care services	244.1	255.9	258.5	260.6	262.8	265.3	267.6	243.6	256.1	258.8	261.2	263.8	266.8	268.8
Professional services	215.5	225.7	227.6	228.9	230.3	231.6	233.0	215.7	227.3	229.3	231.1	233.1	234.9	235.9
Physicians' services	230.0	241.8	224.7	246.6	248.4	249.7	250.8	230.1	243.6	246.8	248.7	251.5	254.4	255.5
Dental services	203.9	214.3	215.2	216.0	217.2	218.5	220.7	205.7	216.5	217.1	219.0	220.7	221.2	222.7
Other professional services (12/77 = 100)	108.7	110.6	111.5	111.9	112.4	112.7	112.8	108.2	110.0	111.0	111.5	111.7	112.1	112.2
Other medical care services	278.7	292.5	295.8	299.0	302.0	306.2	309.5	277.8	291.2	294.9	298.1	301.3	305.9	309.3
Hospital and other medical services (12/77 = 100)	110.9	116.2	117.3	118.6	119.6	121.3	122.6	110.6	115.3	116.6	117.8	118.9	120.5	121.8
Hospital room	349.4	366.0	369.7	374.2	376.4	380.2	385.1	348.2	362.9	367.5	371.7	374.1	379.4	383.6
Other hospital and medical care services	109.9	115.2	116.4	117.4	118.8	120.8	122.0	109.7	114.3	115.6	116.7	118.0	119.5	120.8

23. Continued—Consumer Price Index—U.S. city average

[1967 = 100 unless otherwise specified]

General summary	All Urban Consumers							Urban Wage Earners and Clerical Workers (revised)						
	1978	1979						1978	1979					
	Nov.	June	July	Aug.	Sept.	Oct.	Nov.	Nov.	June	July	Aug.	Sept.	Oct.	Nov.
ENTERTAINMENT	179.5	188.2	189.1	190.2	191.1	192.0	192.8	178.8	187.5	188.6	188.9	190.2	191.4	192.0
Entertainment commodities	180.0	188.7	189.7	191.0	192.0	193.1	194.0	178.7	187.4	188.2	188.4	189.9	190.7	191.3
Reading materials (12/77 = 100)	104.3	109.5	110.0	111.1	111.9	113.8	114.5	104.1	109.1	109.5	110.7	111.4	113.3	114.2
Newspapers	203.3	211.6	212.6	214.0	214.5	217.7	222.4	202.9	211.1	212.2	213.7	214.2	217.4	222.2
Magazines, periodicals, and books (12/77 = 100)	105.3	111.6	112.0	113.7	115.0	117.2	116.0	105.3	111.6	111.7	113.5	114.8	117.2	115.8
Sporting goods and equipment (12/77 = 100)	103.6	109.3	110.0	110.4	111.3	111.2	111.7	101.4	106.6	107.0	105.4	107.5	106.7	106.9
Sport vehicles (12/77 = 100)	103.2	110.3	110.8	111.3	112.3	111.5	112.2	100.7	107.0	106.9	103.9	106.7	104.6	104.8
Indoor and warm weather sport equipment (12/77 = 100)	104.0	106.1	106.7	105.9	106.1	107.5	107.8	101.6	103.3	104.7	104.7	104.7	106.0	106.1
Bicycles	154.1	160.1	162.2	163.8	165.6	167.1	167.1	152.4	160.0	161.8	162.9	164.7	166.9	167.4
Other sporting goods and equipment (12/77 = 100)	103.0	106.9	107.8	108.6	109.3	110.0	110.3	101.7	105.4	106.5	107.2	108.5	109.8	110.2
Toys, hobbies and other entertainment (12/77 = 100)	104.2	108.9	109.4	110.2	110.4	110.8	111.2	104.2	109.0	109.6	110.2	110.4	111.0	111.2
Toys, hobbies and music equipment (12/77 = 100)	104.8	109.2	109.3	110.0	110.4	110.7	110.5	103.7	109.0	109.1	109.8	109.6	110.1	109.8
Photographic supplies and equipment (12/77 = 100)	103.9	107.6	108.4	108.2	108.9	109.4	109.9	104.0	107.3	107.7	107.6	108.8	109.3	109.6
Pet supplies and expense (12/77 = 100)	103.4	109.2	110.3	111.8	111.6	112.1	113.5	105.3	110.0	111.6	112.6	112.9	113.9	114.6
Entertainment services	179.3	187.9	188.6	189.4	190.2	190.8	191.5	179.7	188.8	190.1	190.7	191.8	193.5	194.3
Fees for participant sports (12/77 = 100)	106.1	111.6	111.9	112.3	113.0	113.2	113.8	106.9	111.5	112.1	112.3	113.4	114.9	115.2
Admissions (12/77 = 100)	107.4	113.3	114.3	114.7	115.2	115.7	116.1	108.3	113.2	115.3	115.9	116.3	116.8	117.3
Other entertainment services (12/77 = 100)	105.8	109.0	109.1	109.7	109.4	110.0	110.0	103.4	111.0	110.5	110.9	110.9	111.4	112.0
OTHER GOODS AND SERVICES	188.8	194.5	195.2	197.0	201.7	202.3	202.9	188.2	194.3	195.1	197.2	200.6	201.4	202.0
Tobacco products	180.9	186.4	186.6	189.9	190.9	191.3	191.5	180.7	186.5	186.9	190.1	190.8	191.2	191.4
Cigarettes	183.5	188.8	189.2	192.6	193.6	193.8	194.0	183.3	189.0	189.4	193.1	193.7	193.9	194.1
Other tobacco products and smoking accessories (12/77 = 100)	105.8	110.3	110.8	111.1	112.2	113.0	112.8	105.8	109.8	110.3	110.6	111.0	112.3	112.4
Personal care	186.8	195.0	196.4	197.5	199.0	199.8	200.9	186.3	194.6	196.0	197.6	198.4	199.4	200.5
Toilet goods and personal care appliances	181.1	187.9	188.6	189.7	191.4	192.5	193.1	180.6	187.8	188.1	190.2	191.0	191.6	192.4
Products for the hair, hairpieces and wigs (12/77 = 100)	105.0	108.8	109.4	111.1	111.6	111.9	112.2	103.8	108.9	108.5	110.5	110.6	111.1	111.4
Dental and shaving products (12/77 = 100)	106.5	112.6	113.2	113.6	114.3	114.1	115.6	106.2	110.2	111.0	112.1	112.5	112.7	113.9
Cosmetics, bath and nail preparations, manicure and eye makeup implements (12/77 = 100)	104.8	108.6	109.5	108.9	110.4	110.7	111.4	104.2	107.8	109.0	110.0	110.6	110.1	110.2
Other toilet goods and small personal care appliances (12/77 = 100)	104.6	106.9	106.2	107.6	108.6	110.9	109.9	106.0	109.8	108.8	109.7	110.3	111.7	112.3
Personal care services	192.5	202.0	203.9	205.0	206.4	207.0	208.5	192.2	201.4	204.0	205.0	205.8	207.3	208.6
Beauty parlor services for women	194.0	203.7	205.2	206.1	207.7	208.3	210.3	194.6	203.6	205.9	206.7	207.4	209.1	210.2
Haircuts and other barber shop services for men (12/77 = 100)	107.4	112.6	114.1	115.1	115.5	115.9	116.1	106.2	111.7	113.6	114.2	114.7	115.4	116.3
Personal and educational expenses	206.5	209.1	209.3	210.8	223.3	224.0	224.2	206.6	209.6	209.8	211.2	223.5	224.2	224.4
School books and supplies	187.8	191.6	191.6	192.6	201.5	202.3	202.3	189.7	194.2	194.2	195.2	205.0	205.8	205.9
Personal and educational services	211.1	213.6	213.8	215.4	228.6	229.4	229.6	211.1	213.7	214.0	215.5	228.4	229.0	229.3
Tuition and other school fees	108.4	108.8	108.9	109.4	117.7	118.1	118.1	108.3	108.7	108.8	109.4	117.9	118.2	118.2
College tuition (12/77 = 100)	108.6	109.1	109.2	109.7	116.9	117.3	117.3	108.6	109.1	109.2	109.7	116.8	117.3	117.3
Elementary and high school tuition (12/77 = 100)	107.5	107.5	107.5	108.3	120.9	120.9	120.9	107.4	107.4	107.4	108.4	120.7	120.7	120.7
Personal expenses (12/77 = 100)	107.8	112.6	113.0	114.8	115.1	115.8	116.3	108.0	112.6	113.0	114.4	114.4	114.9	115.5
Special indexes:														
Gasoline, motor oil, coolant and other products	201.9	261.9	276.6	288.2	297.1	299.8	302.9	202.1	263.1	277.5	289.5	298.3	301.2	304.3
Insurance and finance	247.1	268.2	272.8	278.7	283.5	288.9	296.0	248.5	267.9	272.5	278.3	283.1	228.5	295.8
Utilities and public transportation	201.1	212.7	215.3	217.0	219.3	220.7	220.5	201.4	213.2	215.9	217.4	219.5	220.7	220.3
Housekeeping and home maintenance services	255.9	270.2	272.5	274.4	276.6	278.7	280.6	254.3	271.4	273.7	275.3	277.8	279.9	281.3

24. Consumer Price Index for All Urban Consumers: Cross classification of region and population size class by expenditure category and commodity and service group

[December 1977 = 100]

Category and group	Size class A (1.25 million or more)			Size class B (385,000 - 1.250 million)			Size class C (75,000 - 385,000)			Size class D (75,000 or less)		
	1979			1979			1979			1979		
	June	Aug.	Oct.	June	Aug.	Oct.	June	Aug.	Oct.	June	Aug.	Oct.
	Northeast											
EXPENDITURE CATEGORY												
All items	113.2	115.0	117.3	115.3	117.3	120.2	117.2	120.2	123.0	115.5	116.9	119.2
Food and beverages	117.3	117.9	119.2	118.5	118.9	119.6	120.8	121.7	121.9	119.3	120.4	119.4
Housing	112.9	114.8	117.9	114.5	116.7	121.3	118.7	122.5	127.7	114.9	116.1	119.9
Apparel and upkeep	103.8	104.9	107.7	106.2	106.1	109.2	102.8	104.3	107.8	106.2	103.4	108.3
Transportation	115.6	119.6	121.1	119.6	123.4	125.0	119.1	123.6	124.9	118.5	122.5	124.5
Medical care	112.0	113.6	115.4	112.5	115.3	118.5	112.8	114.8	117.0	114.0	114.8	116.3
Entertainment	109.2	110.6	111.4	108.3	110.9	113.6	108.4	110.4	110.0	112.4	113.6	114.1
Other goods and services	107.1	108.3	111.7	110.0	111.4	114.1	111.4	113.0	115.6	108.5	109.2	112.5
COMMODITY AND SERVICE GROUP												
Commodities	114.7	116.6	118.4	116.7	119.0	121.8	117.6	120.8	122.8	116.0	117.7	120.0
Commodities less food and beverages	113.2	115.8	118.3	115.9	119.0	122.8	116.1	120.4	123.2	114.4	116.5	120.4
Services	111.2	113.0	115.6	112.9	114.6	117.8	116.5	119.1	123.3	114.8	115.7	117.9
	North Central											
EXPENDITURE CATEGORY												
All items	118.2	121.0	123.2	118.0	120.5	122.3	116.8	119.0	121.9	116.6	119.5	122.0
Food and beverages	120.0	120.2	121.2	117.6	118.6	119.2	120.2	120.4	121.6	121.4	122.0	122.8
Housing	121.8	125.8	128.7	121.2	124.1	125.7	117.3	120.3	124.5	115.9	120.5	124.0
Apparel and upkeep	101.7	102.8	105.3	104.0	104.6	109.9	104.0	105.3	107.4	103.7	104.0	110.0
Transportation	118.8	122.8	125.0	118.6	122.9	125.2	120.5	123.7	126.0	120.1	123.2	124.3
Medical care	112.9	115.0	115.9	114.5	117.2	118.6	114.1	116.4	117.5	115.7	117.5	119.1
Entertainment	110.8	111.9	112.6	108.2	109.2	110.7	110.9	110.5	112.7	110.8	111.3	112.7
Other goods and services	108.0	109.0	112.5	114.4	114.9	117.8	108.5	110.0	112.3	110.5	112.7	115.7
COMMODITY AND SERVICE GROUP												
Commodities	118.2	120.7	122.5	117.0	119.4	120.8	117.1	119.1	121.7	116.2	118.9	121.1
Commodities less food and beverage	117.3	120.9	123.0	116.7	119.7	121.5	115.8	118.5	121.7	114.0	117.6	120.4
Services	118.4	121.5	124.3	119.7	122.4	124.7	116.3	118.8	122.2	117.2	120.4	123.3
	South											
EXPENDITURE CATEGORY												
All items	116.9	118.7	120.7	117.5	120.1	122.4	117.5	119.9	122.1	115.6	118.5	120.6
Food ano beverages	120.6	121.1	122.2	119.5	120.3	121.3	120.5	121.6	122.1	119.7	120.0	121.0
Housing	118.0	119.9	122.0	118.8	122.4	125.8	119.7	122.7	125.9	115.1	119.3	121.6
Apparel and upkeep	106.0	107.5	111.2	107.2	107.3	110.8	103.3	104.5	106.4	103.8	102.8	103.9
Transportation	118.7	122.6	124.2	119.8	123.5	124.5	118.2	121.8	123.2	118.2	122.4	124.4
Medical care	111.6	113.3	116.0	114.0	115.7	116.9	114.1	115.5	117.6	115.9	118.5	122.5
Entertainment	107.7	108.1	109.4	111.5	111.9	113.2	111.1	111.8	113.6	112.4	115.9	117.1
Other goods and services	110.2	111.5	114.4	109.9	110.8	114.0	109.6	111.4	114.2	111.7	114.3	117.3
COMMODITY AND SERVICE GROUP												
Commodities	117.3	118.9	120.5	117.1	119.3	121.2	116.9	119.3	120.7	115.9	118.6	120.2
Commodities less food and beverages	115.8	118.0	119.8	116.1	118.9	121.2	115.3	118.3	120.1	114.3	118.0	119.9
Services	116.5	118.4	121.0	118.1	121.2	124.3	118.5	120.8	124.2	115.1	118.5	121.1
	West											
EXPENDITURE CATEGORY												
All items	116.0	118.7	120.8	118.7	120.9	123.6	116.9	119.5	122.2	115.1	118.8	122.8
Food and beverages	119.8	119.4	121.2	121.6	121.4	123.1	119.6	120.1	121.1	119.2	121.6	121.5
Housing	115.3	119.0	121.2	119.5	122.4	126.2	117.4	120.5	124.8	112.6	117.8	124.8
Apparel and upkeep	106.0	104.8	107.9	108.3	108.8	111.0	103.4	103.9	104.4	109.4	109.5	114.0
Transportation	120.5	125.3	127.2	121.0	124.8	126.7	121.4	125.0	126.3	119.2	123.1	124.6
Medical care	114.7	116.8	119.8	114.6	116.6	117.8	113.8	116.5	118.4	116.9	119.0	120.7
Entertainment	108.2	109.3	109.3	113.2	114.4	115.6	109.9	112.6	113.8	114.5	115.7	117.8
Other goods and services	110.2	112.4	115.2	110.9	112.5	115.3	109.4	110.7	113.0	113.0	114.4	118.0
COMMODITY AND SERVICE GROUP												
Commodities	117.1	118.7	120.5	119.3	120.8	123.1	117.4	119.4	121.7	116.1	119.1	120.7
Commodities less food and beverage	116.0	118.3	120.2	118.3	120.6	123.1	116.5	119.1	121.9	114.8	118.0	120.4
Services	114.5	118.8	121.3	117.9	121.0	124.4	116.3	119.6	122.8	113.6	118.5	125.9

25. Consumer Price Index—U.S. city average, and selected areas

[1967 = 100 unless otherwise specified]

Area[1]	All Urban Consumers							Urban Wage Earners and Clerical Workers (revised)						
	1978	1979						1978	1979					
	Nov.	June	July	Aug.	Sept.	Oct.	Nov.	Nov.	June	July	Aug.	Sept.	Oct.	Nov.
U.S. city average[2]	202.0	216.6	218.9	221.1	223.4	225.4	227.5	201.8	216.9	219.4	221.5	223.7	225.6	227.6
Anchorage, Alaska (10/67 = 100)	194.7	...	207.4	...	213.2	...	213.7	194.8	...	206.4	...	210.9	...	211.8
Atlanta, Ga.	...	212.6	...	216.9	...	220.8	...	...	214.5	...	219.0	...	223.5	...
Baltimore, Md.	203.0	...	221.0	...	224.9	...	227.2	203.0	...	221.4	...	224.9	...	227.9
Boston, Mass.	199.7	...	214.2	...	218.1	...	222.7	199.2	...	213.7	...	217.9	...	222.5
Buffalo, N.Y.	...	209.3	...	214.6	...	218.7	...	...	209.7	...	215.3	...	218.6	...
Chicago, Ill.-Northwestern Ind.	198.1	213.5	217.4	218.6	221.3	221.8	225.9	197.6	213.2	216.8	218.2	220.6	221.7	225.6
Cincinnati, Ohio-Ky.-Ind.	207.0	...	224.8	...	229.0	...	233.4	207.5	...	226.5	...	230.8	...	235.6
Cleveland, Ohio	...	219.9	...	221.4	...	224.7	...	...	221.2	...	222.6	...	225.5	...
Dallas-Ft. Worth, Tex.	...	217.5	...	222.9	...	226.2	...	...	218.0	...	223.0	...	228.0	...
Denver-Boulder, Colo.	211.4	...	236.5	...	240.8	...	245.9	212.9	...	239.3	...	243.6	...	248.6
Detroit, Mich.	202.0	215.4	219.5	222.2	223.7	227.2	231.3	201.7	215.5	219.8	222.6	223.5	226.9	230.8
Honolulu, Hawaii	...	204.4	...	207.2	...	210.5	...	...	203.6	...	207.2	...	211.1	...
Houston, Tex.	...	235.5	...	240.6	...	244.2	...	...	234.5	...	239.0	...	241.8	...
Kansas City, Mo.-Kansas	...	219.5	...	224.6	...	229.9	...	...	218.4	...	223.1	...	227.9	...
Los Angeles-Long Beach, Anaheim, Calif.	198.1	212.9	214.7	217.5	220.7	221.8	224.2	197.5	214.5	216.8	219.6	223.0	224.0	225.8
Miami, Fla. (11/77 = 100)	107.4	...	115.7	...	117.4	...	119.4	107.9	...	116.9	...	118.7	...	120.5
Milwaukee, Wis.	199.0	...	222.7	...	226.0	...	229.8	200.7	...	225.0	...	228.7	...	232.5
Minneapolis-St. Paul, Minn.-Wis.	...	222.3	...	227.0	...	231.2	...	...	223.4	...	228.5	...	233.0	...
New York, N.Y.-Northeastern N.J.	200.9	212.5	214.0	215.4	218.1	219.9	221.3	199.8	212.2	214.1	215.3	217.8	219.3	220.7
Northeast, Pa. (Scranton)	197.1	...	211.7	...	215.4	...	220.0	198.5	...	213.4	...	217.1	...	221.1
Philadelphia, Pa.-N.J.	199.7	213.8	216.1	217.7	219.5	220.1	222.4	200.6	214.5	216.9	218.1	220.3	221.3	223.8
Pittsburgh, Pa.	...	214.5	...	219.1	...	226.0	...	...	215.0	...	220.0	...	226.1	...
Portland, Oreg.-Wash.	207.1	...	227.4	...	232.2	...	236.6	207.8	...	227.9	...	232.6	...	236.7
St. Louis, Mo.-Ill.	199.3	...	216.9	...	222.2	...	225.7	197.6	...	217.4	...	222.5	...	226.3
San Diego, Calif.	209.6	...	236.1	...	240.4	...	247.8	206.5	...	233.1	...	237.7	...	244.8
San Francisco-Oakland, Calif.	...	212.5	...	218.3	...	221.5	...	...	213.7	...	218.6	...	220.8	...
Seattle-Everett, Wash.	203.6	...	217.5	...	222.6	...	227.6	202.1	...	215.9	...	221.0	...	225.5
Washington, D.C.-Md.-Va.	203.9	...	220.4	...	222.9	...	225.4	205.3	...	221.9	...	224.4	...	226.7

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[1] The areas listed include not only the central city but the entire portion of the Standard Metropolitan Statistical Area, as defined for the 1970 Census of Population, except that the Standard Consolidated Area is used for New York and Chicago.

[2] Average of 85 cities.

26. Producer Price Indexes, by stage of processing

[1967 = 100]

Commodity grouping	Annual average 1978	1978	1979											
		Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
FINISHED GOODS														
Finished goods	194.6	202.5	205.4	207.7	209.1	211.4	212.7	213.7	216.2	217.3	220.4	223.7	225.9	227.8
Finished consumer goods	192.6	200.5	203.7	206.3	207.9	210.2	211.6	212.7	215.6	217.5	221.3	224.1	226.6	228.8
Finished consumer foods	206.7	215.8	220.2	225.1	226.3	227.8	226.6	223.6	224.9	223.5	227.8	226.7	230.5	232.0
Crude	215.5	232.1	236.7	257.2	244.6	241.8	226.7	227.1	224.9	231.7	213.9	215.4	228.0	227.8
Processed	204.1	212.5	216.9	220.5	222.8	224.6	224.4	221.3	222.8	220.7	226.8	225.4	228.6	230.1
Other nondurable goods	195.4	202.7	205.4	207.2	209.8	213.1	217.1	221.7	227.1	233.4	238.9	243.0	245.2	247.8
Durable goods	165.8	173.0	175.2	176.2	176.8	178.4	179.5	180.4	181.6	181.6	182.0	187.4	188.5	191.2
Capital Equipment	199.1	207.0	209.3	210.8	211.7	214.0	215.1	215.8	217.2	216.5	217.7	222.5	223.8	225.1
INTERMEDIATE MATERIALS														
Intermediate materials, supplies, and components	215.5	223.0	225.7	228.5	231.5	235.8	238.2	240.3	244.6	247.5	250.7	254.6	256.1	258.4
Materials and components for manufacturing	208.3	215.6	218.6	221.6	224.5	229.0	230.9	232.1	236.0	238.0	240.5	243.9	245.2	247.5
Materials for food manufacturing	202.3	210.7	214.4	217.3	219.6	222.2	222.5	222.3	226.7	225.1	228.6	225.3	227.7	230.5
Materials for nondurable manufacturing	195.8	201.2	203.2	205.3	208.7	213.7	216.7	218.1	222.5	225.3	227.3	231.2	233.1	236.1
Materials for durable manufacturing	237.2	246.4	252.0	256.8	260.0	266.0	267.2	268.9	273.3	275.2	278.7	284.5	284.2	287.5
Components for manufacturing	189.1	196.2	197.2	199.0	200.3	203.1	204.5	205.3	207.7	209.3	210.9	212.5	214.5	215.9
Materials and components for construction	224.4	232.5	236.1	239.0	241.3	244.5	245.2	245.6	247.4	249.2	251.6	254.4	253.8	253.6
Processed fuels and lubricants	296.4	300.4	302.0	304.8	312.9	323.9	336.8	349.5	364.8	384.6	399.4	410.5	416.5	424.6
Manufacturing industries	270.4	268.7	268.3	269.0	275.4	280.7	287.4	293.8	304.0	311.2	317.2	322.5	325.3	332.3
Nonmanufacturing industries	320.0	330.3	334.0	339.1	348.9	365.9	385.5	404.9	425.5	458.8	483.0	500.4	509.7	518.8
Containers	212.5	222.6	223.9	224.3	229.3	231.8	234.5	234.9	235.4	237.6	237.1	240.8	243.5	246.1
Supplies	196.9	206.1	207.4	209.6	211.1	212.8	213.7	216.1	219.6	219.6	220.8	224.4	226.0	228.4
Manufacturing industries	183.6	192.0	193.1	194.3	197.4	199.4	201.5	202.7	204.2	208.6	209.1	211.8	213.1	215.3
Nonmanufacturing industries	204.0	213.6	215.0	217.7	218.4	219.9	220.3	223.2	227.8	225.4	227.0	231.1	232.9	235.3
Manufactured animal feeds	200.2	216.9	215.9	221.6	219.3	219.5	214.6	226.2	241.3	220.8	224.3	229.2	227.3	230.8
Other supplies	201.9	209.7	211.6	213.6	215.0	216.8	218.3	219.2	221.5	223.1	224.3	228.1	230.7	232.9
CRUDE MATERIALS														
Crude materials for further processing	240.1	252.5	260.2	270.4	276.6	279.9	282.3	283.0	287.1	281.7	287.9	289.2	290.8	298.7
Foodstuffs and feedstuffs	215.3	224.8	233.0	243.7	247.4	251.5	251.9	248.2	254.1	243.7	248.7	247.1	246.4	249.7
Nonfood materials	286.7	304.6	311.5	320.7	331.6	333.3	339.6	348.7	349.3	353.6	362.1	368.9	374.8	385.8
Nonfood materials except fuel	235.4	249.6	255.6	264.7	275.5	276.5	276.6	286.6	285.2	286.1	293.3	298.6	304.6	311.5
Manufacturing industries	240.8	255.9	261.8	271.9	283.8	284.8	284.7	295.9	294.0	294.9	302.8	308.5	314.9	322.5
Construction	185.7	192.1	196.6	200.4	201.9	203.6	204.5	205.4	207.2	208.6	209.9	212.2	214.6	216.6
Crude fuel	463.7	495.1	504.3	513.9	525.2	529.2	556.8	563.1	570.7	586.2	599.4	611.4	616.8	641.8
Manufacturing industries	481.9	518.0	529.6	541.6	555.4	560.0	583.8	601.3	610.4	629.2	646.0	660.5	667.0	697.7
Nonmanufacturing industries	459.6	487.2	494.9	502.7	512.1	515.8	538.8	544.3	550.7	563.6	574.2	584.4	589.0	609.7
SPECIAL GROUPINGS														
Finished goods excluding foods	188.9	196.4	198.8	200.2	201.7	204.2	206.3	208.5	211.4	213.2	215.9	220.6	222.2	224.3
Finished consumer goods excluding Foods	183.7	191.0	193.3	194.9	196.7	199.3	202.1	205.2	208.4	212.3	215.9	220.6	222.4	225.0
Intermediate materials, supplies, and Components, excluding intermediate materials for food manufacturing and manufactured animal feeds	216.4	223.7	226.5	229.1	232.3	236.7	238.8	241.3	245.4	249.0	252.1	256.4	257.8	260.5
Intermediate foods and feeds	201.0	212.2	214.3	218.2	218.9	220.7	219.3	223.0	231.0	223.1	226.6	226.0	227.0	230.0
Crude materials for further processing excluding crude foodstuffs and feedstuffs, plant and animal fibers, oilseeds, and leaf tobacco	316.6	335.9	344.2	356.4	370.6	372.4	379.2	389.5	391.7	396.9	407.6	416.5	423.9	437.1

NOTE: Data for Aug. 1979 have been revised to reflect the availability of late reports and corrections by respondents. All data are subject to revision 4 months after original publication.

27. Producer Price Indexes, by commodity groupings[1]

[1967 = 100 unless otherwise specified]

Code	Commodity group and subgroup	Annual average 1978	1978	1979											
			Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
	All commodities	209.3	217.5	220.8	224.1	226.7	230.0	232.0	233.5	236.9	238.3	241.7	245.2	246.9	249.4
	All commodities (1957-59 = 100)	222.1	230.8	234.2	237.7	240.5	243.7	245.7	247.7	251.4	252.8	256.1	260.2	262.0	264.6
	Farm products and processed foods and feeds	206.6	216.2	221.1	227.2	229.0	244.0	230.8	229.0	232.2	227.5	231.7	230.6	232.3	234.5
	Industrial commodities	209.4	217.2	220.0	222.5	225.4	229.0	231.6	234.0	237.5	240.6	243.8	248.5	250.2	252.8
	FARM PRODUCTS AND PROCESSED FOODS AND FEEDS														
01	Farm products	212.5	222.7	230.4	240.9	242.8	223.3	245.4	242.8	246.8	238.5	241.0	239.5	240.2	242.5
01-1	Fresh and dried fruits and vegetables	216.5	221.6	233.7	283.0	235.7	234.7	228.2	226.4	226.7	241.7	208.2	217.8	216.4	210.5
01-2	Grains	182.5	184.7	184.4	189.3	192.0	198.3	210.3	218.7	247.4	229.1	224.4	229.0	226.6	227.9
01-3	Livestock	220.1	230.1	247.3	268.5	275.8	284.0	280.7	264.0	256.0	240.2	256.4	251.7	248.3	252.5
01-4	Live poultry	199.8	199.5	206.0	217.8	217.6	209.4	216.3	182.9	183.8	171.9	173.5	182.0	195.5	194.7
01-5	Plant and animal fibers	193.4	212.8	213.6	205.1	197.8	197.8	207.6	219.5	207.6	207.9	211.3	212.9	215.4	222.0
01-6	Fluid milk	219.7	241.2	241.8	244.6	243.7	242.4	242.0	243.8	247.6	250.0	258.5	258.5	262.5	264.0
01-7	Eggs	158.6	180.0	178.5	176.7	199.9	185.5	163.8	170.7	167.6	166.8	175.4	155.9	178.7	198.4
01-8	Hay, hayseeds, and oilseeds	215.8	234.0	240.1	248.1	249.5	248.3	240.7	258.4	260.1	251.9	240.6	235.1	229.8	230.3
01-9	Other farm products	274.9	271.0	260.7	253.6	254.6	256.1	264.1	281.0	311.9	310.8	315.9	317.6	318.3	319.4
02	Processed foods and feeds	202.6	211.8	215.2	218.9	220.5	222.3	222.0	220.6	223.3	220.5	225.7	224.8	227.1	229.2
02-1	Cereal and bakery products	190.3	196.6	197.2	199.1	200.1	203.0	204.9	206.3	212.4	216.0	217.7	219.2	222.3	223.7
02-2	Meats, poultry, and fish	217.1	229.2	240.3	248.5	250.6	253.0	250.4	241.4	237.7	225.5	239.8	234.4	239.5	242.8
02-3	Dairy products	188.4	202.6	203.5	203.2	204.9	207.1	207.9	208.4	209.0	215.2	218.3	218.2	219.0	219.6
02-4	Processed fruits and vegetables	202.6	218.4	218.5	219.5	219.6	220.5	221.4	221.5	223.6	224.6	225.0	223.3	222.5	222.3
02-5	Sugar and confectionery	197.8	204.5	204.8	208.4	208.4	208.7	207.6	211.1	215.7	218.3	217.3	218.6	222.7	234.4
02-6	Beverages and beverage materials	200.0	201.0	200.9	201.1	201.2	201.5	205.3	208.5	214.1	216.5	217.9	219.2	221.4	221.9
02-7	Fats and oils	225.3	227.6	229.7	237.5	238.6	246.2	241.8	243.6	253.2	251.7	253.5	246.2	242.1	236.8
02-8	Miscellaneous processed foods	199.0	204.1	206.7	208.0	217.5	219.3	220.2	211.1	212.7	217.6	218.8	220.6	222.1	222.0
02-9	Manufactured animal feeds	197.4	211.9	211.3	217.2	215.7	215.6	210.8	220.5	234.9	216.2	219.5	224.3	222.7	225.3
	INDUSTRIAL COMMODITIES														
03	Textile products and apparel	159.8	163.6	164.1	164.2	165.2	166.4	167.2	168.4	169.3	170.5	171.3	171.9	172.4	172.8
03-1	Synthetic fibers (12/75 = 100)	109.6	110.6	113.0	113.5	113.6	115.1	117.4	118.5	119.5	120.6	123.9	125.6	124.9	124.5
03-2	Processed yarns and threads (12/75 = 100)	102.4	104.7	105.3	105.3	107.0	106.8	107.8	108.6	109.5	110.6	111.7	112.2	113.0	113.1
03-3	Gray fabrics (12/75 = 100)	118.6	125.9	125.6	123.2	123.1	124.5	124.7	125.4	128.3	128.7	128.7	129.8	130.6	132.5
03-4	Finished fabrics (12/75 = 100)	103.8	106.0	103.5	104.1	105.4	105.9	107.0	107.6	108.2	109.0	109.0	108.7	108.5	109.3
03-81	Apparel	152.4	155.5	157.4	157.6	158.3	159.8	159.8	160.2	160.3	161.4	161.6	162.1	162.9	162.3
03-82	Textile housefurnishings	178.5	183.4	181.8	186.0	187.4	188.0	188.0	189.3	189.9	190.5	193.9	194.6	194.8	197.0
04	Hides, skins, leather, and related products	200.0	216.2	223.4	232.2	253.3	258.9	260.6	268.0	261.9	257.9	250.7	253.6	248.5	248.9
04-1	Hides and skins	380.5	401.3	452.8	497.8	639.6	642.2	666.9	611.0	568.5	511.9	465.3	478.8	447.6	443.9
04-2	Leather	238.6	279.6	292.8	309.2	371.9	393.6	429.4	414.6	385.2	365.9	330.0	343.6	319.8	324.8
04-3	Footwear	183.0	194.3	196.4	203.0	209.9	212.0	216.3	221.1	221.8	225.4	226.2	226.9	227.3	227.3
04-4	Other leather and related products	177.0	185.3	190.7	192.2	195.9	200.4	209.1	212.3	212.1	210.9	210.2	209.8	208.5	208.1
05	Fuels and related products and power	322.5	334.3	338.1	342.5	350.9	361.5	377.6	393.7	411.8	432.8	454.4	468.8	476.7	480.7
05-1	Coal	430.0	443.7	443.6	444.0	445.3	447.1	450.8	452.0	462.5	454.2	452.8	454.9	455.4	457.8
05-2	Coke	411.8	418.8	421.2	423.7	428.5	430.1	430.6	430.6	430.6	430.6	430.6	431.2	431.2	431.2
05-3	Gas fuels[1]	428.7	444.6	449.9	458.1	471.0	477.4	507.2	522.3	548.4	570.4	599.7	619.1	637.1	670.5
05-4	Electric power	250.6	250.7	251.0	251.1	257.3	260.6	265.9	269.9	274.8	278.8	280.5	283.6	282.1	287.2
05-61	Crude petroleum[2]	300.1	312.4	316.4	322.3	324.2	326.2	335.7	356.4	370.6	385.7	422.1	436.7	450.4	470.8
05-7	Petroleum products, refined[3]	321.0	338.2	343.9	350.0	360.3	378.6	400.0	423.6	449.8	482.8	513.6	534.4	544.9	564.8
06	Chemicals and allied products	198.8	202.3	205.0	207.3	209.9	215.1	218.0	219.2	225.0	228.5	230.3	233.5	235.6	238.1
06-1	Industrial chemicals[4]	225.6	229.1	234.0	237.4	239.7	248.2	255.6	259.3	270.4	277.1	278.9	284.2	287.2	291.6
06-21	Prepared paint	192.3	198.7	198.9	202.3	202.3	203.3	201.3	201.3	205.3	205.3	206.0	206.7	206.9	210.7
06-22	Paint materials	212.7	220.7	222.5	224.3	227.0	231.6	236.1	239.5	246.7	247.9	251.2	253.5	254.8	255.4
06-3	Drugs and pharmaceuticals	148.1	153.2	155.4	156.2	156.6	157.5	157.7	159.0	159.2	159.6	161.1	162.9	163.0	164.4
06-4	Fats and oils, inedible	315.8	332.9	336.1	367.9	398.5	448.7	418.3	374.1	381.6	376.4	379.9	366.9	344.3	327.1
06-5	Agricultural chemicals and chemical products	198.4	201.9	201.7	203.1	206.3	209.8	210.0	209.2	211.2	215.3	217.9	223.7	229.2	232.7
06-6	Plastic resins and materials	199.8	201.1	204.2	206.3	210.9	220.6	228.5	230.1	244.5	250.1	252.2	259.2	261.7	262.7
06-7	Other chemicals and allied products	181.8	182.3	184.3	184.7	186.5	186.9	188.9	190.5	191.8	194.4	195.8	196.5	199.3	201.9
07	Rubber and plastic products	174.8	179.7	180.8	183.2	185.0	188.8	190.8	193.1	195.5	198.5	200.3	202.4	204.3	206.7
07-1	Rubber and rubber products	185.3	192.8	194.7	197.6	199.4	201.2	202.6	204.8	209.5	216.0	216.7	219.7	223.3	223.9
07-11	Crude rubber	187.2	197.3	197.9	201.1	204.8	211.6	214.2	222.0	226.1	233.0	231.2	235.2	236.4	239.4
07-12	Tires and tubes	179.2	188.8	191.5	194.1	195.0	196.1	197.3	198.9	206.2	211.6	214.6	217.9	222.7	222.7
07-13	Miscellaneous rubber products	189.6	193.7	195.1	198.1	200.3	201.3	202.6	203.5	205.4	213.4	211.7	214.2	216.9	217.4
07-2	Plastic products (6/78 = 100)	....	102.0	102.3	103.5	105.7	108.0	109.5	111.0	111.2	112.2	112.8	113.6	113.8	115.2
08	Lumber and wood products	276.0	288.6	290.2	293.9	300.5	304.9	302.8	299.8	300.1	304.7	309.7	308.8	299.0	289.8
08-1	Lumber	322.4	339.1	336.6	339.9	350.5	365.4	364.8	364.8	355.0	365.3	373.8	370.2	355.5	338.9
08-2	Millwork	235.4	241.6	244.5	251.5	257.8	260.0	261.6	258.9	252.5	249.6	250.9	255.6	252.3	250.3
08-3	Plywood	235.6	240.0	257.4	257.1	254.7	252.4	249.3	238.6	249.7	254.3	258.1	254.4	242.9	237.7
08-4	Other wood products	211.8	222.1	223.2	226.2	232.2	235.5	238.4	238.5	237.6	237.4	238.0	237.7	239.9	240.5

See footnotes at end of table.

27. Continued—Producer Price Indexes, by commodity groupings[1]

[1967 = 100 unless otherwise specified]

Code	Commodity groups and subgroups	Annual average 1978	1978	1979											
			Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
	INDUSTRIAL COMMODITIES—Continued														
09	Pulp, paper, and allied products	195.8	205.2	207.0	208.8	212.3	215.0	216.2	216.6	218.3	222.2	222.8	227.2	229.3	231.0
09-1	Pulp, paper, and products, excluding building paper and board	195.6	205.7	207.7	209.5	213.2	216.0	217.2	217.8	219.6	223.6	224.1	226.6	230.9	232.6
09-11	Woodpulp	268.5	281.6	291.3	291.4	294.3	303.8	306.9	308.3	320.3	320.6	322.5	336.4	336.9	336.9
09-12	Wastepaper	191.2	192.2	192.9	194.1	203.2	206.5	206.2	207.2	207.9	206.6	206.7	206.7	220.0	221.2
09-13	Paper	208.1	214.6	217.9	221.2	223.3	226.3	227.2	227.5	228.2	229.5	230.6	236.0	242.1	243.0
09-14	Paperboard	179.6	187.4	188.5	190.2	192.9	197.9	199.2	198.8	201.7	206.4	208.5	211.2	212.8	215.4
09-15	Converted paper and paperboard products	185.6	197.4	198.3	199.8	204.1	205.8	207.0	207.5	209.0	214.4	213.9	216.5	218.4	220.3
09-2	Building paper and board	187.4	186.6	184.1	183.6	182.6	183.4	183.3	180.8	178.0	179.1	184.4	186.5	183.6	184.4
10	Metals and metal products	227.1	236.6	241.9	247.3	251.7	256.0	256.2	258.2	260.8	261.8	263.6	269.4	270.9	273.5
10-1	Iron and steel	253.6	263.2	272.4	274.9	279.9	280.2	279.5	283.2	286.8	286.1	285.3	289.0	291.6	292.7
10-13	Steel mill products	254.5	262.1	271.5	271.8	272.5	275.0	276.7	277.3	284.6	284.7	284.8	286.4	288.7	289.3
10-2	Nonferrous metals	207.8	219.0	223.5	230.2	246.6	259.6	258.2	256.7	262.3	263.1	269.3	282.8	283.7	281.2
10-3	Metal containers	243.4	254.4	256.8	256.8	264.5	270.1	268.5	267.3	267.2	268.4	267.0	276.7	280.7	280.7
10-4	Hardware	200.4	210.7	211.7	213.3	214.2	215.8	216.9	217.1	218.5	220.1	221.4	223.8	225.4	226.5
10-5	Plumbing fixtures and brass fittings	199.1	203.6	204.3	207.8	209.7	212.0	213.8	217.0	219.6	222.4	222.9	223.4	225.4	226.4
10-6	Heating equipment	174.4	179.1	180.1	180.9	183.4	183.8	185.7	185.2	188.0	188.1	191.3	191.9	192.7	195.2
10-7	Fabricated structural metal products	226.4	233.5	236.4	240.5	241.3	243.8	247.0	248.2	250.5	252.2	253.2	255.6	256.6	257.7
10-8	Miscellaneous metal products	212.0	220.8	222.0	223.4	225.2	227.0	228.5	230.1	231.8	235.6	237.4	236.1	239.4	239.9
11	Machinery and equipment	196.1	203.8	205.1	206.5	207.9	209.8	211.4	212.4	214.8	216.0	217.6	219.6	221.0	222.9
11-1	Agricultural machinery and equipment	213.1	221.9	222.8	223.9	224.8	228.4	228.3	229.4	231.2	233.3	236.6	236.6	241.4	243.2
11-2	Construction machinery and equipment	232.9	243.8	245.5	247.9	248.7	251.7	253.7	254.0	257.0	258.5	258.5	262.9	264.5	268.2
11-3	Metalworking machinery and equipment	217.0	228.2	230.4	232.0	233.0	235.3	237.8	239.1	241.4	243.5	246.1	249.1	251.4	254.6
11-4	General purpose machinery and equipment	216.6	225.1	226.3	227.7	230.4	232.6	234.0	236.1	237.1	238.3	239.6	242.1	243.7	246.1
11-6	Special industry machinery and equipment	223.0	233.9	236.2	237.0	239.1	243.4	245.1	246.1	249.8	251.0	251.5	253.9	255.3	256.2
11-7	Electrical machinery and equipment	164.9	170.5	171.2	172.8	173.8	175.0	176.5	177.8	179.9	181.2	182.7	184.1	185.0	186.5
11-9	Miscellaneous machinery	194.7	200.6	202.7	203.4	204.0	205.4	207.1	207.4	209.7	209.7	211.8	212.9	214.5	215.7
12	Furniture and household durables	160.4	164.6	166.6	167.9	169.3	168.7	169.6	170.2	170.7	171.5	171.7	174.1	175.6	177.0
12-1	Household furniture	173.5	179.3	181.0	181.3	181.8	182.7	184.8	185.3	185.8	186.2	188.0	189.3	192.4	194.3
12-2	Commercial furniture	201.5	207.3	214.4	221.2	221.2	221.7	221.9	221.8	222.7	222.7	222.7	223.3	223.3	225.1
12-3	Floor coverings	141.6	142.3	143.4	143.6	144.0	144.4	146.0	146.5	149.1	150.0	150.3	151.8	152.8	152.9
12-4	Household appliances	153.0	155.7	157.0	158.3	158.8	158.7	159.3	160.0	161.1	162.2	162.7	163.2	164.5	165.2
12-5	Home electronic equipment	90.2	92.3	92.2	92.3	92.3	92.3	92.4	92.8	90.2	90.2	87.8	87.8	87.9	88.1
12-6	Other household durable goods	203.1	212.3	216.0	216.6	217.9	218.6	219.5	220.6	223.7	226.6	227.4	244.1	248.8	252.1
13	Nonmetallic mineral products	222.8	231.1	238.3	240.5	240.8	243.4	245.6	246.9	249.5	249.9	252.2	255.6	257.1	259.2
13-11	Flat glass	172.8	178.7	181.1	183.1	183.1	183.1	183.1	184.0	184.1	184.1	184.5	184.7	185.4	186.4
13-2	Concrete ingredients	217.7	223.5	236.9	238.2	239.8	242.0	242.5	243.3	245.1	242.9	245.6	246.9	248.4	249.9
13-3	Concrete products	214.0	224.2	235.6	236.4	237.8	240.5	241.6	243.7	245.2	246.3	248.6	249.4	250.5	253.2
13-4	Structural clay products excluding refractories	197.2	206.5	209.7	210.7	212.8	214.8	215.7	216.5	220.3	222.3	223.8	221.1	221.1	226.8
13-5	Refractories	216.5	226.1	227.5	227.8	228.3	228.4	228.5	232.6	240.8	241.7	243.1	245.0	248.2	248.7
13-6	Asphalt roofing	292.0	305.2	306.8	317.8	303.1	316.4	317.9	323.0	326.4	325.9	332.7	334.0	345.9	342.9
13-7	Gypsum products	229.1	242.7	247.6	250.6	251.0	252.2	249.8	251.3	251.8	252.3	254.9	256.3	258.2	256.0
13-8	Glass containers	244.4	250.7	250.7	250.7	250.7	250.7	265.2	265.2	265.2	265.2	265.5	265.5	265.5	273.6
13-9	Other nonmetallic minerals	275.6	283.6	288.8	293.7	294.5	300.0	303.0	302.9	310.5	309.9	318.8	341.2	342.2	342.2
14	Transportation equipment (12/68 = 100)	173.5	180.5	182.7	183.5	183.8	186.8	187.2	187.5	188.4	185.9	188.2	193.6	194.4	195.1
14-1	Motor vehicles and equipment	176.0	182.8	185.0	185.9	186.1	189.4	189.8	190.1	190.8	187.8	188.1	196.3	197.0	197.6
14-4	Railroad equipment	252.8	261.8	266.4	266.0	266.9	271.7	271.6	274.7	280.6	280.9	281.6	286.3	286.2	290.0
15	Miscellaneous products	184.3	193.6	197.7	199.8	200.6	201.4	203.3	205.2	207.0	208.9	212.3	216.8	219.0	227.2
15-1	Toys, sporting goods, small arms, ammunition	163.2	164.8	170.4	171.0	171.5	173.2	174.3	174.7	176.9	177.6	179.9	181.2	181.7	183.5
15-2	Tobacco products	198.5	204.0	213.5	213.6	214.0	214.4	214.4	214.4	214.8	221.3	221.7	221.9	221.9	226.3
15-3	Notions	182.0	183.4	188.2	188.2	190.2	190.2	190.6	190.6	192.0	191.9	192.1	195.8	196.0	197.0
15-4	Photographic equipment and supplies	145.7	148.7	150.1	150.2	150.2	150.1	150.6	151.6	152.0	152.2	154.1	157.3	161.3	164.5
15-51	Mobile Homes (12/74 = 100)	126.4	130.8	131.7	132.5	133.8	135.2	137.2	137.9	138.2	139.5	139.5	142.5	143.5	143.8
15-9	Other miscellaneous products	210.6	234.8	237.8	244.0	245.5	246.1	250.6	255.8	261.4	260.1	270.5	280.9	284.9	307.9

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[1] Prices for natural gas are lagged 1 month.

[2] Includes only domestic production.

[3] Most prices for refined petroleum products are lagged 1 month.

[4] Some prices for industrial chemicals are lagged 1 month.

[5] Not available.

NOTE: Data for August 1979 have been revised to reflect the availability of late reports and corrections by respondents. All data are subject to revision 4 months after original publication.

28. Producer Price Indexes, for special commodity groupings

[1967 = 100 unless otherwise specified]

Commodity grouping	Annual average 1978	1978	1979											
		Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
All commodities — less farm products	208.4	216.3	219.3	222.0	224.7	228.0	230.1	232.0	235.4	237.5	241.0	244.9	246.7	249.2
All foods	206.4	215.5	219.9	225.0	225.9	227.7	226.4	223.8	225.4	224.7	228.2	226.6	229.9	232.1
Processed foods	208.7	215.7	219.6	223.5	225.6	227.8	227.5	224.7	228.4	224.8	230.6	229.9	231.8	234.1
Industrial commodities less fuels	197.2	204.6	207.3	209.6	211.9	214.7	216.0	217.0	219.0	220.3	221.6	225.4	226.4	228.1
Selected textile mill products (Dec. 1975 = 100)	108.8	110.9	109.1	110.8	111.6	112.3	112.8	113.5	114.0	115.1	115.7	116.0	116.1	117.0
Hosiery	108.3	108.7	110.1	109.9	110.5	112.5	112.5	112.7	114.1	113.0	112.7	113.0	114.6	115.3
Underwear and nightwear	158.9	162.5	164.6	166.3	167.1	167.3	167.7	168.3	168.5	170.8	170.8	171.2	171.6	172.9
Chemicals and allied products, including synthetic rubber and manmade fibers and yarns	190.5	193.6	196.3	198.0	200.0	204.1	207.6	209.5	215.0	218.6	220.5	223.7	226.0	228.6
Pharmaceutical preparations	140.6	145.8	148.1	149.0	149.4	150.0	150.1	151.7	151.7	152.0	153.6	155.6	155.4	156.9
Lumber and wood products, excluding millwork and other wood products	298.3	314.1	314.8	317.0	323.7	326.4	325.1	321.7	325.3	333.9	341.0	337.4	323.5	310.3
Special metals and metal products	208.6	217.9	220.0	225.6	228.2	232.7	232.4	233.7	235.5	234.9	236.1	242.9	244.2	245.9
Fabricated metal products	216.2	224.5	227.0	228.6	230.6	232.9	234.6	235.7	237.4	238.8	241.0	243.7	244.8	245.6
Copper and copper products	155.6	164.1	168.8	186.2	197.9	212.1	198.0	193.0	191.9	197.1	200.5	211.5	213.6	216.1
Machinery and motive products	190.4	197.7	199.6	200.8	201.7	204.1	205.3	206.0	207.7	207.2	208.3	212.8	214.0	215.4
Machinery and equipment, except electrical	214.3	223.0	224.9	226.1	227.7	230.0	231.8	232.6	235.1	236.2	237.8	240.2	242.0	244.1
Agricultural machinery, including tractors	216.3	225.2	227.6	228.5	229.6	230.8	232.1	233.8	235.8	238.4	242.6	244.7	247.9	250.0
Metalworking machinery	238.6	242.5	245.2	247.4	248.9	251.2	254.3	256.8	260.1	261.7	265.3	269.5	272.5	276.2
Numerically controlled machine tools (Dec. 1971 = 100)	178.1	186.3	188.9	190.9	192.6	.192.7	195.7	195.8	202.2	204.2	206.6	208.7	209.0	211.3
Total tractors	228.7	238.3	240.8	242.5	243.1	245.4	247.7	248.2	251.2	253.8	254.8	259.4	260.9	264.9
Agricultural machinery and equipment less parts	212.7	221.2	223.5	224.4	225.5	226.7	228.1	229.5	231.4	233.7	237.5	238.5	242.4	244.6
Farm and garden tractors less parts	216.1	224.6	225.6	225.8	226.7	228.5	230.5	231.8	233.9	237.6	243.4	246.3	248.6	250.4
Agricultural machinery excluding tractors less parts	218.7	225.9	229.5	230.9	232.1	233.0	233.6	235.7	237.6	239.2	242.2	243.7	247.4	250.0
Industrial valves	232.3	240.7	245.4	247.8	249.5	252.4	255.0	255.8	257.0	258.2	259.1	260.3	261.1	265.2
Industrial fittings	232.7	244.5	249.9	249.9	252.0	255.5	259.3	260.4	260.8	262.3	262.8	271.7	276.8	276.8
Abrasive grinding wheels	208.1	220.2	220.2	220.2	220.3	220.3	221.6	222.8	222.8	224.6	224.6	235.3	235.3	239.0
Construction materials	228.3	237.0	241.4	244.1	248.9	250.0	250.3	250.3	252.3	254.3	256.6	258.2	256.5	255.3

NOTE: Data for August 1979 have been revised to reflect the availability of late reports and corrections by respondents. All data are subject to revision 4 months after original publication.

29. Producer Price Indexes, by durability of product

[1967 = 100]

Commodity grouping	Annual average 1978	1978	1979											
		Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Total durable goods	204.9	213.0	216.3	218.9	221.0	223.9	224.7	225.8	227.6	228.0	229.7	234.0	234.9	236.6
Total nondurable goods	211.9	219.9	223.4	227.3	230.4	234.1	236.9	238.8	243.7	245.8	250.8	253.5	256.0	259.2
Total manufactures	204.2	212.0	215.0	217.5	219.7	223.1	225.0	226.5	229.8	231.7	234.9	238.6	240.2	242.3
Durable	204.7	212.7	215.8	218.0	219.8	222.7	223.8	224.6	226.6	227.2	229.0	233.3	234.1	235.8
Nondurable	203.0	210.5	213.4	216.1	219.0	222.8	225.6	227.8	232.5	235.9	240.9	243.7	246.3	248.8
Total raw or slightly processed goods	234.6	244.3	250.2	258.5	263.3	266.1	268.2	269.7	274.3	272.1	276.6	278.6	281.1	286.4
Durable	209.6	225.0	236.4	253.9	273.6	272.5	262.9	272.8	285.4	259.8	255.7	259.0	265.8	267.8
Nondurable	236.6	244.9	250.4	258.0	261.6	264.7	267.6	268.5	274.0	272.0	277.2	279.1	281.3	286.8

NOTE: Data for August 1979 have been revised to reflect the availability of late reports and corrections by respondents. All data are subject to revision 4 months after original publication.

30. Producer Price Indexes for the output of selected SIC industries

[1967 = 100 unless otherwise specified]

1972 SIC code	Industry Description	Annual average 1978	1978	1979											
			Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
	MINING														
1011	Iron ores (12/75 = 100)	121.9	127.3	127.3	127.3	127.3	131.9	131.9	136.0	136.0	136.8	138.1	140.2	140.2	142.0
1092	Mercury ores (12/75 = 100)	126.6	136.2	153.3	168.7	178.3	202.1	237.5	277.0	270.8	245.8	252.1	275.0	252.1	300.0
1211	Bituminous coal and lignite	430.2	441.0	444.0	444.4	445.7	447.5	451.3	452.5	453.1	454.8	453.2	455.4	455.8	458.1
1311	Crude petroleum and natural gas	368.2	380.6	388.2	397.2	400.8	407.6	427.2	444.1	457.5	476.0	506.8	522.0	533.5	553.3
1442	Construction sand and gravel	194.6	200.2	208.0	210.4	210.9	214.1	216.0	217.0	218.3	220.1	220.9	223.5	224.3	225.7
1455	Kaolin and ball clay (6/76 = 100)	111.8	123.2	125.4	125.4	125.4	125.4	125.4	125.5	125.5	125.5	125.5	126.7	114.7	119.7
	MANUFACTURING														
2011	Meat packing plants	214.7	229.8	243.6	250.8	256.6	265.0	259.2	249.1	243.8	239.3	247.2	239.1	241.6	243.9
2013	Sausages and other prepared meats	215.2	228.7	223.8	230.4	235.6	224.4	227.7	217.1	214.7	203.4	211.6	213.0	214.2	219.9
2016	Poultry dressing plants	192.5	192.1	194.6	204.6	208.1	199.7	203.5	177.8	178.4	169.6	171.2	162.1	168.3	169.5
2021	Creamery butter	205.2	227.0	211.9	211.1	218.1	224.7	225.3	225.3	227.5	237.9	240.6	240.1	241.7	243.1

See footnotes at end of table.

30. Continued—Producer Price Indexes for the output of selected SIC industries

[1967 = 100 unless otherwise specified]

1972 SIC code	Industry description	Annual average 1978	1978	1979											
			Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
	MANUFACTURING—Continued														
2022	Cheese natural and processed (12/72 = 100)	169.6	184.4	184.2	179.4	182.5	186.8	185.2	185.6	186.3	195.4	200.8	196.8	193.4	192.6
2024	Ice cream and frozen desserts (12/72 = 100)	154.8	162.1	166.2	166.7	166.7	167.3	171.0	171.5	171.5	175.0	176.1	177.5	178.4	180.2
2033	Canned fruits and vegetables	193.2	202.8	203.3	204.4	205.2	206.2	207.2	207.5	209.9	210.5	211.9	213.0	212.4	212.0
2034	Dehydrated food products (12/73 = 100)	131.3	179.6	179.6	181.2	180.9	181.7	182.1	181.0	182.0	180.7	170.0	158.2	156.3	157.3
2041	Flour mills (12/71 = 100)	147.0	156.8	155.8	160.5	157.5	156.1	166.7	174.6	190.9	176.9	183.4	184.6	184.9	184.9
2044	Rice milling	207.6	168.6	163.6	166.6	171.0	206.8	206.8	206.8	206.8	218.7	223.5	227.3	231.8	218.1
2048	Prepared foods, n.e.c. (12/75 = 100)	107.3	114.7	115.6	118.4	118.3	117.5	115.2	118.9	128.1	119.4	121.2	123.9	124.6	125.3
2061	Raw cane sugar	190.7	196.2	191.6	198.2	195.7	197.5	195.6	207.0	209.0	216.8	216.7	224.3	223.3	248.4
2063	Beet sugar	188.5	194.4	197.0	197.0	198.6	199.3	199.7	199.7	202.0	199.4	200.2	202.6	208.6	223.4
2067	Chewing gum	218.0	241.5	241.6	242.5	242.5	242.6	242.2	242.2	242.9	242.9	242.9	242.9	262.2	262.2
2074	Cottonseed oil mills	183.1	196.4	198.7	204.5	202.8	198.5	192.5	210.4	224.5	214.1	217.9	214.9	204.7	205.6
2075	Soybean oil mills	225.6	237.7	233.1	241.2	242.0	244.7	237.7	251.1	262.8	250.0	248.4	244.8	242.6	241.8
2077	Animal and marine fats and oils	287.9	305.1	305.0	344.5	362.6	393.1	363.8	335.3	352.0	321.4	333.8	333.7	315.2	300.7
2083	Malt	181.5	190.8	190.8	190.8	190.8	190.8	190.8	201.4	201.4	201.4	201.4	214.9	228.2	228.2
2085	Distilled liquor, except brandy (12/75 = 100)	106.7	108.9	108.9	109.4	109.4	109.4	113.6	113.6	113.6	115.7	117.1	117.1	118.1	118.1
2091	Canned and cured seafoods (12/73 = 100)	136.4	137.4	137.3	137.9	138.5	139.2	140.9	142.1	148.5	148.2	150.8	151.1	155.6	159.8
2092	Fresh or frozen packaged fish	303.8	339.0	338.1	361.9	359.4	375.6	382.4	397.6	403.7	391.5	390.1	400.9	392.4	389.3
2095	Roasted coffee (12/72 = 100)	262.3	235.7	229.4	222.5	221.6	220.5	231.7	244.2	271.0	279.2	279.2	280.0	287.5	287.5
2098	Macaroni and spaghetti	176.9	184.7	184.7	184.7	184.7	184.7	186.6	188.6	203.5	210.4	199.5	210.4	221.5	227.7
2111	Cigarettes	204.6	210.7	221.1	221.2	221.3	221.4	221.4	221.4	221.5	228.9	229.1	229.2	229.2	234.3
2121	Cigars	141.4	141.7	142.8	143.0	145.0	145.4	145.4	145.3	149.8	150.1	147.6	147.4	147.2	147.2
2131	Chewing and smoking tobacco	222.0	225.1	235.3	236.4	240.9	245.9	245.9	245.9	246.4	246.4	255.8	260.4	260.8	260.8
2211	Weaving mills, cotton (12/72 = 100)	181.1	187.9	188.8	190.1	190.4	191.8	192.7	194.3	196.1	196.5	198.6	200.7	200.1	200.8
2221	Weaving mills, synthetic (12/77 = 100)	109.0	115.5	114.5	112.7	112.4	113.3	113.6	114.1	116.2	116.3	116.3	116.9	116.9	117.3
2251	Women's hosiery, except socks (12/75 = 100)	91.5	94.8	95.1	94.3	94.4	97.3	97.3	97.6	99.6	98.1	97.5	98.0	100.3	100.2
2254	Knit underwear mills	164.1	166.9	169.3	169.9	172.6	172.8	173.1	173.3	172.9	174.0	174.0	174.3	174.6	178.2
2257	Circular knit fabric mills (6/76 = 100)	98.5	99.2	91.2	91.7	93.9	93.2	94.1	95.8	96.1	96.4	96.0	96.4	96.4	98.4
2261	Finishing plants, cotton (6/76 = 100)	111.0	115.9	116.5	117.4	118.2	119.0	120.8	120.9	122.5	123.2	124.0	126.1	123.1	123.4
2262	Finishing plants, synthetics, silk (6/76 = 100)	101.4	105.4	104.6	105.0	105.2	105.9	106.3	107.0	107.5	108.2	108.3	109.2	108.9	109.2
2271	Woven carpets and rugs (12/75 = 100)	114.7	115.8	115.8	115.8	116.0	116.0	116.7	117.1	(1)	(1)	(1)	(1)		
2272	Tufted carpets and rugs	125.3	125.8	125.8	126.0	126.5	127.0	127.7	128.1	127.6	128.6	129.0	129.5	130.0	130.1
2281	Yarn mills, except wool (12/71 = 100)	167.4	170.5	170.9	171.4	172.3	173.1	174.5	175.7	177.5	177.4	179.4	181.2	182.9	184.6
2282	Throwing and winding mills (6/76 = 100)	99.2	101.7	103.1	102.7	106.0	104.4	106.3	107.5	108.5	109.7	111.3	111.0	111.0	109.2
2284	Thread mills (6/76 = 100)	114.6	119.2	120.3	120.3	120.3	120.4	120.4	120.4	120.5	128.1	128.1	128.3	128.4	128.5
2298	Cordage and twine (12/77 = 100)	99.3	98.4	98.5	98.6	98.6	101.7	102.8	105.4	105.4	113.5	115.1	114.9	114.9	115.0
2311	Men's and boys' suits and coats	194.3	200.5	199.3	199.6	199.9	203.9	204.2	204.5	205.8	208.5	208.4	206.6	208.6	208.6
2321	Men's and boys' shirts and nightwear	180.8	187.7	191.2	191.4	191.6	191.8	192.4	193.5	194.7	195.9	195.8	194.5	194.7	194.5
2322	Men's and boys' underwear	180.6	182.6	184.5	184.6	188.7	188.7	188.7	188.7	188.7	190.0	190.0	190.0	190.0	194.0
2323	Men's and boys' neckwear (12/75 = 100)	102.3	103.4	103.4	103.4	103.4	103.4	103.4	103.4	103.4	110.9	110.9	110.9	110.9	110.9
2327	Men's and boys' separate trousers	152.7	157.4	157.7	157.8	157.8	162.3	162.5	162.5	162.5	162.7	162.7	162.9	163.4	163.4
2328	Men's and boys' work clothing	195.2	195.7	198.5	199.8	200.0	208.5	208.5	209.0	208.9	213.7	210.7	213.1	218.9	219.4
2331	Women's and misses' blouses and waists (6/78 = 100)	...	102.3	102.6	99.1	99.2	99.1	100.3	100.5	102.6	102.7	102.8	103.0	105.9	106.8
2335	Women's and misses' dresses (12/77 = 100)	100.7	101.1	105.0	104.9	106.6	106.6	105.9	105.9	106.4	108.3	108.3	108.7	108.8	108.8
2341	Women's and children's underwear (12/72 = 100)	132.1	138.7	141.2	142.3	142.3	142.6	143.3	143.3	144.2	145.3	145.3	146.7	147.4	147.7
2342	Brassieres and allied garments (12/75 = 100)	111.7	112.5	113.5	116.0	116.0	116.1	116.2	117.5	117.5	117.8	117.8	117.8	117.8	118.8
2361	Children's dresses and blouses (12/77 = 100)	(1)	105.4	105.4	105.4	106.5	106.7	106.7	102.1	102.4	102.4	103.7	105.7	105.7	105.6
2381	Fabric dress and work gloves	214.4	226.4	227.3	232.2	232.2	241.5	243.9	243.9	245.4	245.4	245.4	245.4	246.9	246.9
2394	Canvas and related products (12/77 = 100)	99.6	99.6	105.9	105.9	105.9	105.9	105.9	106.9	108.4	111.0	111.4	111.4	112.1	120.1
2396	Automotive and apparel trimmings (12/77 = 100)	106.3	107.1	107.1	107.1	107.1	107.1	107.1	114.3	114.3	114.3	114.3	114.3	114.3	114.3
2421	Sawmills and planing mills (12/71 = 100)	228.9	240.1	239.5	241.9	249.5	252.5	251.6	250.9	251.3	259.1	265.6	262.2	250.1	237.5
2436	Softwood veneer and plywood (12/75 = 100)	150.1	157.6	164.2	162.2	160.1	157.3	151.1	140.7	148.1	153.4	158.2	153.3	143.3	138.7
2439	Structural wood members, n.e.c. (12/75 = 100)	138.2	142.3	142.3	148.1	149.3	150.1	150.1	150.0	150.0	149.9	150.8	158.2	158.2	158.2
2448	Wood pallets and skids (12/75 = 100)	149.4	159.8	160.6	161.8	163.8	166.8	166.7	167.0	166.9	166.8	167.9	167.9	171.0	170.5
2451	Mobile homes (12/74 = 100)	126.5	130.8	131.8	132.5	133.8	135.3	137.3	138.0	138.2	139.6	139.6	142.5	149.5	143.6
2492	Particleboard (12/75 = 100)	159.7	146.9	143.0	141.9	142.7	143.8	141.6	137.4	134.3	134.7	138.5	139.6	136.9	134.1
2511	Wood household furniture (12/71 = 100)	152.4	158.5	160.3	160.3	160.9	162.7	164.6	164.0	164.5	164.6	167.1	168.1	171.3	173.6
2512	Upholstered household furniture (12/71 = 100)	143.1	145.8	146.9	146.9	147.6	147.4	149.2	149.4	150.0	150.2	151.6	151.8	153.9	155.8
2515	Mattresses and bedsprings	156.3	160.0	162.3	162.9	162.9	163.1	163.2	164.1	164.5	165.8	165.7	168.8	172.1	172.1
2521	Wood office furniture	194.4	200.5	207.2	213.1	213.1	214.2	214.3	214.2	216.8	216.8	216.8	217.6	217.6	221.9
2611	Pulp mills (12/73 = 100)	178.5	183.7	187.1	187.3	189.9	192.5	195.2	198.6	205.4	205.7	207.5	215.2	215.6	215.6
2621	Paper mills, except building (12/74 = 100)	115.7	121.5	123.7	124.7	126.0	128.5	129.3	129.5	130.2	131.0	131.6	135.2	136.7	137.0
2631	Paperboard mills (12/74 = 100)	108.4	111.1	112.0	112.9	114.4	117.1	118.1	118.5	119.7	121.9	123.6	125.4	126.4	127.7
2647	Sanitary paper products	251.4	267.3	267.4	267.6	269.2	270.8	271.7	271.9	276.4	285.9	283.6	286.4	286.5	289.1
2654	Sanitary food containers	170.8	177.1	178.8	179.4	179.5	184.1	189.1	189.1	189.6	189.6	191.0	195.8	199.1	199.9
2655	Fiber cans, drums, and similar products (12/75 = 100)	123.0	127.4	130.0	130.4	130.8	130.9	132.2	134.0	136.6	136.6	135.8	136.6	137.2	140.9
2812	Alkalies and chlorine (12/73 = 100)	198.8	203.0	202.4	203.2	201.8	203.7	204.9	206.3	209.5	212.2	212.2	213.6	216.5	217.1
2821	Plastics materials and resins (6/76 = 100)	103.8	104.5	108.0	108.9	10[illegible]	113.8	117.7	118.6	124.9	127.8	129.0	132.5	133.9	134.3
2822	Synthetic rubber	180.5	187.8	189.4	191.4	192.7	196.5	200.9	206.6	214.2	223.4	222.8	224.4	227.8	229.4
2824	Organic fiber, noncellulosic	107.6	108.3	110.7	111.0	111.5	113.1	115.9	117.4	118.6	118.8	123.8	124.7	124.1	123.5
2873	Nitrogenous fertilizers (12/75 = 100)	96.6	95.3	95.4	96.6	99.0	101.5	101.9	101.4	102.8	104.1	106.1	107.9	111.7	113.6
2874	Phosphatic fertilizers	168.0	168.7	167.8	173.3	179.1	[illegible]	185.1	184.2	188.9	199.4	201.5	211.9	221.2	223.4
2875	Fertilizers, mixing only	181.9	185.2	185.2	187.5	192.8	197.3	197.8	197.8	198.1	205.6	210.7	218.4	228.9	227.1
2892	Explosives	217.3	226.3	226.6	227.1	226.9	227.9	230.0	239.3	240.1	240.7	250.1	250.6	251.8	252.7
2911	Petroleum refining (6/76 = 100)	118.6	125.4	127.3	129.3	132.8	138.8	148.6	155.1	165.5	178.6	188.4	199.3	209.9	204.6
2951	Paving mixtures and blocks (12/75 = 100)	117.1	120.2	120.5	124.8	125.9	128.5	130.1	131.2	134.4	134.9	138.3	145.5	146.6	145.7
2952	Asphalt felts and coatings (12/75) = 100)	129.2	134.0	134.7	138.3	132.8	136.6	139.3	141.6	143.6	142.7	145.7	148.1	151.6	150.4
3011	Tires and inner tubes (12/73 = 100)	154.0	161.8	164.0	166.2	167.1	168.0	169.2	170.6	176.8	181.2	183.9	186.5	190.9	191.0

30. Continued—Producer Price Indexes for the output of selected SIC industries

[1967 = 100 unless otherwise specified]

1972 SIC code	Industry description	Annual average 1978	1978	1979											
			Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
3021	Rubber and plastic footwear (12/71 = 100)	158.7	164.1	168.7	169.0	169.0	169.0	169.5	169.6	171.0	173.4	173.4	173.4	173.4	173.4
3031	Reclaimed rubber (12/73 = 100)	154.3	158.4	161.3	161.3	162.1	164.5	167.6	169.1	169.2	169.2	170.5	171.7	177.1	177.4
3079	Miscellaneous plastic products (6/78 = 100)	...	102.0	102.1	103.4	105.4	107.5	109.0	110.7	111.4	112.3	112.8	113.9	114.1	115.6
3111	Leather tanning and finishing (12/77 = 100)	119.1	140.1	135.9	143.7	173.8	182.9	201.3	195.8	181.8	172.9	155.2	161.9	150.8	153.5
3142	House slippers (12/75 = 100)	122.5	127.1	129.6	134.7	136.3	136.3	138.5	142.0	135.0	135.0	136.2	136.9	137.0	137.0
3143	Men's footwear, except athletic (12/75 = 100)	127.1	133.9	135.2	141.0	145.6	147.6	152.8	155.4	155.4	158.2	159.0	159.3	159.2	159.2
3144	Women's footwear, except athletic	164.1	173.7	176.3	178.4	189.2	190.3	192.2	195.4	198.7	201.5	201.6	202.3	204.0	204.0
3171	Women's handbags and purses (12/75 = 100)	111.4	114.3	123.0	123.6	123.0	123.0	131.7	131.8	131.8	131.8	131.8	131.8	131.8	131.8
3211	Flat glass (12/71 = 100)	142.7	147.5	149.0	150.8	150.8	150.8	150.8	151.8	151.9	151.9	152.3	152.6	153.3	153.9
3221	Glass containers	244.3	250.6	250.7	250.7	250.7	250.7	265.2	265.2	265.2	265.2	265.4	265.4	265.5	273.6
3241	Cement, hydraulic	251.2	256.0	275.4	278.8	280.3	283.1	283.2	283.7	285.4	285.4	282.8	282.8	282.9	283.6
3251	Brick and structural clay tile	230.8	243.9	248.9	250.9	252.8	256.7	258.3	259.7	261.0	263.3	265.9	260.4	261.3	262.7
3253	Ceramic wall and floor tile (12/75 = 100)	107.7	111.5	111.6	111.6	113.0	113.0	113.0	113.0	120.2	120.2	120.2	120.1	120.2	130.3
3255	Clay refractories	221.4	231.7	233.4	233.2	234.1	234.4	234.6	236.9	246.5	246.7	248.5	251.7	254.4	255.4
3259	Structural clay products, n.e.c.	176.3	179.6	184.1	184.4	186.7	186.8	186.8	187.8	188.2	192.1	192.5	193.2	192.6	196.9
3261	Vitreous plumbing fixtures	180.7	194.3	195.1	198.6	198.9	201.6	204.6	206.4	210.1	212.4	212.8	214.5	215.7	217.3
3262	Vitreous china food utensils	268.8	284.4	284.4	290.6	290.6	290.6	290.6	290.6	297.5	297.5	297.5	297.9	305.3	307.9
3263	Fine earthenware food utensils	228.1	242.4	242.4	237.0	237.1	237.1	237.1	236.4	238.8	238.8	238.6	245.8	246.9	290.3
3269	Pottery products, n.e.c. (12/75 = 100)	122.2	129.6	129.6	129.2	129.2	129.2	129.2	129.0	131.0	131.0	130.9	133.2	135.0	146.8
3271	Concrete block and brick	202.0	211.9	223.0	223.1	227.0	230.8	232.6	232.7	232.7	235.7	237.8	240.0	240.0	240.1
3273	Ready-mixed concrete	217.6	227.7	240.0	241.1	241.7	244.5	245.2	247.5	249.6	250.5	252.2	253.0	254.5	257.0
3274	Lime (12/75 = 100)	129.5	133.1	136.2	136.6	137.5	139.9	138.8	140.1	141.8	142.9	144.3	144.7	144.4	144.7
3275	Gypsum products	229.5	243.1	248.1	251.1	251.5	252.7	249.4	251.9	252.3	252.8	255.4	255.9	256.8	255.6
3291	Abrasive products (12/71 = 100)	172.3	178.9	181.1	182.2	182.4	184.0	185.1	185.8	187.7	188.6	190.3	193.9	194.7	197.1
3297	Nonclay refractories (12/74 = 100)	133.6	139.0	139.8	140.3	140.4	140.5	140.5	143.9	148.1	149.1	149.7	150.1	152.3	152.4
3312	Blast furnaces and steel mills	262.3	270.7	279.9	280.3	281.1	283.5	285.3	285.8	292.8	293.0	293.2	296.3	297.0	297.6
3313	Electrometallurgical products (12/75 = 100)	94.8	98.4	103.5	104.0	104.0	108.8	111.7	112.3	116.5	116.5	116.0	116.2	117.5	117.6
3316	Cold finishing of steel shapes	241.0	247.4	258.1	258.3	258.4	259.1	259.8	261.3	270.6	270.8	271.0	271.9	273.2	273.9
3317	Steel pipes and tubes	255.2	258.7	265.0	265.1	265.8	265.0	264.5	264.5	271.9	271.3	271.4	272.8	272.8	273.0
3321	Gray iron foundries (12/68 = 100)	233.5	240.0	244.9	244.7	249.4	253.9	253.3	254.5	253.9	253.8	253.6	265.6	266.0	268.3
3333	Primary zinc	223.2	243.2	243.2	260.6	260.9	274.2	274.5	275.2	281.4	265.5	264.2	265.2	257.9	265.7
3334	Primary aluminum	217.4	220.3	220.3	228.1	232.4	235.8	237.4	238.5	244.9	247.4	248.2	256.0	263.2	266.6
3351	Copper rolling and drawing	170.2	179.0	184.2	199.9	211.0	220.1	215.6	211.7	211.2	213.6	218.8	223.3	222.7	225.1
3353	Aluminum sheet plate and foil (12/75 = 100)	137.6	143.2	145.8	146.4	146.5	148.0	148.7	148.8	149.6	149.8	150.0	150.8	151.5	151.9
3354	Aluminum extruded products (12/75 = 100)	134.3	138.6	141.1	141.6	142.5	146.1	147.5	147.6	150.3	151.9	152.2	153.5	157.3	157.8
3355	Aluminum rolling, drawing, n.e.c. (12/75 = 100)	119.7	122.8	125.2	126.5	127.5	129.6	131.5	131.6	132.7	133.1	133.5	136.8	139.9	140.3
3411	Metal cans	238.5	248.3	252.7	253.9	260.9	264.4	263.8	262.2	262.2	262.9	261.5	270.2	273.8	273.9
3425	Hand saws and saw blades (12/72 = 100)	147.9	155.5	157.7	157.8	157.9	159.6	161.9	162.5	162.8	166.3	166.2	166.9	169.4	169.6
3431	Metal sanitary ware	209.1	214.1	214.7	217.4	219.2	220.8	222.2	224.1	226.4	228.9	229.2	230.1	231.7	232.9
3465	Automotive stampings (12/75 = 100)	118.8	123.0	123.6	125.0	125.7	126.2	127.0	127.1	127.8	130.9	131.9	132.7	132.7	132.7
3482	Small arms ammunition (12/75 = 100)	119.5	124.2	129.3	129.3	125.9	128.3	130.4	131.4	134.0	134.0	138.3	137.5	137.9	149.2
3493	Steel springs, except wire	204.6	210.7	210.9	212.6	216.7	218.1	218.7	220.5	221.6	222.1	222.7	223.5	223.9	225.4
3494	Valves and pipe fittings (12/71 = 100)	185.5	193.4	196.1	197.6	199.0	201.4	203.6	204.2	205.3	206.2	206.4	209.5	211.6	213.9
3498	Fabricated pipe and fittings	265.5	276.4	276.6	276.7	276.8	284.9	288.2	290.7	294.6	294.8	294.9	297.0	297.4	297.4
3519	Internal combustion engines, n.e.c.	220.1	228.4	232.7	233.8	234.0	237.1	238.0	239.2	242.3	245.7	249.5	252.8	253.7	253.7
3531	Construction machinery (12/76 = 100)	114.0	118.2	120.0	121.1	121.6	123.0	123.9	124.0	125.6	126.3	126.3	128.4	129.0	130.7
3532	Mining machinery (12/72 = 100)	209.5	218.1	222.5	223.4	224.2	228.0	228.4	226.4	231.2	231.5	232.7	233.1	234.7	235.8
3533	Oilfield machinery and equipment	246.2	275.6	279.5	281.4	281.8	283.5	288.4	290.0	292.0	293.3	296.7	300.5	301.3	308.0
3534	Elevators and moving stairways	204.2	211.5	211.7	214.1	213.4	213.8	213.6	214.2	215.4	214.6	216.5	216.8	220.6	220.9
3542	Machine tools, metal forming types (12/71 = 100)	213.6	228.8	231.6	233.3	234.1	237.9	238.8	240.6	244.6	245.1	247.9	249.6	253.5	256.7
3546	Power driven hand tools (12/76 = 100)	111.1	114.4	115.4	116.3	116.9	117.7	117.8	118.7	119.2	120.2	120.3	121.9	122.7	124.2
3552	Textile machinery (12/69 = 100)	179.9	186.4	189.0	189.6	190.4	191.6	191.7	192.6	195.0	197.5	198.2	199.2	200.6	200.6
3553	Woodworking machinery (12/72 = 100)	168.1	174.1	177.9	177.3	179.2	181.0	183.2	184.5	185.9	187.7	188.4	193.0	193.1	193.3
3576	Scales and balances, excluding laboratory	179.7	188.4	188.8	191.1	191.1	191.3	192.8	193.7	194.8	195.4	195.4	192.9	196.6	197.7
3592	Carburetors, pistons, rings, valves (6/76 = 100)	129.2	134.3	135.0	135.7	136.9	137.6	138.6	138.7	139.2	139.6	140.3	141.5	143.5	144.6
3612	Transformers	158.3	163.1	163.2	165.4	167.0	168.5	168.0	168.5	167.9	167.8	168.6	171.4	170.5	171.7
3623	Welding apparatus, electric (12/72 = 100)	179.1	184.0	184.8	186.0	186.6	187.3	191.5	191.9	193.5	194.1	194.9	196.2	197.9	199.6
3631	Household cooking equipment (12/75 = 100)	114.8	118.3	119.1	119.2	120.2	120.3	120.7	120.9	122.0	123.4	124.2	124.3	125.8	126.1
3632	Household refrigerators, freezers (6/76 = 100)	109.6	110.7	111.4	112.5	112.7	111.8	111.9	112.6	113.6	114.3	114.7	114.8	115.3	115.9
3633	Household laundry equipment (12/73 = 100)	141.0	144.4	145.4	146.3	146.9	146.9	147.0	147.2	148.8	149.9	151.8	152.1	153.5	154.7
3635	Household vacuum cleaners	135.5	137.6	138.1	138.1	140.4	140.4	141.2	141.5	141.6	141.7	141.9	144.3	144.7	145.8
3636	Sewing machines (12/75 = 100)	111.2	115.4	119.8	119.8	119.8	121.1	121.1	121.1	121.8	122.2	121.6	122.0	122.0	122.0
3641	Electric lamps	214.7	226.1	226.6	226.8	227.1	229.8	229.8	229.7	240.8	244.3	242.7	244.8	240.8	240.5
3644	Noncurrent-carrying wiring devices (12/72 = 100)	185.8	195.4	196.1	197.1	199.0	200.4	202.6	203.0	203.3	207.7	211.4	212.8	214.2	217.3
3646	Commercial lighting fixtures (12/75 = 100)	112.7	117.2	117.6	119.6	121.2	124.3	126.8	127.4	127.9	127.9	129.5	130.3	132.0	132.3
3648	Lighting equipment, n.e.c. (12/75 = 100)	114.6	118.3	121.2	121.9	122.3	123.5	124.0	124.6	127.6	128.2	128.3	129.3	129.8	130.5
3671	Electron tubes receiving type	200.9	210.6	210.8	210.0	211.0	211.2	211.3	226.4	226.5	226.6	227.2	227.2	227.3	227.6
3674	Semiconductors and related devices	85.3	84.4	84.1	84.2	84.4	84.7	84.7	84.7	84.2	84.3	84.4	84.7	85.0	86.0
3675	Electronic capacitors (12/75 = 100)	111.5	112.2	112.7	114.4	115.9	119.8	120.1	122.1	126.7	129.3	133.6	134.0	134.9	137.9
3676	Electronic resistors (12/75 = 100)	118.3	122.7	122.7	122.8	123.1	123.2	123.2	123.2	124.0	124.6	130.2	127.8	127.8	127.3
3678	Electronic connectors (12/75 = 100)	118.9	123.6	123.7	125.4	125.6	125.8	126.6	126.9	133.4	134.1	137.6	138.4	140.7	141.0
3692	Primary batteries, dry and wet	162.0	162.1	162.4	162.7	164.8	167.9	172.1	172.7	172.8	172.8	172.8	173.1	173.1	174.1
3711	Motor vehicles and car bodies (12/75 = 100)	115.9	120.2	122.0	122.3	122.3	124.5	124.6	124.8	125.1	122.1	122.3	129.6	129.8	130.0
3942	Dolls (12/75 = 100)	103.2	104.5	107.8	108.0	108.6	109.3	109.3	109.3	111.8	112.6	112.9	112.9	113.0	113.0
3944	Games, toys, and children's vehicles	172.3	174.0	177.3	178.8	179.2	179.6	182.3	183.1	183.5	184.4	184.7	185.7	186.3	186.6
3955	Carbon paper and inked ribbons (12/75 = 100)	105.1	108.2	109.3	114.3	115.5	119.6	120.2	118.7	117.1	118.3	118.7	121.5	125.5	125.6
3995	Burial caskets (6/76 = 100)	113.0	117.8	117.8	120.9	120.9	121.0	121.7	121.7	123.3	123.8	124.8	124.8	124.8	124.8
3996	Hard surface floor coverings (12/75 = 100)	113.3	117.0	120.7	120.7	120.7	120.7	123.7	124.5	128.3	128.3	128.3	131.0	134.1	134.1

[1] Not available.

NOTE: Data for Aug. 1979 have been revised to reflect the availability of late reports and corrections by respondents. All data are subject to revision 4 months after original publication.

PRODUCTIVITY DATA

PRODUCTIVITY DATA are compiled by the Bureau of Labor Statistics from establishment data and from estimates of compensation and output supplied by the U.S. Department of Commerce and the Federal Reserve Board.

Definitions

Output is the constant dollar gross domestic product produced in a given period. Indexes of **output per hour of labor input,** or labor productivity, measure the value of goods and services produced per hour of labor. **Compensation per hour** includes wages and salaries of employees plus employers' contributions for social insurance and private benefit plans. The data also include an estimate of wages, salaries, and supplementary payments for the self-employed, except for nonfinancial corporations, in which there are no self-employed. **Real compensation per hour** is compensation per hour adjusted by the Consumer Price Index for All Urban Consumers.

Unit labor cost measures the labor compensation cost required to produce one unit of output and is derived by dividing compensation by output. **Unit nonlabor payments** include profits, depreciation, interest, and indirect taxes per unit of output. They are computed by subtracting compensation of all persons from the current dollar gross domestic product and dividing by output. In these tables, **Unit nonlabor costs** contain all the components of unit nonlabor payments except unit profits. **Unit profits** include corporate profits and inventory valuation adjustments per unit of output.

The **implicit price deflator** is derived by dividing the current dollar estimate of gross product by the constant dollar estimate, making the deflator, in effect, a price index for gross product of the sector reported.

The use of the term "man-hours" to identify the labor component of productivity and costs, in tables 31 through 34, has been discontinued. **Hours of all persons** is now used to describe the labor input of payroll workers, self-employed persons, and unpaid family workers. **Output per all-employee hour** is now used to describe labor productivity in nonfinancial corporations where there are no self-employed.

Notes on the data

In the private business sector and the nonfarm business sector, the basis for the output measure employed in the computation of output per hour is Gross Domestic Product rather than Gross National Product. Computation of hours includes estimates of nonfarm and farm proprietor hours.

Output data are supplied by the Bureau of Economic Analysis, U.S. Department of Commerce, and the Federal Reserve Board. Quarterly manufacturing output indexes are adjusted by the Bureau of Labor Statistics to annual estimates of output (gross product originating) from the Bureau of Economic Analysis. Compensation and hours data are from the Bureau of Economic Analysis and the Bureau of Labor Statistics.

Beginning with the September 1976 issue of the *Review*, tables 31–34 were revised to reflect changeover to the new series—private business sector and nonfarm business sector—which differ from the previously published total private economy and nonfarm sector in that output imputed for owner-occupied dwellings and the household and institutions sectors, as well as the statistical discrepancy, are omitted. For a detailed explanation, see J. R. Norsworthy and L. J. Fulco, "New sector definitions for productivity series," *Monthly Labor Review*, October 1976, pages 40–42.

31. Indexes of productivity and related data, selected years, 1950–79

[1967 = 100]

Item	1950	1955	1960	1965	1970	1972	1973	1974	1975	1976	1977	1978	1979
Private business sector:													
Output per hour of all persons	61.0	70.3	78.7	95.0	104.2	111.4	113.6	110.1	112.4	116.4	118.6	119.2	^{p}118.1
Compensation per hour	42.4	55.8	71.9	88.7	123.1	139.7	151.2	164.9	181.3	197.2	213.0	231.2	^{p}252.8
Real compensation per hour	58.9	69.6	81.1	93.8	105.8	111.5	113.6	111.7	112.5	115.6	117.3	118.3	^{p}116.3
Unit labor cost	69.6	79.4	91.3	93.3	118.2	125.4	133.1	149.8	161.3	169.4	179.6	194.0	^{p}214.1
Unit nonlabor payments	73.2	80.5	85.5	95.9	105.8	119.0	124.9	130.4	150.4	158.0	165.6	174.3	^{p}184.4
Implicit price deflator	70.8	79.8	89.3	94.2	113.9	123.2	130.3	143.1	157.5	165.5	174.8	187.2	^{p}203.8
Nonfarm business sector:													
Output per hour of all persons	66.9	74.3	80.9	95.9	103.0	110.1	112.0	108.5	110.5	114.4	116.2	118.8	^{p}115.5
Compensation per hour	45.4	58.7	74.2	89.4	121.7	138.4	149.2	162.8	178.9	193.8	209.3	227.3	^{p}247.6
Real compensation per hour	63.0	73.2	83.7	94.6	104.6	110.4	112.1	110.2	111.0	113.7	115.3	116.3	^{p}113.9
Unit labor cost	67.9	79.1	91.7	93.2	118.1	125.7	133.2	150.0	161.8	169.4	180.1	194.5	^{p}214.4
Unit nonlabor payments	71.5	80.1	84.5	95.8	106.0	117.5	117.8	124.7	146.0	156.0	163.9	169.9	^{p}178.8
Implicit price deflator	69.1	79.4	89.2	94.1	114.0	122.9	127.9	141.4	156.4	164.8	174.5	186.1	^{p}202.2
Nonfinancial corporations:													
Output per hour of all employees	(1)	(1)	80.2	96.8	103.5	110.5	112.8	108.5	111.9	115.5	116.8	117.9	(1)
Compensation per hour	(1)	(1)	75.7	90.0	121.5	136.7	147.5	161.4	177.4	192.2	207.6	224.8	(1)
Real compensation per hour	(1)	(1)	85.4	95.3	104.4	109.1	110.8	109.3	110.1	112.7	114.4	115.0	(1)
Unit labor cost	(1)	(1)	94.3	93.0	117.4	123.7	130.7	148.8	158.6	166.4	177.7	190.6	(1)
Unit nonlabor payments	(1)	(1)	90.8	100.1	103.5	114.8	116.8	124.8	148.1	156.8	164.4	170.6	(1)
Implicit price deflator	(1)	(1)	93.1	95.5	112.5	120.5	125.8	140.2	154.9	163.0	173.0	183.5	(1)
Manufacturing:													
Output per hour of all persons	65.0	74.1	78.9	98.3	104.5	115.7	118.8	112.6	118.2	123.4	127.2	128.0	^{p}130.2
Compensation per hour	45.1	60.5	77.1	91.0	121.8	136.6	146.4	161.1	180.2	195.1	212.0	229.5	^{p}250.5
Real compensation per hour	62.5	75.4	87.0	96.3	104.7	109.0	110.0	109.1	111.8	114.5	116.8	117.5	^{p}115.2
Unit labor cost	69.4	81.5	87.7	92.6	116.5	118.1	123.2	143.1	152.4	158.2	166.6	179.4	^{p}192.4
Unit nonlabor payments	82.4	88.6	92.4	103.3	95.2	107.4	106.4	105.6	128.4	139.6	147.4	152.4	(1)
Implicit price deflator	73.3	83.8	96.1	95.9	110.3	114.8	118.0	131.6	145.1	152.5	160.7	171.1	(1)

[1] Not available.

32. Annual percent change in productivity and related data, 1969–79

Item	Year											Annual rate of change	
	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1950-78	1960-78
Private business sector:													
Output per hour of all persons	0.2	0.7	3.3	3.5	1.9	−3.0	2.1	3.5	1.9	0.5	^{p}−0.9	2.6	2.2
Compensation per hour	6.8	7.1	6.7	6.3	8.2	9.1	9.9	8.8	8.0	8.5	^{p}9.3	5.8	6.8
Real compensation per hour	1.4	1.1	2.4	2.9	1.9	−1.7	.7	2.8	1.5	0.8	^{p}−1.7	2.6	2.1
Unit labor cost	6.6	6.4	3.3	2.8	6.2	12.5	7.7	5.0	6.0	8.0	^{p}10.4	3.2	4.5
Unit nonlabor payments	1.0	1.2	6.8	5.2	5.0	4.4	15.3	5.1	4.8	5.3	^{p}5.8	2.8	4.0
Implicit price deflator	4.7	4.7	4.4	3.6	5.8	9.8	10.1	5.0	5.6	7.1	^{p}8.9	3.1	4.3
Nonfarm business sector:													
Output per hour of all persons	−.3	.1	3.1	3.7	1.7	−3.1	1.9	3.5	1.6	0.5	^{p}−1.2	2.2	2.0
Compensation per hour	6.3	6.7	6.7	6.5	7.8	9.1	9.9	8.3	8.0	8.6	^{p}8.9	5.5	6.5
Real compensation per hour	.9	.7	2.3	3.1	1.5	−1.7	.7	2.4	1.4	0.9	^{p}−2.1	2.3	1.9
Unit labor cost	6.7	6.5	3.5	2.8	6.0	12.7	7.9	4.7	6.3	8.0	^{p}10.2	3.2	4.5
Unit nonlabor payments	.4	1.6	6.7	3.8	.3	5.9	17.1	6.9	5.0	3.7	^{p}5.2	2.8	3.9
Implicit price deflator	4.5	4.9	4.5	3.1	4.1	10.5	10.6	5.4	5.9	6.6	^{p}8.7	3.1	4.3
Nonfinancial corporations:													
Output per hour of all employees	.3	−.1	3.4	3.3	2.1	−3.8	3.1	3.2	1.1	1.0	(1)	(1)	2.0
Compensation per hour	6.7	6.7	6.2	5.9	7.9	9.4	10.0	8.3	8.0	8.3	(1)	(1)	6.3
Real compensation per hour	1.2	.7	1.9	2.5	1.6	−1.4	.7	2.4	1.5	0.6	(1)	(1)	1.7
Unit labor cost	6.3	6.8	2.7	2.5	5.7	13.8	6.6	4.9	6.8	7.3	(1)	(1)	4.2
Unit nonlabor payments	0	.5	7.3	3.3	1.8	6.8	18.7	5.8	4.9	3.8	(1)	(1)	3.4
Implicit price deflator	4.1	4.6	4.2	2.8	4.4	11.5	10.5	5.2	6.1	6.1	(1)	(1)	3.9
Manufacturing:													
Output per hour of all persons	1.1	−.3	5.3	5.1	2.7	−5.2	4.9	4.4	3.1	.6	^{p}1.8	2.6	2.6
Compensation per hour	6.4	6.9	6.3	6.5	7.2	10.1	11.8	8.3	8.6	8.3	^{p}9.1	5.4	6.3
Real compensation per hour	1.0	.9	2.0	2.1	.9	−.8	2.4	2.4	2.0	.6	^{p}−1.9	2.2	1.6
Unit labor cost	5.2	7.2	.9	.4	4.3	16.1	6.6	3.8	5.3	7.7	^{p}7.2	2.7	3.6
Unit nonlabor payments	−4.4	−3.2	9.2	2.3	−1.0	−.7	21.6	8.8	5.5	3.4	^{p}N.A.	1.8	2.3
Implicit price deflator	2.3	4.2	3.1	1.0	2.8	11.5	10.2	5.1	5.4	6.5	^{p}N.A.	2.5	3.3

[1] Not available.

33. Indexes of productivity, hourly compensation, unit costs, and prices, seasonally adjusted

[1967 = 100]

Item	Annual average		Quarterly indexes										
			1977			1978				1979			
	1978	1979	II	III	IV	I	II	III	IV	I	II	III	IV
Private business sector:													
Output per hour of all persons	119.2	118.1	117.9	119.4	118.8	118.4	119.0	119.7	119.8	118.9	118.2	^{r}117.8	^{p}117.3
Compensation per hour	231.2	252.8	210.8	215.3	218.5	224.2	228.5	233.6	238.4	244.8	250.3	255.6	^{p}260.0
Real compensation per hour	118.3	116.3	116.7	117.6	117.9	118.7	118.1	118.2	118.0	118.0	116.9	115.8	^{p}114.2
Unit labor cost	194.0	214.1	178.8	180.2	183.8	189.4	192.1	195.2	199.0	205.9	211.7	^{r}217.0	^{p}214.1
Unit nonlabor payments	174.3	184.4	164.7	167.9	168.6	164.8	173.9	177.0	181.3	180.8	183.7	^{r}185.6	^{p}184.4
Implicit price deflator	187.2	203.8	173.9	176.0	178.6	180.9	185.6	188.9	192.9	197.2	202.0	^{r}206.1	^{p}203.8
Nonfarm business sector:													
Output per hour of all persons	116.8	115.5	115.8	116.7	116.3	116.0	116.5	117.3	117.6	116.6	115.4	^{r}115.0	^{p}114.9
Compensation per hour	227.3	247.6	207.3	211.2	214.8	220.6	224.6	229.4	234.3	240.2	244.8	^{r}249.9	^{p}255.2
Real compensation per hour	116.3	113.9	114.7	115.4	115.9	116.8	116.1	116.1	116.0	115.8	114.3	113.2	^{p}112.1
Unit labor cost	194.5	214.4	179.0	180.9	184.7	190.2	192.7	195.6	199.3	206.0	212.1	^{r}217.3	^{p}222.2
Unit nonlabor payments	169.9	178.8	163.2	167.1	166.0	161.1	169.2	173.0	176.1	174.3	177.6	^{r}180.5	^{p}183.3
Implicit price deflator	186.1	202.2	173.6	176.2	178.3	180.2	184.7	187.8	191.4	195.1	200.3	^{r}204.7	^{p}206.9
Nonfinancial corporations:													
Output per hour of all employees	117.9	(1)	116.5	117.4	116.7	116.7	117.8	118.4	118.8	118.1	117.3	117.5	(1)
Compensation per hour	224.8	(1)	205.7	209.5	212.8	218.5	222.3	226.9	231.3	237.4	242.1	247.1	(1)
Real compensation per hour	115.0	(1)	113.8	114.5	114.8	115.7	114.9	114.8	114.5	114.5	113.1	111.9	(1)
Total unit costs	193.3	(1)	180.5	182.4	186.3	190.8	191.6	194.0	196.8	202.3	208.0	212.6	(1)
Unit labor cost	190.6	(1)	176.6	178.4	182.3	187.3	188.7	191.5	194.8	201.0	206.4	210.3	(1)
Unit nonlabor costs	201.8	(1)	192.4	194.8	198.7	201.5	200.8	201.6	203.1	206.5	213.2	219.9	(1)
Unit profits	127.2	(1)	123.3	130.9	122.2	107.1	129.2	132.7	138.7	130.3	129.2	129.0	(1)
Implicit price deflator	183.5	(1)	172.0	174.7	176.8	178.3	182.3	184.9	188.2	191.6	196.3	200.2	(1)
Manufacturing:													
Output per hour for all persons	128.0	130.2	127.3	128.4	127.8	125.7	127.2	129.2	129.8	129.0	130.0	^{r}131.1	^{p}130.6
Compensation per hour	229.5	250.5	208.7	214.1	217.5	223.2	226.6	231.4	236.5	242.4	248.2	^{r}253.0	^{p}258.0
Real compensation per hour	117.5	115.2	116.1	117.0	117.4	118.1	117.1	117.0	117.1	116.9	115.9	114.6	^{p}113.3
Unit labor cost	179.4	192.4	164.7	166.7	170.2	177.5	178.1	179.1	182.2	187.9	190.9	^{r}193.0	^{p}197.6

34. Percent change from preceding quarter and year in productivity, hourly compensation, unit costs, and prices, seasonally adjusted at annual rate

[1967 = 100]

Item	Quarterly percent change at annual rate						Percent change from same quarter a year ago					
	II 1978 to III 1978	III 1978 to IV 1978	IV 1978 to I 1979	I 1979 to II 1979	II 1979 to III 1979	III 1979 to IV 1979	III 1977 to III 1978	IV 1977 to IV 1978	I 1978 to I 1979	II 1978 to II 1979	III 1978 to III 1979	IV 1978 to IV 1979
Private business sector:												
Output per hour of all persons	2.4	0.3	−3.0	−2.2	[r]−1.3	[p]−1.6	0.2	0.8	0.4	−0.6	[r]−1.6	[p]−2.0
Compensation per hour	9.2	8.5	11.1	9.3	8.8	[p]6.9	8.5	9.1	9.2	9.5	9.4	[p]9.0
Real compensation per hour	.3	−.7	.1	−3.8	−3.6	[p]−5.6	0.4	.1	−.6	−1.0	−2.0	[p]−3.2
Unit labor cost	6.6	8.1	14.8	11.8	[r]10.3	[p]8.7	8.3	8.3	8.7	10.2	[r]11.2	[p]11.3
Unit nonlabor payments	7.4	9.9	−1.0	6.5	[r]4.1	[p]5.9	5.4	7.5	9.7	5.6	4.8	[p]3.9
Implicit price deflator	6.9	8.7	9.3	10.1	[r]8.3	[p]7.8	7.4	8.0	9.0	8.7	[r]9.1	[p]8.9
Nonfarm business sector:												
Output per hour of all persons	2.7	.8	−3.2	−4.1	[r]−1.4	[p]−1.2	.5	1.1	[r].5	−1.0	[r]−2.0	[p]−2.3
Compensation per hour	8.8	8.8	10.4	7.9	8.5	[p]8.9	8.7	9.1	8.9	9.0	8.9	[p]8.9
Real compensation per hour	.0	−.4	−.6	−5.0	−3.9	[p]3.8	.6	.1	−.8	−1.5	−2.5	[p]−3.3
Unit labor cost	6.0	8.0	14.0	12.5	[r]10.1	[p]9.3	8.1	7.9	8.3	10.1	[r]11.1	[p]11.5
Unit nonlabor payments	9.4	7.3	−4.0	7.8	[r]6.6	[p]6.4	3.5	6.1	8.2	5.0	4.3	[p]4.1
Implicit price deflator	7.0	7.8	8.1	11.0	[r]9.0	[p]8.4	6.6	7.3	8.3	8.5	[r]9.0	[p]9.1
Nonfinancial corporations:												
Output per hour of all employees	2.0	1.1	−2.1	−2.8	0.7	(1)	0.8	1.8	1.3	.5	−.8	(1)
Compensation per hour	8.4	8.1	11.0	8.0	8.5	(1)	8.3	8.7	8.7	8.9	8.9	(1)
Real compensation per hour	−.4	−1.0	.0	−4.9	−3.9	(1)	.2	−.3	−1.0	−1.6	−2.5	(1)
Total unit costs	5.1	5.9	11.7	11.8	9.2	(1)	6.4	5.6	6.1	8.6	9.6	(1)
Unit labor costs	6.2	6.9	13.4	11.2	7.8	(1)	7.4	6.8	7.3	9.4	9.8	(1)
Unit nonlabor costs	1.7	2.9	6.6	13.5	13.3	(1)	3.5	2.2	2.5	6.2	9.1	(1)
Unit profits	11.4	19.5	−22.1	−3.4	−0.7	(1)	1.4	13.6	21.7	0	−2.8	(1)
Implicit price deflator	5.7	7.3	7.6	10.2	8.2	(1)	5.8	6.4	7.5	7.7	8.3	(1)
Manufacturing:												
Output per hour of all persons	6.3	2.0	−2.4	2.9	[r]3.5	[p]−1.5	.6	1.6	2.6	2.2	[r]1.5	[p]0.6
Compensation per hour	8.7	9.3	10.3	9.8	8.1	[p]8.2	8.1	8.7	8.6	9.5	9.4	[p]9.1
Real compensation per hour	−.1	0	−.6	−3.4	[r]−4.3	[p]4.5	0	−3	−1.1	−1.0	−2.1	[p]3.2
Unit labor cost	2.2	7.1	13.0	6.7	[r]4.4	[p]9.8	7.4	7.1	5.9	7.2	7.8	[p]8.5

LABOR-MANAGEMENT DATA

MAJOR COLLECTIVE BARGAINING DATA are obtained from contracts on file at the Bureau of Labor Statistics, direct contact with the parties, and from secondary sources. Additional detail is published in *Current Wage Developments*, a monthly periodical of the Bureau. Data on work stoppages are based on confidential responses to questionnaires mailed by the Bureau of Labor Statistics to parties involved in work stoppages. Stoppages initially come to the attention of the Bureau from reports of Federal and State mediation agencies, newspapers, and union and industry publications.

Definitions

Data on wage changes apply to private nonfarm industry agreements covering 1,000 workers or more. Data on wage and benefit changes *combined* apply only to those agreements covering 5,000 workers or more. **First-year wage settlements** refer to pay changes going into effect within the first 12 months after the effective date of the agreement. **Changes over the life of the agreement** refer to total agreed upon settlements (exclusive of potential cost-of-living escalator adjustments) expressed at an average annual rate. **Wage-rate changes** are expressed as a percent of straight-time hourly earnings, while **wage and benefit changes** are expressed as a percent of total compensation.

Effective wage-rate adjustments going into effect in major bargaining units measure changes actually placed into effect during the reference period, whether the result of a newly negotiated increase, a deferred increase negotiated in an earlier year, or as a result of a cost-of-living escalator adjustment. Average adjustments are affected by workers receiving no adjustment, as well as by those receiving increases or decreases.

Work stoppages include all known strikes or lockouts involving six workers or more and lasting a full shift or longer. Data cover all workers idle one shift or more in establishments directly involved in a stoppage. They do not measure the indirect or secondary effect on other establishments whose employees are idle owing to material or service shortages.

35. Wage and benefit settlements in major collective bargaining units, 1975 to date
[In percent]

Sector and measure	Annual average					Quarterly average						
						1978			1979			
	1975	1976	1977	1978	1979	II	III	IV	I	II	III	IV
Wage and benefit settlements, all industries:												
First-year settlements	11.4	8.5	9.6	8.3	8.9	6.8	7.2	6.1	2.5	10.6	9.0	8.1
Annual rate over life of contract	8.1	6.6	6.2	6.3	6.6	6.0	5.9	5.2	5.2	7.7	6.0	6.0
Wage rate settlements, all industries:												
First-year settlements	10.2	8.4	7.8	7.6	7.4	6.9	7.5	7.4	4.8	9.0	6.6	6.3
Annual rate over life of contract	7.8	6.4	5.8	6.4	6.0	6.2	6.4	5.9	6.6	7.0	4.8	4.9
Manufacturing:												
First-year settlements	9.8	8.9	8.4	8.3	7.0	7.1	8.4	9.5	6.7	9.9	6.2	5.9
Annual rate over life of contract	8.0	6.0	5.5	6.6	5.4	5.8	7.2	7.4	6.6	8.1	4.6	4.2
Nonmanufacturing (excluding construction):												
First-year settlements	11.9	8.6	8.0	8.0	7.5	7.7	7.4	6.4	2.3	6.5	9.1	7.2
Annual rate over life of contract	8.0	7.2	5.8	6.5	5.9	6.9	5.9	5.1	5.6	5.7	5.8	7.5
Construction:												
First-year settlements	8.0	6.1	6.3	6.5	8.9	6.4	7.0	6.4	11.0	9.1	10.4	7.9
Annual rate over life of contract	7.5	6.2	6.3	6.2	8.4	6.0	7.2	7.1	7.7	8.2	9.1	7.1

36. Effective wage adjustments going into effect in major collective bargaining units, 1975 to date

[In percent]

Sector and measure	Average annual changes					Average quarterly changes								
	1975	1976	1977	1978	1979	1977	1978				1979			
						IV	I	II	III	IV	I	II	III	IV
Total effective wage rate adjustment, all industries	8.7	8.1	8.0	8.2	8.8	1.1	1.3	2.6	2.7	1.4	1.4	2.6	3.2	1.5
Change resulting from —														
Current settlement	2.8	3.2	3.0	2.0	2.8	0.5	0.5	0.6	0.5	0.4	0.2	1.1	1.0	0.4
Prior settlement	3.7	3.2	3.2	3.7	3.0	.3	.6	1.4	1.2	.5	.6	.9	1.0	.4
Escalator provision	2.2	1.6	1.7	2.4	3.0	.3	.3	.6	1.0	.5	.6	.5	1.2	.6
Manufacturing	8.5	8.5	8.4	8.6	9.2	1.4	1.4	2.2	2.9	1.9	1.4	2.3	3.1	2.2
Nonmanufacturing	8.9	7.7	7.6	7.9	8.5	.8	1:3	2.9	2.5	1.1	1.4	2.8	3.4	.9

NOTE: Because of rounding and compounding, the sums of individual items may not equal totals.

37. Work stoppages, 1947 to date

Month and year	Number of stoppages		Workers involved		Days idle	
	Beginning in month or year	In effect during month	Beginning in month or year (thousands)	In effect during month (thousands)	Number (thousands)	Percent of estimated working time
1947	3,693	....	2,170	....	34,600	.30
1948	3,419	....	1,960	....	34,100	.28
1949	3,606	....	3,030	....	50,500	.44
1950	4,843	....	2,410	....	38,800	.33
1951	4,737	....	2,220	....	22,900	.18
1952	5,117	....	3,540	....	59,100	.48
1953	5,091	....	2,400	....	28,300	.22
1954	3,468	....	1,530	....	22,600	.18
1955	4,320	....	2,650	....	28,200	.22
1956	3,825	....	1,900	....	33,100	.24
1957	3,673	....	1,390	....	16,500	.12
1958	3,694	....	2,060	....	23,900	.18
1959	3,708	....	1,880	....	69,000	.50
1960	3,333	....	1,320	....	19,100	.14
1961	3,367	....	1,450	....	16,300	.11
1962	3,614	....	1,230	....	18,600	.13
1963	3,362	....	941	....	16,100	.11
1964	3,655	....	1,640	....	22,900	.15
1965	3,963	....	1,550	....	23,300	.15
1966	4,405	....	1,960	....	25,400	.15
1967	4,595	....	2,870	....	42,100	.25
1968	5,045	....	2,649	....	49,018	.28
1969	5,700	....	2,481	....	42,869	.24
1970	5,716	....	3,305	....	66,414	.37
1971	5,138	....	3,280	....	47,589	.26
1972	5,010	....	1,714	....	27,066	.15
1973	5,353	....	2,251	....	27,948	.14
1974	6,074	....	2,778	....	47,991	.24
1975	5,031	....	1,746	....	31,237	.16
1976	5,648	....	2,420	....	37,859	.19
1977	5,506	....	2,040	....	35,822	.17
1978: September	453	854	448	551	4,446	.25
October	370	721	117	216	2,352	.13
November	268	569	64	136	1,691	.09
December	157	408	53	143	1,377	.08
1979: January	262	386	68	144	1,925	.10
February	299	501	75	221	1,670	.10
March	391	608	112	223	1,871	.10
April	512	781	426	535	5,126	.27
May	556	877	132	395	3,662	.19
June	536	866	137	302	2,999	.16
July	471	817	168	290	3,00[illegible]	.16
August	463	869	119	270	3,15[illegible]	.15
September	464	793	135	243	2,319	.13
October	443	781	230	334	2,966	.15
November	257	546	91	255	2,720	.15
December	134	....	42	....	1,976	.11

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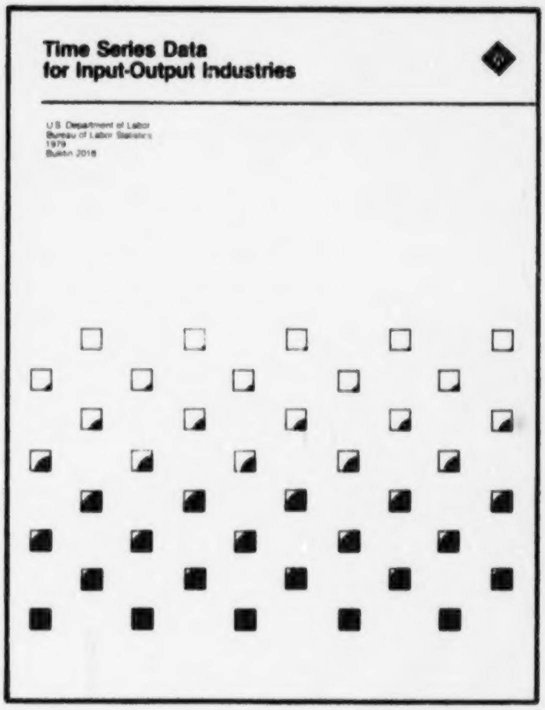
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U.S. Department of Labor
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March 1980

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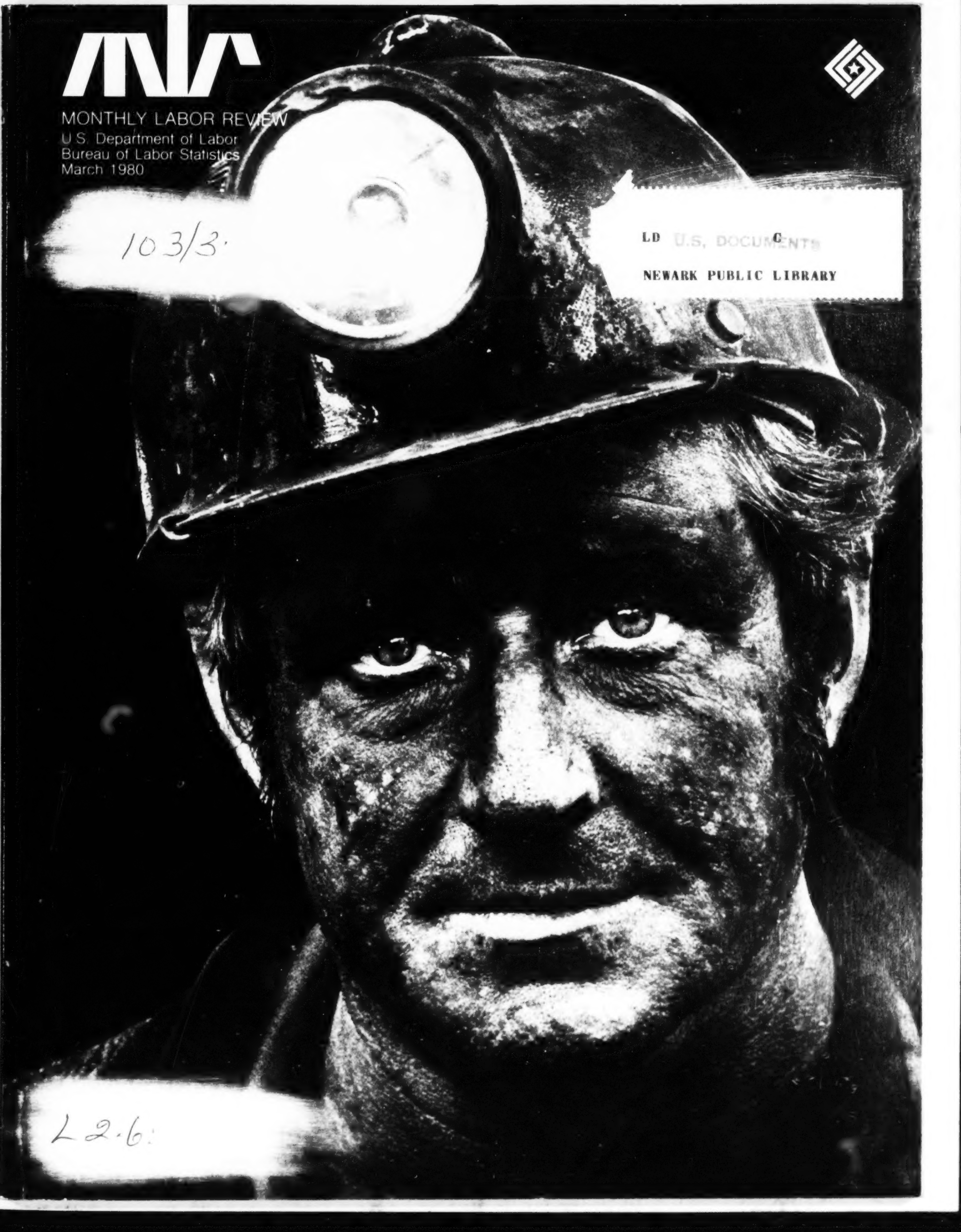

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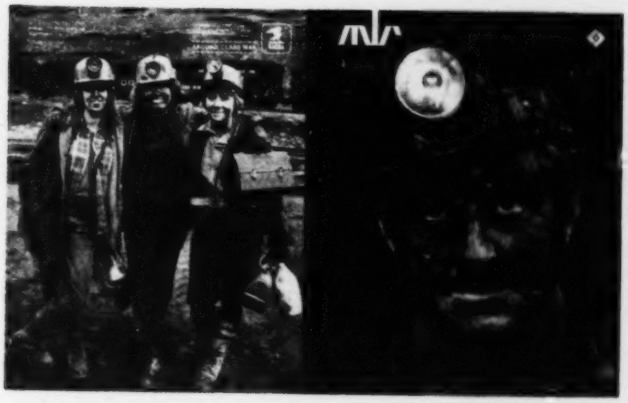

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Photos by Earl Dotter, from *In Mine and Mill: A Photographic Portfolio of Coal Miners and Textile Workers,* 20 plates, 11" × 17", copyright by Earl Dotter, Pilgrim Press, 132 West 31st Street, New York, N.Y. 10001, $15. Dotter's workplace photos, emphasizing both the dignity and the dehumanizing aspects of work, have been widely exhibited and have been compared to those of Lewis Hine. Most recently, the coal and textile photographs were selected for exhibition at Gallery 1199, New York City, and at the Venezia la Fotografia '79.

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Labor Month In Review

MINORITIES REPORT. The Bureau of Labor Statistics published the first in a new series of fact sheets on employment and unemployment of blacks and Hispanics.

Commissioner of Labor Statistics Janet L. Norwood explained that the new series, to be issued quarterly, "is part of the Bureau's continuing effort to increase public understanding and awareness of the special employment problems of blacks and Hispanics."

Forthcoming issues will deal with such topics as occupations of black and Hispanic workers, the earnings gap between minorities and whites, minority labor force participation trends, and the differences in employment status among Puerto Ricans, Cubans, Mexicans, and other Hispanics in the U.S. workforce.

Here are excerpts from the first issue of *Employment in Perspective: Minority Workers:*

Minority unemployment. Blacks and Hispanics—the Nation's two largest minorities—are much more likely than whites to be unemployed. In the fourth quarter of 1979, the jobless rates for blacks, 11.4 percent, and Hispanics, 8.6 percent, were both substantially higher than for white workers, 4.9 percent.

Age-sex breakdowns provide more insight into the high unemployment rates among minorities vis-a-vis whites. For teens, young adults, and men 25 years and over, black unemployment rates were more than double the comparable white rates, with the largest disparity occurring among workers under 25. Unemployment rates for Hispanics were also above those for whites, but lower than those for blacks. Hispanics 25 years and over, however, experienced higher unemployment rates relative to their white counterparts than those under 25. Unemployment rate ratios for black and Hispanic workers by age relative to their white counterparts for the fourth quarter of 1979 are as follows:

	Black/white ratio	*Hispanic/white ratio*
Total, 16 years and over	2.3	1.8
Men, 16 and over . .	2.5	1.6
16-19 . . .	2.5	1.2
20-24 . . .	2.5	1.4
25 and over. . . .	2.5	1.7
Women, 16 and over. . .	2.1	2.0
16-19 . . .	2.9	1.8
20-24 . . .	2.9	1.8
25 and over. . . .	1.7	2.0

The incidence of joblessness varied substantially among the three main Hispanic ethnic groups. Both Puerto Ricans and Mexicans had unemployment rates (10.5 and 9.1 percent, respectively) above the overall Hispanic rate, while the Cuban rate (6.6 percent) was the lowest among workers of Hispanic descent. These variations reflect differences in age composition, educational level, and residential patterns of the three groups, as well as other factors. Thus, Cubans, who are, on the average, older and have completed more years of schooling than other Hispanics, generally had the lowest unemployment rates among the specific minority age-sex groups.

Reason for unemployment. The distribution of unemployment according to reason (status at the time a person became unemployed) differed substantially, between the minority groups. A greater proportion of unemployed blacks than Hispanics were new entrants or reentrants into the labor force. On the other hand, Hispanics were much more likely than blacks to be job losers. Among the Hispanic subgroups, about half of the unemployed Puerto Ricans and Mexicans were job losers. In contrast, the proportion of unemployed Cubans who were job losers was essentially the same as for blacks.

Duration of unemployment. Differences between blacks and Hispanics are also evident in their duration of unemployment (the length of a current spell of unemployment). As shown in the following tabulation for the fourth quarter of 1979, blacks were considerably more likely to experience long-term unemployment (over 15 weeks) than were Hispanics, and more than half of the unemployed Hispanics were jobless for less than 5 weeks.

	Black and other	*Hispanic*	*White*
Total (percent) . . .	100.0	100.0	100.0
Less than 5 weeks . . .	42.0	52.4	50.0
5-14	34.3	33.6	32.4
15 or more .	23.7	14.0	17.6
15-26	11.8	10.6	10.4
27 or more	11.8	3.2	7.2
Median (in weeks)	7.1	4.8	5.0

Employment in Perspective: Minority Workers is available without charge from the Office of Publications, Bureau of Labor Statistics, Washington, D.C. 20212, and from the Bureau's regional offices.

Recent trends in worktime: hours edge downward

Changing composition of work and the work force, union contracts, and Federal laws all contributed to reductions in weekly hours from 1968 to 1979; time off for vacations and holidays increased

JANICE NEIPERT HEDGES AND DANIEL E. TAYLOR

Weekly hours of full-time workers averaged about one-half hour less per week in May 1979 than 11 years earlier. For both men and women, workweeks of 35 to 39 hours were a little more prevalent and those of 41 to 48 hours less prevalent than in 1968. And, when part-time workers are included in the average, the workweek declined slightly more. These modest reductions reflect a variety of factors, including changes in the labor force, shorter work schedules, and the growth of paid leave.

The average number of vacation days taken by workers increased only marginally during this period. Because vacation leave generally is based on length of service, the influx of women and youth—groups with less than average job tenure—as well as the earlier retirement of senior workers postponed the full effect of liberalized benefits.

This article examines movements in worktime from 1968 to 1979 for answers to these questions: Are average weekly hours for U.S. workers static or changing? Are trends the same for men and women, young and old, white and black? What do comparisons among occupations and industries show? What are the trends in scheduled hours, overtime or extra hours, and in paid leave? What are the average hours of work per year?

Unless noted, data are from the Current Population Survey, a national survey of households which collects information monthly on the labor force.[1] Included in the data on hours at work are hours on second jobs, with total hours credited to the principal job. (Workers absent from their jobs for the entire survey week are excluded from the computation of averages or distributions of hours worked.) The data refer to nonagricultural wage and salary workers, except where specified.

Work-leisure tradeoff

A brief look at the economic theory generally used to examine hours of work may help to put changes in worktime in perspective. The basic theory rests on the premise that gains in productivity are available for distribution to workers in the form of higher earnings or fewer hours, or in some combination of the two. The concept of a tradeoff that workers make between work and leisure as wages rise was formalized by Lionel Robbins in 1930 and developed by H. G. Lewis and others.[2]

According to this theory, a rise in the real wage rate has two effects on the number of hours that workers supply, effects that pull in opposite directions. One effect is for workers to use the additional money to "purchase" more leisure time, along with other goods and services—the income effect. The other is for workers to seek to increase their worktime, because time off costs more in earnings forgone—the substitution effect.

Dividing time solely into market time and leisure time, however, ignores other categories, such as time spent on household duties and child care. Gary Becker and others have integrated this category ("time spent producing goods and services in the household for household consumption") into the basic theory.[3] This concept sheds light on the work-hours decisions of

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women, who continue to spend more time on household production than men,[4] and helps to explain the relationship between the hours worked by various members of a household:

> Members who are relatively more efficient at market activities would use less of their time at consumption activities than would other members. Moreover, an increase in the relative market efficiency of any member would effect a reallocation of the time of all other members toward consumption activities in order to permit the former to spend more time at market activities.[5]
>
> . . . most Americans live in family units where some pooling of income and sharing of home tasks occurs, and where decision-making on labor supply involves some degree of joint consultation.[6]

Although estimates of the relative impact of the income and substitution effects vary, Lewis observed a general agreement that among married men, a 1-percent increase in the wage rate would result in the long run in about a 0.15-percent decrease in hours. That is, this group has tended to purchase additional time off with about 15 percent of a potential pay increase.[7] In contrast, women devote additional time to market work when wages rise, drawing from both leisure and household worktime.[8]

The income and substitution effects vary in response to changes in family formation and size, value systems and tastes, occupation and industry structure, and other factors. Since 1968, full-time employees have reduced their workyear by about 39 hours, or one-sixth of the reduction made possible by productivity gains.[9] A recent national survey on the preferences of workers for higher earnings versus fewer hours indicated that the majority expressed greater interest in additional leisure time than in a 10-percent gain in earnings.[10]

The complex interplay between wages and hours of work is described by Sherwin Rosen:

> . . . working hours become part of the nonpecuniary aspects of employment that affect its net attractiveness in the market . . . there must be a different hourly wage struck for each possible work schedule. That is, there is not a single labor market at all . . . but rather a spectrum of closely interconnected markets geared to different work schedules . . . one market for long hours, one for full-time jobs, one for short hour jobs, one for part-year jobs, and so on.[11]

The flexibility of schedules is an important aspect of employment for many exployees:

> . . . rigid schedules mean that workers are supplying more time or at least a distribution of time that imposes more costs upon them than would hours freely chosen by themselves.[12]

The demand for hours of work is affected by the cost of labor in relation to the cost of other inputs, such as machines and materials. The length of work schedules is affected by technological requirements of the job and the need for hours convenient to customers. Also, public laws and collective bargaining agreements that call for premium pay over a maximum number of hours per day or per week or for late-shift or weekend work have an impact on work schedules.

Historical experience. From 1900 to 1946, the average workweek shrank from about 53 to 44 hours. Productivity growth and declining agricultural employment underlay this trend, which was rapid in some periods and arrested, or even reversed, in others. For example, the average workweek declined substantially during the Great Depression, as work-sharing efforts led to Federal legislation which set the standard workweek and workday (beyond which premium pay was required) below the pre-Depression level. During World War II, average weekly hours lengthened, but government controls on wages coupled with competition for workers resulted in substantial gains in paid vacations.[13]

Since the 1940's, worktime has been further reduced by the growth of service industries and the continued decline of agriculture and the increased employment of women and youth. Rising expectations and inflation probably have exerted counter pressures. On balance, hours reductions have proceeded slowly. Some analysts, considering only the hours of men have concluded that little or no change in weekly hours has occurred in the United States in the post-World War II era.[14]

Recent trends

The average workweek for nonagricultural wage and salary employees who usually work full time declined from 43.0 to 42.6 hours, or nearly half an hour between May 1968 and May 1979. The decline reflected a decrease of almost 3 percentage points in the proportion of persons at work 41 to 48 hours, with a commensurate increase in the proportion at work from 35 to 39 hours.

The increased prevalence of women and youth in the work force and the growth of industries with shorter than average workweeks contributed to the reduction in weekly hours. Other factors included changes in the Fair Labor Standards Act (FLSA) and in collective bargaining agreements and an increase in unemployment.[15]

Average weekly hours reported by all nonagricultural wage and salary workers (including part-time workers) declined from 39.1 to 38.5 hours, or a little more than half an hour. This reduction reflected the shorter hours for workers on full-time schedules and the more rapid growth of part-time than of full-time workers.

Both men and women were more likely to work part time in 1979 than in 1968. The largest group of part-time employees—those who usually work part time by choice—increased from 13.0 to 13.8 percent of all workers. The other groups of part-timers, those who usually work full time but fell into the part-time category during the reference week because of time off and those who worked part time for economic reasons (such as slack work or material shortages), also grew faster than full-time workers. All part-timers increased from 19.4 to 22.2 percent of all employees. Partially offsetting the relative growth in part-time work was an increase (from 17.5 to 18.9 hours per week) in the average hours of those who usually work part time, a pattern which was similar for men and women.

The downward trend in hours worked reported by the household survey is corroborated by other data series. For example, payroll data for the same period showed a decline from 37.7 to 35.5 in hours paid all production and nonsupervisory workers in private industry. Wage survey data on the average length of majority schedules in establishments in metropolitan areas showed a decline from 40.5 to 40.1 hours for plantworkers and from 38.9 to 38.7 hours for officeworkers from 1968 to 1976.

Although economic systems and labor force statistics vary by country, available information on workweeks in Canada and Western Europe also shows hours reductions in the past decade. For example, manufacturing workers in Canada averaged 38.9 hours of work per week in May 1979, down from 40.6 hours in May 1968. The workweek in manufacturing industries declined from 41.8 to 40.0 hours in Great Britain during this period; in Germany, the workweek in manufacturing averaged 32.8 hours in 1978, down from 36.4 hours in 1970. Average weekly hours of all nonagricultural wage and salary workers in Sweden decreased from 39.0 hours in 1968 to 35.4 hours in 1978. And in France, scheduled weekly hours for full-time workers in private nonagricultural industries declined from about 45 hours in 1970 to 41 hours in 1978.[16] At the same time, European workers have maintained their traditional advantage over U.S. workers in regard to holidays and vacations. For example, a minimum 1 month of annual vacation for all workers is required by law in France and Germany.

Men and women, by age. Among full-time U.S. workers, both men and women in most age groups worked slightly shorter workweeks in 1979 than their counterparts in 1968. Men 25 to 34 years of age reported larger declines of more than one-half hour per week. (See table 1.) Because this group represented almost one-fifth of all full-time employees in May 1979, their hours reduction figured importantly in the reduced overall average.

Men in their early 20's who worked full time in 1979 reported about the same weekly hours as their counterparts in 1968. A decline in the hours of this group may have been averted by the declining proportion enrolled in school (from 19.3 to 16.0 percent), because nonenrollees are almost 3 times more likely than enrollees to work more than 40 hours per week.

When part-time workers are included, the average workweek of all men 25 to 34 declined even more, by nearly 1 hour. However, all men in the 20 to 24 and 16 to 19 age brackets experienced increases of 0.4 and 2.1 hours, again probably due to decreased school enrollments. An increase of a little less than a half hour in the workweek of women ages 25 to 34 (who account for more than one-fourth of all women workers) was offset by decreases among women ages 20 to 24 and those over 45.

Changes in the sex and age composition of workers also impacted on hours. The growth in the employment of women and the entry into employment of exceptionally large numbers of youth—as the population born in the decade following World War II came of age—both contributed to the decline in the length of both full-time workweeks and all workweeks. During the period, women increased their labor force participation rate from 41.6 to 50.1 percent, and the median age for all workers declined from 39.5 to 35.4 years.

. . . and marital status. Among married workers on full-time schedules (including the self-employed), weekly hours were down by nearly one-half hour for men and a little more than that for women. The increasing prevalence of working couples, with their higher family incomes, may have contributed to the decline in hours for husbands. Married and single (never-married) women also worked slightly shorter weeks in 1979 than in 1968, while no trend was apparent in the hours of single men.

The trends are similar when all workweeks are considered, except for an increase of more than 2 hours in the workweek of single men, a group mostly consisting of young men. Again, declining school enrollment for this group may largely account for their additional hours. Following are average weekly hours of married and never-married men and women in May 1968 and 1979:

	Men		*Women*	
	Never married	*Married*	*Never married*	*Married*
Full-time schedules:				
1968	42.5	45.5	40.8	40.8
1979	42.6	45.1	40.3	40.2
All schedules:				
1968	33.5	44.5	32.9	34.9
1979	35.9	43.8	32.6	34.4

Race. Black workers who were employed full time worked almost 1 hour less per week on average in May 1979 than 11 years earlier, compared with a decline of little more than one-quarter hour for their white counterparts.[17] The increased share of jobs held by women was a factor in shorter hours for full-time workers of either race. Nonetheless, the workweek declined substantially for both black men and women.

The relatively large, although declining, representation of black workers in the service occupations, in which average weekly hours declined more than in any other occupation, was a factor in the hours reductions for the race. However, an increased proportion of black employees in professional and managerial positions, occupations having higher than average workweeks, partially countered this effect.

When all schedules are considered, the average workweeks of white men and women decreased only slightly. Workweeks for black men were reduced by nearly 1 hour. The lengthened workweeks of black women may be partially explained by the 1970–78 increase of nearly two-thirds in the number heading families.

Occupation and industry. Service employees at work full time reported a decline of about 2 hours in their workweek from 1968 to 1979. In May 1968, they worked about one-half hour more per week than all full-time workers; 11 years later they worked 1 hour less. (See table 2.)

The workweek of full- and part-time service employees combined also declined. In 1968, the average workweek for all service workers was about 5.6 hours shorter than the all-occupation average; in 1979, the gap was 6.5 hours.

Amendments to the FLSA in 1974 and 1977 which brought about 7 million additional workers,[18] many of them service employees, under the overtime provisions of the act, contributed to shorter hours for this occupational group. The 1977 amendments also lowered certain overtime exemptions for employees of hotels,

Table 1. Average hours worked by wage and salary workers except agriculture, by sex, age, and race, May of 1968, 1973, 1978, and 1979

[Numbers in thousands]

Characteristic	All schedules					Full-time schedules				
	Number of workers, 1979	Average weekly hours				Number of workers, 1979	Average weekly hours			
		1968	1973	1978	1979		1968	1973	1978	1979
ALL WORKERS										
Total, 16 years and over	82,207	39.1	38.8	38.4	38.5	63,260	43.0	42.9	42.6	42.6
16 to 19	6,899	24.7	25.9	25.9	26.0	2,453	40.5	40.3	40.2	40.0
20 to 24	12,543	38.1	38.0	37.6	38.1	9,633	41.9	41.9	41.5	41.9
25 to 34	22,405	41.6	41.0	40.4	40.4	18,593	43.7	43.4	42.9	42.8
35 to 44	15,886	41.4	41.0	40.8	40.8	13,172	43.8	43.7	43.5	43.4
45 to 54	13,414	40.9	40.8	40.5	40.5	11,214	42.9	43.0	42.8	42.8
55 to 64	9,110	39.7	39.5	39.1	39.3	7,392	42.4	42.3	42.2	42.3
65 and over	1,949	32.4	30.4	28.1	28.4	803	43.6	42.8	42.2	41.4
MEN										
Total, 16 years and over	46,867	41.9	41.7	41.4	41.6	39,751	44.4	44.3	44.0	44.1
16 to 19	3,596	25.1	27.4	27.5	27.2	1,384	41.6	41.0	41.4	41.0
20 to 24	6,671	39.8	39.8	39.4	40.2	5,400	43.4	43.1	42.7	43.1
25 to 34	13,131	44.4	43.9	43.5	43.5	11,880	45.1	44.9	44.5	44.4
35 to 44	9,085	44.8	44.8	44.6	44.7	8,409	45.3	45.4	45.2	45.2
45 to 54	7,884	43.7	43.9	43.6	43.7	7,310	44.2	44.5	44.1	44.3
55 to 64	5,397	42.2	42.1	42.0	42.2	4,849	43.1	43.2	43.2	43.6
65 and over	1,092	33.7	31.0	29.2	30.3	519	43.3	41.6	41.7	42.2
WOMEN										
Total, 16 years and over	35,340	34.6	34.3	34.3	34.5	23,511	40.4	40.3	40.2	40.1
16 to 19	3,303	24.1	24.2	24.3	24.6	1,069	39.4	39.2	38.7	38.7
20 to 24	5,872	36.1	35.8	35.4	35.6	4,234	40.2	40.2	40.0	40.2
25 to 34	9,274	35.7	35.7	36.0	36.1	6,712	40.1	40.2	40.2	40.1
35 to 44	6,801	35.4	35.0	35.4	35.7	4,765	40.3	40.1	40.4	40.3
45 to 54	5,520	36.3	36.1	35.9	35.8	3,905	40.4	40.4	40.4	40.1
55 to 64	3,713	35.9	35.5	35.0	35.0	2,542	41.0	40.5	40.3	39.8
65 and over	857	30.5	29.5	26.8	25.9	283	44.1	43.0	43.1	40.1
RACE										
White, total	72,588	39.4	39.0	38.5	38.7	55,844	43.2	43.1	42.9	42.9
Men	41,834	42.2	42.1	41.7	41.9	35,611	44.6	44.6	44.3	44.4
Women	30,754	34.7	34.2	34.2	34.4	20,233	40.4	40.4	40.3	40.2
Black and other races, total	9,619	37.5	37.2	37.0	37.2	7,416	41.5	40.8	40.6	40.6
Men	5,033	38.8	38.9	38.9	39.0	4,138	42.2	41.8	41.5	41.8
Women	4,586	34.4	34.9	35.0	35.1	3,278	40.4	39.6	39.6	39.1

NOTE: Detail may not add to totals due to rounding.

motels, and restaurants from 46 to 44 hours per week, effective January 1, 1978, and to the general 40-hour standard, effective January 1, 1979.[19] Collective bargaining agreements were another factor in shorter hours, especially in reducing the very long workweeks for protective service workers, such as police and firefighters.[20] The particularly rapid growth of food service jobs, in which shorter weeks are the norm, also played a part in reducing average hours for the service group.

Smaller changes were reported for factory and other operatives, professional and technical workers, and salesworkers. For these groups, average full-time workweeks declined from one-half to one hour from 1968 to 1979. Hours for all employees, including part time, trended down in clerical and craft occupations.

The most accurate national data on trends in the workweek by industry are provided by the payroll survey. As noted earlier, data from this survey show that production and nonsupervisory workers in private industry averaged 35.5 paid hours in May 1979, down 2.2 hours since May 1968. See table 3.) The sharpest reductions occurred in trade and in services, down 3.3 and 2.0 hours. Hours paid in manufacturing declined by .8 hour.

Scheduled hours, as distinguished from paid hours, declined substantially in trade and services for nonoffice, but not for office workers in metropolitan areas. In most industries, however, the length of scheduled workweeks edged down. The following wage survey data show scheduled weekly hours for selected industries:

	Office			*Nonoffice*		
	1967–68	*1972–73*	*1976*	*1967–68*	*1972–73*	*1976*
All industries	38.9	38.7	38.7	40.5	40.1	40.1
Manufacturing . .	39.4	39.3	39.3	40.4	40.2	40.3
Wholesale trade .	39.1	39.1	39.1	40.8	40.5	40.4
Retail trade	39.3	39.3	39.2	40.5	39.9	39.7
Services	38.5	38.3	38.3	40.6	40.2	39.6

Extra hours

Overtime work or multiple jobholding extends the workweek for some employees. Management initiates

Table 2. Average hours worked by wage and salary workers, except farm, by sex and occupation, May of 1968, 1973, 1978, and 1979

[Numbers in thousands]

Sex and occupation	All schedules					Full-time schedules				
	Number of workers, 1979	Average weekly hours				Number of workers, 1979	Average weekly hours			
		1968	1973	1978	1979		1968	1973	1978	1979
ALL WORKERS										
White collar, total	42,980	39.6	39.3	39.1	39.3	34,112	43.1	43.1	42.9	42.9
Professional, technical and kindred workers	13,527	40.8	40.6	40.5	40.5	11,253	44.0	43.4	43.6	43.3
Managers and administrators	8,340	46.0	46.0	45.2	45.5	7,702	46.9	47.0	46.2	46.6
Sales workers	4,851	36.5	38.8	36.2	36.9	3,331	44.5	44.4	43.8	43.9
Clerical workers	16,262	37.4	35.9	35.8	35.7	11,825	40.1	40.1	40.0	39.9
Blue collar, total	28,296	40.5	40.3	39.9	40.0	23,226	42.8	42.7	42.5	42.4
Craft and kindred workers	10,884	42.3	42.0	41.7	41.6	9,553	43.2	43.1	42.9	43.0
Operatives	13,087	40.8	40.5	40.3	40.2	10,819	42.8	42.8	42.7	42.4
Nonfarm laborers	4,326	35.0	35.5	34.6	34.9	2,854	41.4	41.4	40.9	40.8
Service workers	11,342	33.5	30.0	31.9	32.2	6,214	43.6	42.6	41.7	41.7
MEN										
White collar, total	19,748	43.4	43.6	43.4	43.7	17,666	45.3	45.5	45.3	45.4
Professional, technical and kindred workers	7,511	43.0	43.2	43.5	43.4	6,771	44.8	44.7	45.0	44.7
Managers and administrators	6,294	47.1	47.1	46.6	47.1	5,976	47.7	47.8	47.2	47.7
Sales workers	2,746	42.5	42.5	41.7	42.5	2,320	46.2	46.1	45.4	46.6
Clerical workers	3,107	39.8	39.5	39.2	38.8	2,591	42.3	42.3	42.3	41.9
Blue collar, total	23,000	41.2	41.0	40.6	40.7	19,274	43.4	43.3	43.0	43.0
Craft and kindred workers	10,248	42.4	42.1	41.9	41.8	9,045	43.3	43.2	42.9	43.1
Operatives	8,903	42.2	42.0	41.9	41.8	7,649	44.1	44.1	43.9	43.7
Nonfarm laborers	3,850	35.0	35.6	34.6	35.1	2,579	41.4	41.5	40.8	41.1
Service workers	4,417	39.2	37.5	38.3	38.7	3,030	45.7	44.2	43.4	43.8
WOMEN										
White collar, total	23,232	35.5	35.0	35.3	35.5	16,446	40.3	40.2	40.2	40.3
Professional, technical and kindred workers	6,017	37.4	37.0	36.8	36.9	4,482	42.4	41.5	41.5	41.3
Managers and administrators	2,045	39.7	41.1	40.3	40.6	1,727	42.2	43.3	42.4	42.9
Sales workers	2,106	29.8	28.4	29.2	29.7	1,003	40.0	39.8	40.0	40.0
Clerical workers	13,065	35.3	34.7	34.8	34.9	9,235	39.2	39.3	39.3	39.3
Blue collar, total	5,296	37.4	37.1	37.0	36.7	3,952	39.7	39.7	40.2	39.7
Craft and kindred workers	636	38.7	38.7	38.5	38.5	506	40.3	41.2	41.6	41.3
Operatives	4,184	37.3	37.3	37.1	37.0	3,171	39.6	39.6	39.9	39.5
Nonfarm laborers	476	35.4	33.1	34.1	32.5	274	40.5	40.2	41.2	39.0
Service workers	6,825	30.4	30.2	29.2	29.3	3,184	41.9	41.2	40.2	39.8

NOTE: Detail may not add to totals due to rounding.

overtime work, although the right of workers to refuse overtime has been the subject of collective bargaining, as has their right to a fair share of overtime.[21] Management may order overtime to meet temporary or sporadic demands for products or services, but the decision often is based on the cost of premium pay versus the cost of hiring, training, and providing fringe benefits to additional employees.

Data from the household survey show that of the almost 19 million full-time wage and salary workers who worked 41 hours or more a week in May 1979, about 8 million were on overtime for which they received premium pay. Workweeks in excess of the standard were more prevalent than in 1975 or 1976 but below 1973 levels, the first year for which comparable data are available.[22] Overtime hours in manufacturing, from the payroll series, averaged 3.6 hours per worker in 1978, the same as in 1968.[23]

About 4.3 million nonagricultural wage and salary employees in May 1979 extended their workweek by moonlighting.[24] Some worked only part time on both jobs; however, about three-fourths worked 35 hours or more on their primary jobs and about 8 percent worked full time on both jobs. For all moonlighters, median hours on a second job were 13 a week and hours on both jobs, about 51.

The proportion of nonagricultural wage and salary workers holding more than one job was 4.9 percent in May 1979, about the same as in May 1969. There was no change in hours on the second job, but average worktime for multiple jobholders on all jobs declined by about 2 hours. The decrease is explained by the higher proportion of multiple jobholders who were women, as well as decreases in hours of moonlighting men.

The stability in multiple jobholding rates over the period masks some striking changes in the characteristics of the group. In 1979, women accounted for 30 percent of multiple jobholders, up from 17 percent in 1969. This change was the result of a rise in women's multiple jobholding rate (from 2.3 to 3.6 percent) and a decline in the rate for men (from 7.2 to 5.8 percent). Rates were up for women irrespective of their marital status but declined for men, except those who were single. (Particularly rapid declines in multiple jobholding for men 25 to 34 years and for black men contributed to the shorter weekly hours for these groups.)

Table 3. Average hours paid production and nonsupervisory workers in the private nonagricultural economy, by industry, May of 1968, 1978, and 1979

Industry	Number of workers (in thousands)			Average weekly hours		
	1968	1978	1979	1968	1978	1979
All industries	46,057	57,942	60,371	37.7	35.7	35.5
Mining	468	669	706	42.7	43.4	42.8
Construction	2,803	3,370	3,737	37.6	36.7	37.2
Manufacturing	14,379	14,630	15,061	40.9	40.4	40.1
Durable goods	8,432	8,743	9,129	41.7	41.1	40.8
Nondurable goods	5,946	5,887	5,932	39.8	39.3	39.1
Transportation and public utilities	3,682	4,138	4,293	40.6	39.9	39.6
Trade	12,386	17,104	17,682	35.7	32.7	32.4
Wholesale	3,094	4,060	4,228	39.9	38.6	38.9
Retail	9,292	13,044	13,454	34.3	30.9	30.4
Finance, insurance, and real estate	2,622	3,566	3,756	37.0	36.2	36.1
Services	9,717	14,465	15,134	34.5	32.7	32.5

SOURCE: Current Employment Survey of establishments.

NOTE: Detail may not add to totals due to rounding.

Time off

On the other side of the ledger, hours are affected by absences of various types, including sick and personal leave, holidays, and vacations. Although not all absences are paid, paid leave hours accounted for 7.6 percent of all paid hours in 1977, up from 6.2 percent in 1968.[25]

Among full-time wage and salary workers, absences for illnesses and injuries amounted to the loss of 2.3 percent of usual hours in May 1978. Part-week absences accounted for 0.8 percent; full-week absences for 1.5 percent. Both figures were about the same as 5 years earlier, when data on hours lost as a result of illnesses and injuries were first available. Workers in the goods-producing sector reported a greater proportion of time lost than those in the service-producing sector, women lost a greater proportion than men, and older workers, more than youth.[26]

Other personal reasons accounted for additional absences and lost worktime. These include illnesses and injuries of family members, maternity leave, funerals, and leave for jury duty, court witness, or military service. In May 1978, absences for such reasons were about 1.2 percent of aggregate usual hours, with the loss distributed equally between part- and full-week absences.[27]

Time lost because of illnesses and injuries and personal reasons combined appears to fluctuate with the economic cycle and the seasons.[28] Part-week absences declined during the 1974–75 recession and have since resumed their prerecession level. Monthly data on the incidence of absences show a seasonal pattern, with absences most prevalent in January and least in September.

Payment for absence from work because of illnesses or injuries was available to 8 of 10 plantworkers and officeworkers in 1976, about the same as in 1968, according to the wage survey. Paid personal leave also is available to many workers: of 1,570 major collective bargaining agreements in 1976, two-thirds provided funeral leave, and the same proportion provided leave for jury duty. The agreement negotiated by the United Auto Workers and the automobile industry in 1979 provided for 26 personal days off, spread over 3 years.[29]

Paid holidays also have increased in recent years. According to data from the wage survey, average holidays provided office and other workers in metropolitan areas increased by 1.3 days from 1968 to 1976, bringing paid holidays to 9.4 days for officeworkers and 8.9 days for other workers. Manufacturing employees experienced the largest gains, with an increase from 7.9 to 9.6 days for plantworkers and from 8.2 to 10.0 days for officeworkers.[30]

Vacations lengthen. By 1968, virtually all plantworkers and officeworkers in metropolitan areas worked in establishments that provided paid vacations. The major development since then has been the liberalization of vacation provisions. In 1976, 35 percent of the plantworkers were eligible for a vacation of 2 weeks or more after 1 year of service, up from 25 percent in 1968, according to data from the wage survey. Among officeworkers, the proportion eligible for 2 weeks or more vacation after that length of service increased from 78 to 82 percent.[31]

According to the household data, the average length of vacations received by workers in the United States in 1979 was slightly higher than in 1968, increasing from 1.9 to 2.0 weeks.[32] Length of service—the basis for vacation eligibility in the United States—declined from 3.8 years in 1968 to 3.6 years in 1978 as a result of the flow of youth and women into the labor force, together with a trend toward earlier retirement.[33] In 1978, the proportion of the employed with 1 year or less on the job was 27 percent, up from 25 percent in 1968.

The growth in annual vacation benefits apparently has not kept pace with workers' desires for vacation time. From 1968 to 1979, full-week vacations taken without pay rose as a percent of all full-week vacations from about 14 to 20 percent for men and from 34 to 39 percent for women, based on household data. The seasonal distribution of vacations has shifted in recent years. June, July, and August accounted for about 60 percent of all vacations in 1979, down from 70 percent a decade earlier. The number of vacations still tapered off toward winter, reaching the lowest point in January, then gradually increasing in the spring. (See table 4.)

Extended vacations, usually from 10 to 13 weeks taken at regular intervals (for example, every 5 years), supplement annual vacations for some long-service employees. Such vacations or "sabbaticals" were first used in higher education. About 5 percent of all major collective bargaining agreements in 1976 included provisions for extended vacations, with most of the covered workers employed in primary metals industries.[34]

The workyear

The growth in time off for vacations, holidays, personal and other types of leave may eventually require that worktime be measured in hours per year. Furthermore, average weekly hours are increasingly difficult to interpret as work schedules that vary in length from week to week without affecting total hours over a longer period become more prevalent. Flexitime systems that permit workers to bank extra hours in one week for use in another are but one new element in a mix of workweeks that already included full-time schedules, part-time schedules of several types, and part-year schedules.

Table 4. Number of vacation weeks, by seasonal distribution, 1968 and 1979

Item	1968	1979
Number of weeks, in millions	106.6	147.8
Average weeks of vacation per full-time worker	1.9	2.0
Percent distribution	100	100
January	2	3
February	2	4
March	2	4
April	3	4
May	4	4
June	13	13
July	30	26
August	27	23
September	7	6
October	4	5
November	3	4
December	3	3

NOTE: Detail may not add to totals due to rounding.

Limited data on annual hours are available. A Bureau of Labor Statistics survey of establishments, conducted to obtain data on work-related injuries and illnesses, indicates that annual worktime in 1977 for all workers averaged 1,735 hours in private nonagricultural industries and 1,914 hours in manufacturing.[35] Annual hours for those wage and salary employees who work full time, year round can be roughly estimated from household data, using usual weekly hours adjusted for vacations, holidays, and sick and personal leave, together with the number of weeks worked per year.[36] The result suggests that in 1977 the average full-time, year-round employee worked about 2,060 hours. Estimates for men averaged nearly 200 more hours than for women. However, male-female differences varied by age, increasing for consecutive age groups through the late thirties and early forties, then diminishing as the workweek remained constant for women and decreased for men. The United Auto Workers reports that scheduled hours per year for full-year workers in unionized automobile factories averaged 1,752 hours in 1979, a decrease of more than 6 percent from 1967 figures.[37]

Time worked can be viewed in an even broader perspective, that of years of work over the life span. In 1970, the estimated length of worklife, based on labor force participation rates by age, was about 40 years for men and a little more than half that for women. Estimated worklife a decade earlier, using the same methodology, was 1 year longer for men and 3 years shorter for women.

WORKTIME SINCE 1968 for wage and salary employees in the United States has declined slightly, because of shorter weekly schedules and more time off. Among the groups with larger than average reductions in weekly hours were men age 25 to 34 years, black men, and workers employed in service occupations, and in the retail trade and service industries. Changes in industry and occupational structure, in the composition of the labor force, as well as in Federal laws and collective bargaining agreements contributed to the gradual decline in worktime over the period. ☐

——*FOOTNOTES*——

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[1] The Current Population Survey is conducted by the Bureau of the Census for the Bureau of Labor Statistics, using a national sample of households, numbering about 56,000 in 1979. The primary question on hours worked is:

> How many hours did . . . work LAST WEEK at all jobs?

Household data on hours at work are supplemented with data from other surveys conducted by the Bureau of Labor Statistics. The best known of these is the Current Employment Survey (or the payroll series), a monthly survey of business firms conducted in cooperation with State Employment Security agencies. This survey's coverage in terms of hours is limited to production and nonsupervisory workers on private nonfarm payrolls. (For a detailed discussion of the differences between the household survey and the payroll series, see Richard M. Devens, Jr., "The average workweek: two surveys compared," *Monthly Labor Review*, July 1978, pp. 3–8.) Another source for data on workhours is the Area Wage Survey, which provides data on the average scheduled workweek in metropolitan areas. The scope and methods of this survey are described in *Area Wage Survey, Metropolitan Areas, United States and Regional Summaries, 1976*, Bulletin 1900–82 (Bureau of Labor Statistics, 1979), pp. 110–14. Although the level of hours reported from these several sources varies because of differences in concepts, coverage, and other details, the trends have been similar.

[2] Lionel Robbins, "On the Elasticity of Demand for Income in Terms of Effort," *Economica*, June 1930, pp. 123–29; H. G. Lewis, "Hours of Work and Hours of Leisure," *Proceedings of the Ninth Annual Meeting of the Industrial Relations Research Association*, 1956, pp. 196–206; and Franklee Gilbert and Ralph W. Pfouts, "A Theory of the Responsiveness of Hours of Work to Changes in the Wage Rate," *Review of Economics and Statistics*, May 1958, pp. 116–21.

[3] See Gary S. Becker, "A Theory of the Allocation of Time," *The Economic Journal*, September 1965, pp. 493–517, and Jacob Mincer, "Labor Force Participation of Married Women: A Study of Labor Supply," *Aspects of Labor Economics* (Princeton, N.J., Princeton University Press, 1962), pp. 63–97. For a discussion of schooling and hours worked, see Robert W. Bednarzik, *A Micro Model of Labor Supply for Part-time Workers Using Matched CPS Data*, Staff Paper 10 (Bureau of Labor Statistics, 1979), pp. 15–18, and Glen G. Cain and Howard W. Watts, "Toward a Summary and Synthesis of the Evidence," in Glen G. Cain and Howard W. Watts, eds., *Income Maintenance and Labor Supply* (Chicago, Rand McNally College Publishing Co., 1973), pp. 328–67.

[4] See John P. Robinson, *Changes in Americans' Use of Time: 1965–1975, A Progress Report* (Cleveland, Ohio, Communication Research Center, Cleveland State University, 1977).

[5] Becker, "A Theory of the Allocation," p. 512.

[6] Edward Kalachek, "Workers and the Hours Decision," *Work Time and Employment*, Special Report 28 (National Commission for Manpower Policy, 1978), p. 178.

[7] H. G. Lewis, "Economics of Time and Labor Supply," *American Economic Review*, May 1975, p. 29.

[8] Reuben Gronau, "Leisure, Home Production, and Work—The Theory of the Allocation of Time Revisited," *Journal of Political Economy*, 1977, pp. 1099–1123.

[9] This estimate is based on a methodology similar to that used by Peter Henle in "Recent Growth of Paid Leisure for U.S. Workers," *Monthly Labor Review*, March 1962, pp. 249–57 and by Geoffrey Moore and Janice Hedges in, "Trends in labor and leisure," *Monthly Labor Review*, February 1971, pp. 3–11. Essentially, the increase in output per hour over the period is translated into a potential reduction of annual hours, holding total output levels the same in each year. The 39 hours decrease in annual hours since 1968 is distributed as follows:

shorter workweek	25 hours
additional vacation	4 hours
additional holidays	10 hours

Henle suggested an alternative methodology, comparing the actual output in the last year of a period with the output that would have been produced given the productivity level in the first year in the period. This method involves comparing average annual hours in both years. He noted that either methodology resulted in essentially the same outcome for the period he was concerned with, 1940 to 1960. However, the changing labor force composition in the 1960's and 1970's has meant a reduction in average hours resulting not only from additional leisure but also from the increase in the relative importance of the part-time work force. For instance, women entering the labor force often obtain jobs which require shorter schedules than those of men.

[10] Fred Best, *Exchanging Earnings for Leisure: Findings of an Exploratory National Survey on Work Time Preferences* (Washington, National Commission for Employment Policy, 1978). The national sample consisted of 1,560 persons, representative of all workers age 17 years and older in the civilian population.

[11] Sherwin Rosen, "The Supply of Work Schedules and Employment," *Work Time and Employment*, Special Report 28 (Washington, National Commission for Manpower Policy, 1978), p. 171.

[12] John D. Owen, *Working Hours* (Lexington, Mass., D.C. Heath and Company, 1978), p. 48.

[13] For a discussion of these trends, see John D. Owen, *Price of Leisure* (Montreal, McGill-Queens' University Press, 1970), pp. 69–71.

[14] See John D. Owen, "Workweeks and leisure: an analysis of trends, 1948–75," *Monthly Labor Review*, August 1976, pp. 3–7, and Thomas J. Kniesner, "The Full-Time Workweek in the United States, 1900–1970," *Industrial and Labor Relations Review*, October 1976, pp. 3–15.

[15] The rise in the unemployment rate from 3.8 percent in May 1968 to 5.8 percent in May 1979 shows a general decline in the equilibrium of labor demand and supply. The relationship between unemployment and hours can be made clearer by considering those working part time for economic reasons. See, for example, Robert W. Bednarzik, "Involuntary part-time work: a cyclical analysis," *Monthly Labor Review*, September 1975, pp. 12–18. Involuntary part-time workers have increased from 2.1 percent of all wage and salary workers in May 1968 to 3.3 percent in May 1979.

[16] Canadian data are from *Employment, Earnings and Hours, July 1979* and *Man-Hours and Hourly Earnings, May 1968*, published by Statistics Canada. Data for Europe were prepared for this article by

the Office of Productivity and Technology, Bureau of Labor Statistics. They are not comparable among countries.

[17] In this report, the term black refers to blacks and others who identified themselves in the enumeration process as other than white. At the time of the 1970 Census of Population, 89 percent of the group were black; the remainder included American Indians, Alaskan natives, and Asian and Pacific Islanders.

[18] *Minimum Wage and Maximum Hours Standards Under the Fair Labor Standards Act,* an economic effects study submitted to the U.S. Congress (U.S. Department of Labor, Employment Standards Administration, 1978), pp. 55–56.

[19] *The Fair Labor Standards Act of 1938, as Amended* (U.S. Department of Labor, Employment Standards Administration, Wage and Hour Division), WH Publication 1318, revised August 1978, p. 18.

[20] *Collective Bargaining Agreements for Police and Firefighters,* Bulletin 1885 (Bureau of Labor Statistics, 1976), pp. 37–38.

[21] See *Characteristics of Major Collective Bargaining Agreements, July 1, 1976,* Bulletin 2013 (Bureau of Labor Statistics, 1979), table 4.

[22] Forthcoming Bureau of Labor Statistics study on long hours and premium pay in May 1979.

[23] *Employment and Earnings* (Bureau of Labor Statistics, March issues, 1968 to 1979), table C–2.

[24] Forthcoming Bureau of Labor Statistics study on multiple jobholding in May 1979.

[25] *Employee Compensation in the Private Nonfarm Economy, 1968,* Bulletin 1722 (Bureau of Labor Statistics, 1971), p. 40. Unpublished data for 1977.

[26] Daniel E. Taylor, "Absent workers and lost work hours, May 1978," *Monthly Labor Review,* August 1979, pp. 49–53.

[27] Taylor, "Absent workers . . ."

[28] See for example, Steve Allen, *Absenteeism and the Labor Market,* prepared under a grant from the U.S. Department of Labor, Employment and Training Administration, pp. 16–31.

[29] United Auto Workers publication, *Report on the UAW-General Motors 1979 Tentative Settlements,* Sept. 18, 1979.

[30] *Area Wage Survey,* pp. 100–01.

[31] *Area Wage Survey,* pp. 102–03.

[32] These estimates were calculated for full-time workers who responded to the following questions by stating they were on vacation:

What is the reason . . . worked less than 35 hours LAST WEEK?
Why was . . . absent from work LAST WEEK?

[33] Edward S. Sekscenski, "Job tenure declines as work force changes," *Monthly Labor Review,* December 1979, pp. 48–50.

[34] *Characteristics of Major Collective Bargaining Agreements, July 1, 1976,* table 5.5.

[35] Unpublished data. Annual hours *paid* per job in nonagricultural industries were reported as 1,903 in 1977, down from 1,981 in 1968. See Norman C. Saunders, "The U.S. economy to 1990: two projections for growth," *Monthly Labor Review,* December 1978, p. 36–46.

[36] The calculations of annual hours were based on tabulations prepared in conjunction with Bureau of Labor Statistics research on the work life of men and women. These data were adjusted to exclude estimated hours on vacation, holiday or other leave. Two weeks vacation, 7 holidays, and an absence rate of 2.3 percent of usual hours for illnesses and injuries and 1.2 percent for miscellaneous personal reasons were assumed per worker.

[37] Howard Young, "Jobs, Technology, and Hours of Labor: the Future of Work in the U.S.," a paper presented at hearings of the Joint Economic Committee's Special Study on Economic Change, June 14, 1978. Unpublished UAW data for 1979.

Better working conditions bring on shorter hours?

A number of explanations can be and have been offered for the leveling off in hours of work. Some argue simply that the achievement of an 8-hour day has so reduced the marginal gain from additional leisure as to make future reductions in hours unlikely. This view has some merit in a discussion of daily hours, but does not afford an explanation of the present interest in reducing hours by obtaining more days off per year.

Others believe that while the number of hours worked has shown little change, there has been a reduction in the intensity of work and an improvement in working conditions, reducing the demand for further cuts in hours scheduled. It is extremely difficult to make meaningful comparisons over time of the intensity of work, partly because the necessary data are not collected, partly because the nature of work demands has itself been influenced by technological change, so that less emphasis is now placed on the intensity of physical effort and more on responsible, dependable behavior. On the other hand, there is little doubt that there has been an improvement in working conditions, and that this has been an additional factor influencing the level of working hours.

—JOHN D. OWEN
Working Hours: An Economic Analysis,
(Lexington, Mass., D. C. Heath and Company, 1979), pp. 26–27

Moving to the sun: regional job growth, 1968 to 1978

In a decade, sunbelt economies grew fastest: favorable business climates and increased Federal contract dollars helped expand job opportunities that, along with environmental factors, created a large migration from the North

PHILIP L. RONES

Interregional migration has been one of the dominant forces associated with economic progress in the United States. At the heart of the great interregional migrations in this country has always been the search for economic advantage. This was true whether the search was made by the family moving to Ohio to farm in the 1800's, the entrepreneur leaving New York to drill for oil in Texas in 1900, or the children of poor blacks who left the South to work in northern factories during the 1940's.

The most recent major population shift also has had the search for financial reward as its principal catalyst and sustainer. But the causes and repercussions of the movement towards the sun—from the "industrial heartland" of the North to the South and West—go beyond economics. Many have moved for reasons that traditional human capital theory does not explain: for "quality of life" reasons. And the growth and development of the sunbelt States has both created and been nurtured by a shift in regional political power.[1] The net result of these factors—economic, sociological, and political—has been a population and employment boom in the South and West, largely at the expense of the North Central and Northeast regions.

This article has two main objectives. The first is to present data from the Current Population Survey (CPS) on industry employment growth by region over the past decade. These data, in conjunction with those from other sources, will be utilized to demonstrate both the change in industrial makeup of the national economy during this period and the regional patterns of industrial growth and decline. The second objective is to briefly examine the factors which have led to the industrial expansion of both the South and West and the relative decline in the North, including those factors which affect the location of business firms, individuals, and families.

Tracking the flows

The CPS is a sample survey conducted monthly by the Bureau of the Census for the Bureau of Labor Statistics, consisting of approximately 56,000[2] households nationwide. In 1978, these households represented 614 areas in 1,113 counties and independent cities, with coverage in all 50 States and the District of Columbia. One advantage of using CPS data is that coverage is not restricted to certain industries or types of employees. Labor force data are collected for all persons age 16 and over, and each employed person is counted only once—in the principal job. The CPS data are adjusted to take account of birth, death, and migration estimates each year and are benchmarked to census data.

The years chosen for this analysis, 1968 and 1978, were at or near the peak of their respective business cycles. These years were selected in order to reduce, as much as possible, the effect of cyclical fluctuations on industry employment patterns, as well as to emphasize a relatively short period of time. Also, 1968 closely corresponds to the start of net immigration to the South.

Industry employment. Trends in industry employment for the Nation as a whole have been fairly well documented. Table 1 shows the proportion of total employment attributable to each major industry group in 1968 and 1978. Not unexpectedly, the big losers were agriculture, where almost half a million jobs were lost, and manufacturing, which added only 700,000 during a period when employment grew by almost 20 million. Indus-

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Table 1. Distribution of employment by major industry, 1968 and 1978 annual averages

Employment	1968	1978
Total (in thousands)	75,926	84,373
Percent	100.0	100.0
Agriculture	5.0	3.5
Nonagricultural wage and salary	87.6	89.3
Private household	2.5	1.4
Government	15.3	16.2
Other private	69.8	71.6
Mining	.7	.9
Construction	4.4	4.6
Manufacturing	26.8	22.3
Durable goods	15.8	13.0
Nondurable goods	11.0	9.0
Transportation and public utilities	5.6	5.4
Trade	16.1	18.2
Wholesale	3.1	3.6
Retail	13.0	14.6
Finance, insurance, and real estate	4.3	5.2
Services	11.9	15.1
Self-employed	6.7	6.7

tries with the fastest rates of growth were all outside of the goods-producing sector. Services experienced by far the most impressive rate of growth—from 12 percent of total employment to 15 percent. Medical and hospital services led the performance of this industry group, almost doubling its proportion of total employment. Other service industries also posted very strong gains, most notably "other" professional, business and repair, and entertainment and recreational services. Wholesale and retail trade, finance, insurance and real estate, and government all posted relative employment gains, with the last concentrated in State and local jurisdictions.

Regional movements. Table 2 shows the states that make up the four major census regions and their divisions. All regions experienced absolute employment gains over the decade. But, as shown in table 3, the Northeast region experienced a large decline in its share of total employment, from 25 to 22 percent, reflecting relative reductions in virtually all of the major industry groups. The North Central region also experienced relative job losses; the South and West posted strong gains in overall employment as well as in most industries.

In the two regions where the employment share fell, the largest loss occurred in areas most dependent on manufacturing—the Middle Atlantic and the East North Central divisions. (See table 4.) Employment in New England, which is only about a fourth of the Northeast total, also declined relative to the rest of the Nation, but at a much slower rate than in the Middle Atlantic area; the less densely populated West North Central division showed a relative rise in employment.

The West exhibited a similar pattern, as the sparsely populated Mountain States had employment gains almost twice those of the Pacific States. In the South, the big gainer was the West South Central division, which includes Texas, Oklahoma, Arkansas, and Louisiana.

Thus, when interpreting data for the four major regions, it should be recognized that the experience of some subregions (divisions) was often much better or much worse than regional totals indicated. Despite this limitation, regional totals are used because they provide a more statistically reliable measure of significant industry employment trends.

Growth factors. Regional employment growth for each industry can be divided into several components. One approach sometimes used in regional analysis is the shift and share technique, which evaluates regional growth based on three factors—national share, industry mix, and regional share.[3] National share indicates an industry's expected regional growth based on its national growth rate. The industry mix component shows the amount of regional employment growth attributable to an above or below average proportion of fast growth industries. Regional share indicates whether an industry in a particular region is growing at a faster or slower rate than the industry nationwide, thus indicating some comparative regional advantage or disadvantage in that industry. The industry mix and regional share components can reinforce each other, when a region benefits from both a positive industry mix—higher than average representation of fast-growing industries—and faster than average industry growth. However, these factors

Table 2. Regions and geographic divisions of the United States

Northeast

New England
- Connecticut
- Maine
- New Hampshire
- Rhode Island
- Vermont

Middle Atlantic
- New Jersey
- New York
- Pennsylvania

North Central

East North Central
- Illinois
- Indiana
- Michigan
- Ohio
- Wisconsin

West North Central
- Iowa
- Kansas
- Minnesota
- Missouri
- Nebraska
- North Dakota
- South Dakota

South

South Atlantic
- Delaware
- District of Columbia
- Florida
- Georgia
- Maryland
- North Carolina
- South Carolina
- Virginia
- West Virginia

East South Central
- Alabama
- Kentucky
- Mississippi
- Tennessee

West South Central
- Arkansas
- Louisiana
- Oklahoma
- Texas

West

Mountain
- Arizona
- Colorado
- Idaho
- Montana
- Nevada
- New Mexico
- Utah
- Wyoming

Pacific
- Alaska
- California
- Hawaii
- Oregon
- Washington

can also counteract each other, such as when a region has a growing share of an industry with a below average growth rate. Discussion of interregional employment changes in this article involves primarily the regional share component—that is, the effects of a competitive advantage of one region over another.

CPS data can be used to examine regional shifts in the major industry groups. Manufacturing may be the best industry to examine, not because its regional shifts were the most dramatic (indeed, growth rates of several other industry groups in the South and West were more so), but because manufacturing is most often associated with the shift in economic growth from the North to the South.

Nationwide, manufacturing employment grew by less than 700,000 from 1968 to 1978. To put that number in perspective, had manufacturing employment grown at the same rate as all other private, nonagricultural wage and salary employment during that period, the gain would have been almost 5 million. Although factory employment increased in the South and West by more than 900,000 and 300,000, respectively, it declined in the Northeast by almost 800,000. A gain of 200,000 in the North Central region reflected growth in the historically less industrialized States west of the Mississippi River.

One important difference among the four regions is the nature of manufacturing employment. The West, for example, had twice as many workers in durable goods as it had in nondurable goods industries; durables also had a 70-percent employment edge in the North Central region. The South, conversely, had slightly more workers in nondurable goods industries.

Table 4. Total employment by census region and division, annual averages 1968 and 1978

Region	1968 employment	1978 employment	Percent change
Total	75,976	94,373	24.3
Northeast:	8,943	20,961	10.7
New England	4,802	5,589	16.4
Middle Atlantic	14,141	15,372	8.7
North Central:	21,926	26,044	18.8
East North Central	15,750	18,175	15.4
West North Central	6,176	7,869	27.4
South:	22,547	29,892	32.6
South Atlantic	11,349	14,942	31.7
East South Central	4,581	5,671	23.8
West South Central	6,616	9,278	40.2
West:	12,510	17,476	39.7
Mountain	2,789	4,403	57.9
Pacific	9,721	13,073	34.5

Employment Structure. Factory employment in the South has been dominated by low-wage, relatively labor intensive industries. Data from the BLS establishment survey indicate that although 34 percent of factory employment in the South in 1978 was in industries with hourly earnings below the national average for all production or nonsupervisory workers on nonfarm payrolls ($5.69), only 21 percent of the factory workers in the rest of the Nation were in these industries.[4] Correspondingly, 51 percent of manufacturing employees nationwide were in industries with average wages above $6.50 an hour, but only 32 percent of those in the South were so employed. In durable goods, the South had the smallest percentage of industry employment in those industries which have the highest average hourly wage—primary metals, transportation equipment, machinery, and fabricated metals. Those durable goods industries with high employment concentrations in the South—lumber and furniture, for example—are relatively low-paying industries. (However, the South was well represented in several high-paying nondurable goods industries—the chemical industry and relatively small petroleum industries.)

Table 3. Distribution of industry employment by region, 1968 and 1978 annual averages
[In percent]

Employment	Northeast		North Central		South		West	
	1968	1978	1968	1978	1968	1978	1968	1978
Total	24.9	22.2	28.9	27.6	29.7	31.7	16.5	18.5
Agriculture	7.7	8.6	38.7	37.2	36.9	34.8	15.6	19.4
Nonagricultural wage and salary	26.2	22.7	28.5	27.2	29.0	31.6	16.3	18.5
Private household	16.5	18.0	23.6	25.1	44.1	40.0	15.7	16.9
Government	23.0	21.6	24.2	25.0	32.8	34.2	20.1	19.7
Other private	27.2	23.4	29.6	28.2	27.7	30.6	15.5	17.8
Mining	12.6	10.1	16.7	15.3	51.6	56.6	19.1	18.0
Construction	22.1	16.1	26.8	25.3	35.3	38.7	15.8	20.0
Manufacturing	29.8	25.1	32.4	32.3	25.1	28.8	12.7	13.8
Durable goods	28.7	25.3	37.4	36.6	19.2	22.8	14.7	15.3
Nondurable goods	31.3	24.8	25.2	26.1	33.6	37.5	9.8	11.6
Transportation and public utilities	26.1	23.3	28.4	25.6	28.5	31.8	17.0	19.3
Trade	24.0	21.2	29.2	28.1	29.5	31.2	17.3	19.5
Wholesale	24.3	21.0	28.3	28.3	30.3	32.2	17.1	18.5
Retail	23.9	21.2	29.5	28.1	29.3	31.0	17.3	19.7
Finance, insurance, and real estate	31.0	26.4	25.5	24.0	25.9	29.6	17.5	20.6
Services	27.7	25.5	27.4	26.2	27.1	28.9	17.8	19.4
Self-employed	22.5	19.6	26.2	24.3	32.2	33.3	19.1	22.8

More than two-fifths of all nondurables employment in the South was in two industries—textiles and apparel—compared with only about 1 in 8 in those industries in the rest of the country. Textiles and apparel are traditionally low-paying industries; the combined average wage in 1978 was only slightly more than $4 an hour, compared with more that $5.70 for all other nondurables.

Climates for growth

Response of firms. The movement of firms from the industrial North to the sunbelt has been less important to regional employment growth than widely thought. Several studies have shown that, in the South, creation of new firms and expansion of existing firms tend to be the dominant causes of employment growth.[5] In the North, the closure of existing firms tends to be of primary importance.

Certainly many factors are considered in the decision to start, expand, or to relocate a firm in a particular region. In 1975, the Fantus Company, a locational consulting firm, assessed the business climate of the 48 contiguous States on the basis of 15 criteria. States with low taxes, low levels of public assistance, restrictive labor legislation, and a low level of government debt had low scores indicating more favorable environments.[6] The firm's lists of 12 "best" and "worst" States are provided below, along with a numerical score:

The Best	*Score*	*The Worst*	*Score*
Texas	192	New York	628
Alabama	210	California	581
Virginia	214	Massachusetts	547
South Dakota	230	Michigan	532
South Carolina	236	Delaware	520
North Carolina	239.5	Connecticut	516.5
Florida	244	Pennsylvania	506
Arkansas	248	Minnesota	505.5
Indiana	251	Oregon	499
Utah	279	Washington	495
North Dakota	286	Vermont	489
Mississippi	287	New Jersey	483

To test the Fantus criteria as a measure of business climate, Weinstein and Firestine compared the Fantus rankings with the change in manufacturing employment from 1970 to 1977.[7] This comparison supported the State rankings, with some exceptions. For instance, Indiana experienced a factory job decline despite a high ranking, and California and Oregon experienced strong gains despite allegedly unfavorable business climates.

The inclusion of the corporate tax components in the Fantus study is interesting. Although State and local governments use tax incentives as their primary inducement to attract industry, researchers have almost unanimously found corporate tax programs to have no significant impact on industrial location. Weinstein and Firestine, for instance, conclude that Southern States probably pay (in lost tax revenues) for relocations that would have occurred anyway.[8] Of much greater importance than special tax benefits are the supply and productivity of labor, proximity to markets, wage levels, and access to raw materials or transportation.[9] It should be kept in mind that these factors were not included in the Fantus study.

The Federal role. The allocation of Federal funds has been one of the most important factors contributing to economic development in both the South and West. Most notably, defense spending patterns over the last several decades have intensified the shift of both population and manufacturing out of the Northeast and North Central regions and into the South and West.[10] This can be seen most dramatically from data on military prime contract awards. From 1951 to 1976, the South increased its share of these awards from 11 to 25 percent of the national total; the West's increase was just as dramatic, from 16 to 31 percent. Allowing for population shifts, the percentage change in prime military contracts per capita for each region was as follows: Northeast (−29.5), North Central (−45.8), South (109.0), and West (32.1).[11]

These data reflect, to a large extent, changing defense requirements. Aerospace and other high technology industries have developed largely in California and in several areas of the South. The growing dependence on high technology industries for defense needs has led to the channeling of funds to these areas. Similarly, funds for the space program have gone largely to both the South and West: with program headquarters in Houston; the launching station in Cape Canaveral; the rocket center in Huntsville, Alabama; and the research arm in California. Research and development supported by defense and space program funds have led to many technological advances that have become commercially successful. Thus, the areas and firms that benefited from such Federal funds have become the manufacturing centers for products such as computers, calculators, semiconductors, scientific instruments, and many others.

Varied effect on industries. Considerable publicity has been focused on the transfer of manufacturing jobs out of the older industrial areas of the North and into the South and West. But if manufacturing employment were held constant, the relative job growth of the four regions would be affected only slightly. In general, manufacturing has been losing its dominance as an employer. Hence, although its relative demise is a key to the slow growth rate in the Northeast, manufacturing employment can only be seen as a relatively small part of the economic expansion of the South and West.

The activities of the service-producing sector are primarily concerned with local consumption. The rise of the trade and service industries in the South and West for instance, is largely the result of population shifts to these areas; changes in employment in retail trade, as one might expect, closely matches the regional shift in total employment. This relationship is shown in table 3.

Although construction is not a service, it, too, is an industry where demand is largely dependent on population pressures. It is, in fact, the industry that had the greatest relative decline in the Northeast and growth in the West; construction employment shifted less dramatically out of the North Central region and into the South. In both the South and West, expansion of the construction work force has resulted from rapid urban and suburban development, construction of interstate highways, as well as the need for industrial structures that accompanied growth in manufacturing.[12]

The concentration of finance, insurance, and real estate employment also shifted towards the growth regions at a faster rate than did total employment. The Northeast still had the largest concentration of major insurance companies in 1978. However, there was a substantial expansion of financial institutions in the developing areas during 1968–78 (as the demand for these services grew), and real estate, primarily a local activity, grew most where population and employment increased. Transportation and public utilities followed the same pattern. Employment in transportation depends on the need to move people and goods and, hence, responded immediately to the regional shifts in population and business activity; jobholding in public utilities had a similar predictable reaction to commercial and residential growth.

The response of workers

The factors that lead to an individual's decision to move to a new region certainly overlap with those that cause a business to either relocate or to expand in one area instead of another. Lower personal income taxes or good weather, for instance, might influence the decisions of both individuals and businesses to relocate. In fact, the two decisions are partly a function of each other; businesses may move to utilize a growing labor pool, and people may move to take advantage of new business opportunities. However, it may be useful to look at the relative employment growth in the South and West from the individual's (or family's) perspective, separate from the firm's perspective. The following discussion should be viewed as a summary only, borrowing from the extensive literature on interregional migration patterns.

As the rate of increase in total population (the excess of births over deaths) declined in recent years, interregional migration accounted for an increasing share of population change, particularly in the South. In fact, during 1970–75, net migration accounted for about half of the population gain in both the South and West. In the previous 5-year period, migration accounted for only about 12 percent of the population rise in the South; the West, on the other hand, experienced a strong immigration throughout the postwar period.[13] During 1968–78, the four major regions experienced the following net migration:[14] Northeast (–2,384,000); North Central (–2,034,000); South (2,655,000); and West (1,763,000).

The South was a net loser of more than 230,000 persons during the first year (March 1968 to March 1969). By the following year, the region posted a slight net gain and has posted strong migration gains ever since. (These data relate only to persons moving from one region to another. Immigration from other countries, which has been particularly important in the South and West, is not included in this analysis.)

Characteristics of migrants. On average, regional migrants (and migrants in general) tend to be better educated than the nonmigrants at both the place of origin and destination. Several hypotheses have been proposed to explain the relationship between migration and education:[15] persons in professional occupations respond to a geographically broader job market than do those in blue-collar and service occupations; educated persons are better at obtaining and processing job market information and, thus, are better able to deal with economic disequilibria; the effects of distance tend to decline with higher levels of education; and investment in occupation-specific training often precludes occupational mobility as a method of increasing income, making geographic mobility more attractive.

Using CPS data for men over age 25, Larry Long found a strong positive relationship between the level of education and migration rates for all age groups.[16] However, he also observed that migration rates tended to be higher at the lowest education levels (0–7 years) than in the middle levels (8–12 years), although not nearly as high as in those groups that included persons with at least some college. Although Long was reporting on interstate rather than interregional migrants, others have found a similar relationship for interregional migrants. Moreover, higher education appears correlated with a greater average distance of migration.[17]

The propensity of highly educated persons to migrate has most likely aided the fairly recent development of the high technology industries in the South and West. The ability to attract an adequate supply of skilled labor is often cited as the most important factor in the locational decision of a firm.

Age is another determinant of the propensity to move between States or regions. The highest rate of migration occurs at age 23, with rates steadily declining as persons age.[18] (The propensity to migrate appears *not* to increase among the oldest age groups, despite the increased mobility often associated with retirement.) When migration is seen solely as an economic decision, the relationship between age and migration becomes clearer. A younger person has more time to maximize the benefits of migration. The costs of moving (actual moving expenses, loss of seniority or pension coverage, and so on) become more difficult to recoup the older the person becomes. And, certainly, the younger person faces less cost in moving to begin with—he or she is less likely to have a family, accumulated possessions, and, of course, job-related costs. It is not coincidental, then, that the peak migration age corresponds closely to the usual age of graduation from college. The migration of the young, which often follows an investment in human capital, is generally governed by the search for employment and is constrained by the fewest number of costs, both economic and personal.

It is interesting to note that although educational attainment and age have been almost universally cited as critical determinants of migration, Julie DaVanzo, using person and family data from the University of Michigan's Study of Income Dynamics, found no correlation between these factors and migration when other factors (many of which vary with age and education) were held constant.[19] One possible explanation for this result might be that the data set included only persons who were married in both survey years, 1971 and 1972. The author pointed out that typically reported migration tendencies may reflect, in large part, persons who are not yet married.

Economics—the primary factor. Economic factors are the most critical to the migration decision. Certainly the differences in propensity to migrate based on age and education are strongly linked to economic considerations. Long and Kristen Hansen, using results from the 1974, 1975, and 1976 Annual Housing Surveys, found that 59 percent of all interstate migrants cited job-related factors as their major reason for moving, when only their major reason could be reported.[20] These job-related factors included job transfer, new job, looking for work, entering or leaving Armed Forces, and others. Although these results emphasize the importance of employment factors in the decision to move, they also demonstrate, as the authors note, that economic reasons fail to account for the movements of a sizable proportion of the population.[21] Table 5 shows the reasons given by persons moving to and from each of the four major regions. The link between migration for job reasons and net interregional migration (derived from top line) can easily be seen.

Data for the South show the clearest link between economic opportunity and migration during the past decade. One way to view economic development in the South, and, hence, the region's attractiveness to potential migrants, is by looking at changes in per capita income. In 1950, per capita income in the South was only three-fourths the national average. This differential reflected, more than any other factor, the relatively undeveloped nature of the South's economy in 1950, particularly its heavy emphasis on agriculture. In the last 3 decades, increased development resulted in an industry mix that is quite similar to that of the Nation as a whole. As a result, by 1975, per capita income in the South slightly exceeded the national average, although only Delaware, Maryland, and the District of Columbia had per capita incomes above the national average. (But these areas have had economies quite different than what has existed in the rest of the South.) Most Southern States had per capita incomes 50 to 70 percent of the national average in 1950, reaching 80 to 90 percent by 1975.[22] Moreover, regional differences in the cost of living (generally lower in the South) tend to equalize discrepancies in *real* per capita income.

Although regional income data serve as evidence of the narrowing gap in economic opportunity between the South and the Nation as a whole, the individual responds less to average income in a region or State than to specific job-market opportunities. DaVanzo found that families with heads who are looking for work were more likely to move than other families, supporting Long and Hansen's findings that job search factors are a key determinant of migration.[23] Of those looking for work, the unemployed were more likely to move than those who were employed. In fact, unemployment status was found to be the single largest determinant of migration (including interregional migration). Among those who moved, persons looking for work were more

Table 5. Persons moving to and from each region, 1973–76, according to reason for moving

Reasons for moving	Northeast		North Central		South		West	
	To	From	To	From	To	From	To	From
Number of migrants (in thousands)	1,058	1,829	1,935	2,400	3,254	2,407	2,106	1,718
Percent distribution	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Job transfer	31.0	25.6	26.4	23.8	25.6	30.2	27.9	28.5
New job or looking for work	23.7	20.0	26.5	24.4	20.8	22.1	20.3	22.6
Other employment reaso	2.1	1.9	3.0	3.1	3.8	2.6	2.0	4.5
Enter or leave Armed Forces	7.8	4.4	7.3	4.6	5.1	6.9	5.2	8.2
Attend school	3.8	4.7	5.6	2.1	2.1	4.9	4.4	3.1
Wanted change of climate	2.6	11.0	1.3	9.9	8.5	3.4	10.6	1.9
Retirement	2.5	3.9	1.9	4.4	4.1	3.1	4.4	2.3
To be closer to relatives	6.8	6.2	8.2	9.4	9.3	8.8	7.3	8.0
Other family reason	7.3	6.9	8.0	6.0	7.9	6.9	5.0	8.8
All other reasons	9.0	13.7	10.2	11.0	11.5	9.3	11.6	9.8
Not reported	3.5	1.9	1.7	1.2	1.4	1.7	1.5	2.2

SOURCE: Larry H. Long and Kristen A. Hansen, *Reasons for Interstate Migration, Current Population Reports*, Special Studies, Series P-23, No. 81 (U.S. Bureau of the Census, March 1979), p. 24.

[1] Data represent all three 12-month periods preceding the 1974, 1975, and 1976 Annual Housing Surveys.

likely to move greater distances than those not looking.

DaVanzo also attempted to assess the effects of unemployment rates at the place of origin and at the destination. Families with employed heads were found to be insensitive to the unemployment rate at the place of origin. When the family head was unemployed, then the unemployment rate at the place of origin and at the possible destinations influence the occurrence and destination of a move. Also, high levels of nonwage income tend to induce persons to stay, particularly the unemployed. Persons who migrated and were unable to find acceptable work tend to move again, often returning to their place of origin.

Various methods have been used to attempt to measure the financial returns to migration, including matching the migrants to persons with similar characteristics at the place of origin (if the person's origin wage rate or income is unknown) and at the destination. Greenwood warns, however, that financial returns attributable to migration can easily be overstated.[24] First, migration often involves a change in occupation. Thus, to attribute the increase in earnings to migration itself may be unreasonable. Also, migration frequently follows an investment in human capital; as indicated earlier, migrants tend to be relatively young and well educated. Thus, the measured income or wage differences may be attributable more to the investment in education than to migration. But the importance of financial considerations should not be minimized: three-fifths of migrants identify job factors as their main reason for moving, and some unidentified proportion of the rest are influenced, at least partly, by economic factors.[25]

Noneconomic factors. If almost 60 percent of interstate migrants cited job-related factors as their major reason for moving, then, of course, 2 out of 5 persons moved principally for noneconomic reasons. Note from table 6 that the Northeast was a net loser among family heads who moved because they were attending school, were retiring, wanted to be closer to relatives or for other family-related reasons, and because they wanted a change of climate.

Family considerations appear to be important to a sizable group of interregional migrants. Almost 2 out of 5 women who head households cited family factors as their primary reason for moving. Also, of interstate movers age 55 and over, one-third cited family reasons; 15 percent or less of the younger groups did so. Those moving for family reasons (whether females or males) were often return migrants. The South, which had a net outmigration until the late 1960's, most likely has received the largest share. In fact, it was the only region to have a net inflow of persons who cited family factors as their main reason for moving.

Climate is also an important noneconomic factor in the migration decision. Table 6 shows the results from a national sample survey conducted in 1973–74 by David Morgan and the National Opinion Research Center at the University of Chicago. These indicate that a much higher proportion of persons in the Northeast and North Central areas wanted to change their area of residence than those in the West and South.[26] And, as previously shown in table 5, the South and West have been net gainers among persons who move primarily because of a desire to change climate. Interestingly, in absolute numbers, more young persons (age 20–34) move for reasons of climate than do those age 55 and older.

Table 6. Proportion of persons desiring to live elsewhere with interregional migrants excluded, by census areas

Area	Percent indicating desire to live elsewhere
Middle Atlantic	30.8
East North Central	30.2
West North Central	29.2
New England	20.9
East South Central	17.1
West South Central	17.1
South Atlantic	14.0
Mountain	13.0
Pacific	12.8

NOTE: Data include all those wishing to live in another State.

SOURCE: David J. Morgan, *Patterns of Population Distribution: A Residential Preference Model and Its Dynamics.* (Chicago, University of Chicago, Department of Geography, 1976, p. 22.)

Long and Hansen propose that people are becoming increasingly able to assign a high priority to environmental quality in deciding where they live.[27] Some of the causal factors include smaller families and more single-person households and households comprising unrelated persons (large families and the presence of school-age children tend to impede migration).[28] Also, in some cases, wives who work outside the home—whose numbers are growing rapidly—may give their husbands greater flexibility to choose their place of residence according to criteria other than maximization of his income (although, certainly, a wife's career may impede other families from moving).

Summarizing the factors that influence the migration decision, it has been shown that:

1. Age and education (or, at least, factors associated with age and education) are critical determinants of the propensity to migrate;
2. The individual's employment status is of primary importance, and the job market conditions at the place of origin and at the destination may serve to "push" or "pull" persons, particularly the unemployed, into migrating;
3. The decision to migrate is a family decision, dependent on the current and potential income of both wife and husband; and
4. Individuals and families have become increasingly able to base their migration decisions on noneconomic factors—particularly, the search for a better living environment (of which climate is only a part).

Increasing economic opportunity in the sunbelt States, coupled with the perception that many of these areas can provide a better quality of life has resulted in a somewhat dramatic migration of both people and jobs from the North (particularly the most industrialized areas) to the South and West. BLS data document rapid employment growth among a broad range of industries in the sunbelt States during 1968–78, reflecting the diversity of both the firms and jobseekers attracted to these areas, as well as the variety of resources and other natural advantages that contribute to economic growth.

Changing patterns: altered policies

Regional growth and decline occur not only because of changes in comparative advantage between regions but also as a result of public policy, of which defense expenditures, mentioned earlier, are a primary example. Much of the regional impact of Federal policy, for example, results from programs and policies that are largely unrelated to regional development. Defense policies probably did more for recent economic growth in the West than did any other factor. Science and research policies also have resulted in providing economic advantage to selected regions. Federal welfare policy, energy policy, transportation and water resources policy, and virtually all Federal programs have definite regional impacts.

Thus, the migration of population and employment is much more than a demographic curiosity. With recent migration have come changes in the locus of both economic and political power, and a shift of concern from the future of the South to that of the North. The problem of urban decline in the northern industrial areas in the 1970's is just as compelling an issue as were the problems of poverty and economic backwardness in the rural South which have been a national concern throughout much of this century. To address adequately the regional imbalances in growth and development, policymakers must understand not only the economic, but also the personal or sociological factors that have resulted in this imbalance. ☐

FOOTNOTES

[1] For an in-depth study of the shift in political and economic power towards the sunbelt, see Kirkpatrick Sales, *Power Shift* (New York, Random House, 1975).

[2] The CPS sample in 1968 comprised only about 50,000 households.

[3] For an application of shift-share analysis, see M. F. Petrulis, *Regional Manufacturing Employment Growth Patterns*, U.S. Department of Agriculture, Rural Development Research Report No. 13, June 1979.

[4] Wage data are from the BLS survey of business establishments. National data are published regularly in *Employment and Earnings*.

[5] See C. L. Jusenius and L. C. Ledebur, *A Myth in the Making: Southern Economic Challenge and Northern Economic Decline*, Economic Development Administration, U.S. Department of Commerce, November 1976; and Peter Allaman and David L. Birch, "Components of Employment Change for States by Industry Group, 1970–72," Harvard University-Massachusetts Institute of Technology Joint Center for Urban Studies, Working Paper No. 5, Cambridge, Mass., September 1975.

[6] Illinois Manufacturers Association, *Comparative Business Climate Study* (Chicago, November 1975).

[7] Bernard L. Weinstein and Robert E. Firestine, *Regional Growth and Decline in the United States* (New York, Praeger Publishers, 1978), p. 137.

[8] *Ibid.*, p. 139.

[9] Factors affecting firms location decision are in F. F. Foltman, *Business Climate in New York State: Perception of Labor and Management Officials* (Ithica, N.Y., New York State School of Industrial and Labor Relations, March 1976). Responses were received from 318 firms (goods and service-producing) in New York State. Results from this study are also shown in Weinstein and Firestine, p. 138.

[10] For a discussion of the impact of defense spending on regional development and population movements, see: Sale, *Power Shift*, ch. 1., and Maureen McBreen, "Regional Trends in Federal Defense Expenditures: 1950–76," in *Patterns of Regional Change—The Changes, the Federal Role, and the Federal Response: Selected Essays* (Washington, D.C., Congressional Research Service, October 1977).

[11] McBreen, "Regional Trends," p. 515.

[12] William H. Miernyk, *The Changing Structure of the Southern Economy* (Research Triangle Park, N.C., Southern Growth Policies Board, January 1977), p. 10.

[13] *Population Estimates and Projections, Current Population Reports*, Series P-25, No. 640, Bureau of the Census, November 1976, p. 1.

[14] Migration data from the Bureau of the Census from 1975–78 include persons age 3 and older; 1970–75, age 5 and older; 1968–70, age 1 and older: *Current Population Reports*, Series P-20, Nos. 188, 193, 285, 331.

[15] Michael J. Greenwood, "Research on Internal Migration in the United States: A Survey," *Journal of Economic Literature*, June 1975, p. 406.

[16] Larry H. Long, "Migration Differentials by Education and Occupation: Trends and Variations," *Demography*, May 1973, p. 245.

[17] *Ibid.*

[18] Larry H. Long, "New Estimates of Migration Expectancy in the United States," *Journal of the American Statistical Association*, March 1973, pp. 37–43.

[19] Julie DaVanzo, *Why Families Move*, R & D Monograph 48, Employment and Training Administration, U.S. Department of Labor, 1977, pp. 76–79.

[20] Larry H. Long and Kristen A. Hansen, "Reasons for Interstate Migration," *Current Population Reports, Special Studies*, Series P-23, No. 81, Bureau of the Census, March 1979, pp. 5–6.

[21] *Ibid.*, p. 5.

[22] DaVanzo, *Why Families Move*, pp. 39–45.

[23] Barbara O. Maffei, "Regional and State Trends in Per Capita Income, 1970–75," *Patterns of Regional Change—The Changes, The Federal Role, and The Federal Response: Selected Essays* (Washington, D.C., Congressional Research Service, October 1977), pp. 215–25.

[24] Greenwood, "Research on Internal Migration," p. 402.

[25] Long and Hansen, "Interstate Migration," p. 6.

[26] David P. Morgan, *Patterns of Population Distribution: A Residential Preference Model and its Dynamic* (Chicago, University of Chicago Press, 1976), p. 22.

[27] Long and Hansen, "Interstate Migration," p. 28.

[28] Larry H. Long, "The Influence of Number and Ages of Children on Residential Mobility," *Demography*, August 1972, pp. 371–82.

Identifying States and areas prone to high and low unemployment

An analysis of employment and unemployment changes during the 1974–75 recession confirms that States and areas with heavy concentrations of manufacturing employment were more likely to have higher jobless rates; construction employment was also a factor

RICHARD ROSEN

Analysis of unemployment trends in specific States and metropolitan areas over the last business cycle confirms the generally acknowledged fact that the goods-producing sector—especially manufacturing and construction—are more adversely affected during a recession than the service-producing sector. Northeast and North Central industrial areas were hardest hit by the 1974–75 recession. Vacation and resort areas were also adversely affected by the economic slowdown, not only because of the decrease in construction activities, but because of changes in consumers' spending on discretionary items such as leisure. Smaller more agricultural States in the Western North Central region were affected to a much lesser extent, as were the Western States.

Researchers and analysts are debating whether the Nation is headed toward or is already in a recession. Their discussions focus on the movements of various key economic indicators, including the unemployment rate. While it is not possible to forecast which parts of the country would be hardest hit by an economic slowdown, a look at changes in unemployment rates during the last recession provides some insight about which States or areas could be affected most by rising unemployment.

This article examines monthly over-the-year changes in the unemployment rates of the 50 States from the first half of 1974 to the first half of 1975—the period with the largest increase in unemployment nationally in the last recession. It also looks at unemployment rates in some 200 metropolitan areas, representing about two-thirds of the Nation's labor force. Because the rates are not seasonally adjusted, over-the-year comparisons, which minimize the effect of seasonal fluctuations, are used.

National employment-unemployment changes

In the 1973–75 recession, the national unemployment rate peaked during the first half of 1975—averaging about 8.9 percent. From the first half of 1974 to the first half of 1975, it increased more than 3.5 percentage points, and total payroll employment declined by about 1.7 million. Virtually all the decrease in employment occurred in the goods-producing industries—primarily manufacturing and construction. The number of jobs in construction was lower by 610,000, and manufacturing employment dropped by more than 2 million. In contrast, the service-producing industries had a net gain of more than 850,000 jobs, as decreases in transportation, public utilities, and wholesale trade were more than offset by continued growth in retail trade, the finance, insurance, and real estate group, services, and in government.

Sharp declines in manufacturing employment have characterized almost all postwar recessions. Declines in construction also have occurred during most of the earlier slowdowns but generally were not as large as in 1974–75. The high interest rate structure which prevailed in the last recession was primarily responsible for this unusually sharp decline.[1] The 1974–75 downturn was the most severe in terms of employment losses since 1948, except for the 1957–58 decline. Although the 1957–58 drop in manufacturing was not as great as in the 1974–75 recession, service sector employment declined by 78,000 during 1958 while incresing by 874,000 in 1975. As a result, the net total employment loss was larger in the earlier recession than in 1974–75.

Total annual average payroll employment has declined 5 times in the postwar period—1949, 1954, 1958,

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1961, and 1975. An employment drop in durable goods manufacturing preceded the 1949 overall slowdown; reductions in nondurable goods occurred prior to the 1958 and 1975 recessions; and a drop in construction employment preceded the 1954, 1958, 1961, and 1975 recessions. Service employment growth has generally slowed during years when overall employment declined, but has declined only nce during the 1948–78 period. Employment in the mining industry displayed a downward trend from 1948 to 1971 until the energy crisis of the 1970's spurred a turnabout.

The impact of the recession is, of course, felt differently across the Nation. Because of the large role of manufacturing in previous recessions, areas with a relatively large share of manufacturing employment are more likely to experience higher unemployment rates than areas with relatively large service economies. Areas with substantial construction employment—often rapidly growing areas—may also experience more severe economic downturns. However, because construction employment generally accounts for less than 7.5 percent of State or area employment, major declines are necessary to substantially affect total employment. In contrast, manufacturing employment accounts for more than one-fourth of total employment in a majority of the States. During the 1974–75 recession, employment declines in manufacturing, along with construction in some areas, were major factors in the economic downturn, and States and areas with relatively large proportions of employment in manufacturing generally experienced the largest increases in unemployment rates.

Table 1. Characteristics of States prone to high and low unemployment, 1974–75

State	Average over-the-year change in unemployment rate, January–June 1974 to January–June 1975	Average unemployment rate, January–June 1975	Percent of 1974 nonagricultural employment in—	
			Construction	Manufacturing
United States	3.7	8.9	5.1	25.7
High unemployment-prone States:				
Arizona	5.7	12.1	7.8	15.1
Arkansas	5.7	10.6	5.8	31.8
Florida	5.6	10.7	9.6	13.1
Georgia	4.4	9.0	6.0	26.5
Indiana	4.0	9.5	4.4	36.3
Maine	4.8	11.3	5.3	29.1
Massachusetts	4.3	11.4	4.1	26.8
Michigan	7.1	13.9	3.8	34.0
Mississippi	4.5	8.8	6.2	31.0
New Hampshire	5.0	10.2	5.2	31.3
New Jersey	5.2	11.2	4.2	29.7
North Carolina	6.6	10.4	6.0	38.6
Ohio	4.8	9.5	4.1	34.0
Pennsylvania	3.9	8.7	4.4	32.4
Rhode Island	6.9	12.3	3.6	34.3
South Carolina	4.7	9.7	7.5	37.0
Tennessee	4.9	9.0	5.6	32.9
Low unemployment-prone States:				
Alabama	2.8	8.0	6.3	30.2
Alaska	−2.2	7.8	10.3	7.7
California	3.1	10.1	4.3	21.7
Colorado	3.0	7.0	6.4	14.3
Connecticut	2.7	8.8	4.3	34.1
Delaware	3.6	10.2	7.3	30.4
District of Columbia	1.2	7.1	3.8	2.9
Hawaii	−0.4	7.6	8.3	6.8
Idaho	1.4	7.1	6.0	18.0
Illinois	3.6	7.6	4.0	29.5
Iowa	2.0	4.4	4.8	24.9
Kansas	1.1	4.8	4.9	21.4
Kentucky	3.1	7.5	5.1	27.2
Louisiana	0.4	7.6	7.8	15.8
Maryland	2.5	7.0	7.1	17.0
Minnesota	1.8	6.4	4.4	23.0
Missouri	2.6	7.1	4.1	25.1
Montana	1.3	7.0	5.8	10.5
Nebraska	1.6	4.2	5.3	18.6
Nevada	2.9	10.4	6.1	4.8
New Mexico	2.6	10.7	7.2	8.2
New York	3.0	9.1	3.7	22.2
North Dakota	−0.4	4.3	6.6	7.8
Oklahoma	2.7	6.8	5.6	17.7
Oregon	3.6	11.3	4.7	23.5
South Dakota	1.3	4.2	5.4	10.1
Texas	1.7	5.6	6.9	19.1
Utah	1.8	6.8	5.6	16.2
Vermont	2.9	9.7	5.3	26.3
Virginia	3.2	7.1	7.4	22.3
Washington	1.8	9.5	4.8	21.2
West Virginia	2.4	6.1	5.5	23.1
Wisconsin	2.9	7.8	3.8	32.1
Wyoming	1.2	4.9	10.3	6.2

'Unemployment-prone' States

The national unemployment rate increased by an average of 3.7 percentage points from the first half of 1974 to the first half of 1975. The following changes in the unadjusted unemployment rates occurred during this period:

	Unemployment rate		*Percentage point change*
	1974	1975	
January	5.6	9.0	+3.4
February	5.7	9.1	+3.4
March	5.3	9.1	+3.8
April	4.8	8.6	+3.8
May	4.6	8.3	+3.7
June	5.8	9.1	+3.3

States with increases above the national average may be classified as "cyclically high unemployment prone" and States with increases below the national average can be classified as "cyclically low unemployment prone."[2] (See table 1.)

Only 17 States had above-average over-the-year unemployment rate increases, including 6 of the 10 largest States with over 5 million inhabitants—Florida, Massachusetts, Michigan, New Jersey, Ohio, and Pennsylvania. However, the two largest States—California and New York—had increases of 3.1 and 3.0 percentage points, somewhat below the national change. The primary reason so few States had above-average increases is that the changes are clustered in the largest States, which have the heaviest weight in the national average. In contrast, 15 States had increases of less than 2.0 percentage points, and only six States had increases of 5.5

percentage points or more. Of the 15 States with relatively small increases, eight had fewer than 1 million inhabitants; Texas was the only large State.

States where unemployment rose most sharply were concentrated in Northeastern and North Central industrial areas and in the South; Arizona was the only Western State with a substantial rise in unemployment. Fifteen of the 17 States with above-average rate increases also had an above-average proportion of jobs in manufacturing, compared with only 6 of the 34 States with below-average rate increases.

The proportion of total employment in the construction industry in each State varied much less than the share in manufacturing—between 3.8 and 10.3 percent, compared with 2.8 to 38.6 percent in manufacturing. In only seven States (Alaska, Louisiana, Wyoming, Arizona, Florida, North Carolina, and Hawaii) was construction more than 7.5 percent of total employment. Changes in construction activity in these States was a major factor in determining whether it was a high or low unemployment-prone State during the 1974–75 period.

High levels of construction activity aided the economies of Alaska, Louisiana, and Wyoming, bolstered by increased activities related to energy-construction of the oil pipeline in Alaska, mining in Wyoming, and oil and gas extraction in Louisiana. Major declines in construction employment adversely affected Arizona, Florida, and North Carolina. Construction in Arizona and Florida was primarily for vacation and retirement residences, activity especially sensitive to cyclical fluctuations and money market conditions. The first three States were classified as "low unemployment prone" during the period, while the latter three were classified as "high unemployment prone." Hawaii had a relatively modest drop in construction (6 percent) and was classified as low unemployment prone.

. . . and metropolitan areas

Although State unemployment rates may be useful in identifying broad regions of the Nation which are af-

Table 2. Characteristics of metropolitan areas prone to high unemployment, 1974–75

Area	Change in unemployment rate, January–June 1974 to January–June 1975	Average unemployment rate, January–June 1975	Percent of 1974 nonagricultural employment in—	
			Construction	Manufacturing
United States	3.7	8.9	5.1	25.7
Akron, Ohio	5.4	9.8	3.2	36.4
Allentown-Bethlehem-Easton, Pa.	4.8	7.9	4.7	45.0
Altoona, Pa.	4.7	10.2	4.6	28.9
Anderson, Ind.	5.7	12.7	[1] 2.1	[1] 50.1
Ann Arbor, Mich.	8.4	14.1	2.9	30.6
Asheville, N.C.	8.3	11.2	5.6	37.5
Atlanta, Ga.	4.7	9.1	6.2	16.4
Atlantic City, N.J.	5.7	14.0	5.2	15.2
Battle Creek, Mich.	6.7	13.0	2.7	40.7
Bay City, Mich.	7.5	15.3	3.7	30.2
Brockton, Mass.	4.2	11.5	3.8	25.7
Buffalo, N.Y.	3.7	10.3	3.7	31.1
Canton, Ohio	5.2	9.6	3.7	40.9
Charlotte-Gastonia, N.C.	6.9	9.3	6.6	50.3
Chattanooga, Tenn.	3.8	8.0	4.4	37.9
Cleveland, Ohio	3.8	7.9	3.7	32.7
Columbus, Ohio	3.7	7.7	4.7	22.8
Dayton, Ohio	3.8	8.9	4.0	33.8
Detroit, Mich.	6.7	13.0	3.5	35.1
Erie, Pa.	4.0	8.5	3.5	43.2
Eugene-Springfield, Oreg.	4.3	12.7	4.7	25.0
Fall River, Mass.	5.2	12.7	[1] 2.9	41.0
Fayetteville-Springdale, Ark.	4.6	9.6	5.2	34.0
Flint, Mich.	5.4	18.0	2.8	42.7
Ft. Lauderdale, Fla.	8.4	13.3	13.6	11.1
Ft. Smith, Ark.	6.9	11.6	4.7	38.2
Ft. Wayne, Ind.	6.9	10.9	4.3	38.3
Grand Rapids, Mich.	6.5	12.5	4.7	35.9
Greensboro-Winston-Salem-High Point, N.C.	5.4	8.5	5.2	41.7
Greenville-Spartanburg, S.C.	5.3	8.9	7.7	43.6
Harrisburg, Pa.	4.2	6.9	5.4	20.3
Jackson, Mich.	6.8	11.7	3.3	35.1
Jersey City, N.J.	6.3	14.5	1.9	35.7
Kalamazoo-Portage, Mich.	6.1	11.4	4.4	38.1
Lancaster, Pa.	4.0	7.2	5.7	42.2
Lansing-E. Lansing, Mich.	5.8	13.0	3.5	22.9
Little Rock-N. Little Rock, Ark.	4.6	7.6	6.6	20.4
Long Branch-Asbury Park, N.J.	4.6	10.4	5.1	17.1
Los Angeles-Long Beach, Calif.	3.7	10.1	3.4	26.8
Lowell, Mass.	5.1	12.4	4.4	36.3
Miami, Fla.	6.2	12.5	7.1	15.1
Muncie, Ind.	5.6	11.3	3.7	35.2
Muskegon-Norton Shores-Muskegon Heights, Mich.	7.8	15.2	3.8	41.3
New Bedford, Mass.	7.7	15.0	3.1	42.1
New Britian, Conn.	4.6	10.9	3.8	51.6
New Brunswick-Perth Amboy-Sayreville, N.J.	5.4	10.5	4.0	37.2
Newark, N.J.	5.1	11.1	3.9	29.5
Northeast-Pennsylvania, Pa.	5.6	11.5	5.2	34.4
Orlando, Fla.	6.3	11.4	10.7	12.6
Owensboro, Ky.	4.1	9.2	([2])	([2])
Patterson-Clifton-Passaic, N.J.	6.2	13.9	3.7	38.0
Philadelphia, Pa.	4.1	9.5	4.7	27.2
Phoenix, Ariz.	7.2	13.5	7.5	19.0
Providence, R.I.	7.0	12.3	3.7	37.6
Reading, Pa.	4.3	7.5	4.1	40.7
Saginaw, Mich.	5.9	13.0	3.2	40.5
Santa Rosa, Calif.	4.6	13.8	6.3	14.9
Springfield-Chicopee-Holyoke, Mass.	5.1	11.6	3.5	30.9
Syracuse, N.Y.	3.7	8.5	5.1	25.5
Tampa-St. Petersburg, Fla.	6.6	9.7	9.8	14.6
Toledo, Ohio	5.4	11.0	4.7	31.4
Trenton, N.J.	3.8	9.0	2.2	26.5
Tucson, Ariz.	3.9	6.5	8.3	8.7
Vineland-Millville-Bridgeton, N.J.	8.6	16.8	3.6	38.4
Waterbury, Conn.	4.5	10.7	3.5	44.1
West Palm Beach-Boca Raton, Fla.	6.5	12.0	11.9	13.7
Williamsport, Pa.	5.7	10.8	4.1	41.7
Wilmington, Del.	3.7	10.6	7.7	32.1
Worcester, Mass.	4.9	11.2	3.5	32.3
York, Pa.	5.5	8.8	5.4	43.7
Youngstown-Warren, Ohio	6.2	11.7	3.5	43.1

[1] Data are for 1975.

[2] Data not available.

NOTE: Data for metropolitan areas in four States—Illinois, Wisconsin, West Virginia, and New Hampshire—are not available.

fected by rising unemployment, a look at changes in unemployment at the area level can pinpoint, more directly, places where unemployment is most severe. Almost all metropolitan areas had over-the-year increases in unemployment during the first half of 1975; fewer than 5 percent experienced declines. (See table 2.) Data for metropolitan areas in four States, Illinois, Wisconsin, West Virginia and New Hampshire, are not available.[3]

About 1 of every 3 metropolitan areas for which data are available had over-the-year increases in their unemployment rate in excess of the national increase during the first half of 1975. Areas with the largest increases (5.0 percentage points or more) included the 11 metropolitan areas in Michigan, where auto production predominates; older industrial areas such as Lowell, Fall River, and New Bedford, Massachusetts, Providence, Rhode Island, York and the Northeast Pennsylvania area—where the recession may have accelerated an already declining economy—and resort and retirement areas such as Ft. Lauderdale, Miami, Orlando, and West Palm Beach, Florida, and Phoenix, Arizona.

The majority of the areas with large increases in unemployment had a heavy concentration of manufacturing employment. In many instances, employment declines occurred primarily in durable goods manufacturing industries such as motor vehicles, primary metals, and fabricated metals. These industries predominate in North Central metropolitan areas. In other cyclically high unemployment-prone areas, nondurable goods manufacturing suffered most, particularly textiles and apparel. This was the primary cause of higher unemployment in metropolitan areas of North Carolina and Pennsylvania and in Providence, Rhode Island.

Although many resort areas in Florida were severely affected by the recession, actual declines in service-related employment were slight. However, most of these areas had experienced large employment gains in service industries in the years prior to the recession, so that the relatively modest changes indicate a significant break in trend. Much greater declines occurred in construction employment, as many of these areas had experienced construction booms resulting from the purchases of retirement and vacation residences. Phoenix was also in this category. Declines in manufacturing, particularly in durable goods, also were a contributing factor in employment losses in both Miami and Orlando.

Forty-nine metropolitan areas had unemployment rate increases of 2.0 percentage points or less from the first half of 1974 to the first half of 1975—a relatively modest increase compared with the national average. (See table 3.) These cyclically low unemployment-prone areas were scattered among 21 States. All of the metropolitan areas in Washington and Louisiana were relatively less affected by the recession, as were 10 of the 12 areas in Texas. Virginia had three such areas, and Connecticut, California, Alabama, South Carolina, Nebraska, Kansas, and Montana had two areas each.[4]

These less unemployment-prone areas had a relatively low proportion of employment in manufacturing. Only 7 of the 49 areas had more than one-fourth of employment in manufacturing in 1974, the national average proportion. (In contrast, almost three-fourths of the high unemployment-prone areas had manufacturing employment above the national average.)

Changes during 1979

Compared with the first 6 months of 1978, the national unadjusted unemployment rate declined by 0.5

Table 3. Characteristics of metropolitan areas prone to low unemployment, 1974–75

Area	Change in unemployment rate, January–June 1974 to January–June 1975	Average unemployment rate, January–June 1975	Percent of 1974 nonagricultural employment in—	
			Construction	Manufacturing
Alexandria, La.	1.8	10.2	6.7	14.0
Amarillo, Tex.	0.4	3.6	7.0	11.1
Austin, Tex.	1.2	4.1	6.9	9.2
Baton Rouge, La.	0.0	6.5	12.3	14.8
Beaumont-Port Arthur-Orange, Tex.	0.8	6.7	8.7	32.6
Billings, Mont.	1.2	5.8	6.1	10.5
Birmingham, Ala.	1.5	6.4	6.6	23.7
Boise City, Idaho	0.7	5.6	7.7	10.1
Charleston-N. Charleston, S.C.	1.2	7.4	7.6	13.8
Columbia, S.C.	0.8	3.7	7.1	17.0
Corpus Christi, Tex.	1.0	6.3	9.0	12.3
Des Moines, Iowa	1.9	4.2	5.1	17.7
El Paso, Tex.	1.9	8.7	6.9	22.8
Galveston, Tex.	0.5	5.2	6.5	18.9
Great Falls, Mont.	0.9	6.8	5.6	6.4
Hartford, Conn.	1.7	7.2	4.0	26.5
Honolulu, Hawaii	–0.4	7.3	8.4	6.0
Houston, Tex.	0.7	4.0	10.0	18.0
Johnstown, Pa.	2.0	7.7	3.1	29.5
Lafayette, La.	–0.9	4.7	8.4	6.0
Lake Charles, La.	–1.3	8.0	10.7	22.2
Lexington-Fayette, Ky.	1.8	4.4	5.9	24.3
Lincoln, Nebr.	1.3	3.3	5.5	15.5
Lubbock, Tex.	1.1	4.2	5.8	15.3
Minneapolis-St. Paul, Minn.	1.8	5.5	4.2	24.7
Mobile, Ala.	1.0	6.4	7.7	21.8
Monroe, La.	1.7	8.7	9.1	16.7
New Orleans, La.	0.1	7.6	6.6	12.8
Norfolk-Virginia Beach-Portsmouth, Va.	2.0	6.6	8.0	11.7
Omaha, Nebr.	2.2	5.7	5.1	16.3
Oxnard-Simi Valley-Ventura, Calif.	2.0	9.1	3.9	15.5
Petersburgh-Colonial Heights-Hopewell, Va.	1.7	6.0	4.9	32.2
Poughkeepsie, N.Y.	1.9	5.0	3.9	34.4
Richmond, Va.	1.5	4.6	6.9	18.9
St. Joseph, Mo.	1.6	5.9	5.2	26.9
Salem, Ore.	1.6	10.7	5.2	18.7
Salt Lake City-Ogden, Utah	1.9	6.7	5.5	15.2
San Antonio, Tex.	2.0	7.0	7.2	12.5
Seattle-Everett, Wash.	2.0	8.8	4.1	23.0
Shreveport, La.	1.3	7.6	6.8	20.5
Sioux Falls, S.D.	1.7	4.1	5.1	16.2
Spokane, Wash.	0.8	9.9	5.2	13.7
Stamford, Conn.	0.9	6.3	3.9	32.5
Tacoma, Wash.	1.9	9.7	5.0	18.0
Topeka, Kans.	1.2	5.5	4.0	14.5
Vallejo-Fairfield-Napa, Calif.	1.3	7.4	4.2	10.0
Washington, D.C.	0.7	4.9	6.7	3.8
Wichita, Kans.	1.1	5.1	5.4	31.2
Wichita Falls, Tex.	1.1	4.4	5.9	15.7

Table 4. Metropolitan areas with over-the-year increases in unemployment rates, January–June 1978 to January–June 1979

Area	Change, January–June 1978 to January–June 1979	Change during previous recession[1]	Major industry group affected
Akron, Ohio	0.4	High	Nondurable, durable
Albuquerque, N.M.	0.1	Medium	Nondurable
Altoona, Pa.	1.1	High	Construction, nondurable, and public utilities
Anderson, Ind.	0.2	High	Nondurable, durable, construction
Ann Arbor, Mich.	0.2	High	(2)
Ashville, N.C.	0.1	High	Construction, nondurable
Bay City, Mich.	0.7	High	Nondurable, construction
Birmingham, Ala.	0.6	Low	Nondurable, construction
Boise City, Idaho	1.5	Low	Nondurable, construction, services
Cincinnati, Ohio	0.1	Medium	No declines
Columbus, Ga.	0.7	Medium	Nondurable
Columbus, Ohio	0.2	High	No declines
Dayton, Ohio	1.1	High	Durable
Detroit, Mich.	0.9	High	(2)
Erie, Pa.	0.6	High	Services
Eugene-Springfield, Oreg.	1.3	High	Nondurable, durable
Evansville, Ind.	0.5	Medium	Durable, construction
Fargo-Moorehead, N.D.	0.2	Medium	No declines
Flint, Mich.	0.6	High	(2)
Ft. Smith, Ark.	1.3	High	Durable
Grand Rapids, Mich.	0.6	High	(2)
Huntsville, Ala.	0.8	High	No declines
Jackson, Mich.	1.1	High	Construction
Kalamazoo-Portage, Mich.	0.4	High	(2)
Layfayette-West Layfayette, Ind.	0.3	Medium	Durable
Lansing-East Lansing, Mich.	0.1	High	(2)
Las Vegas, Nev.	0.2	High	No declines
Lewiston-Auburn, Maine	1.0	Medium	Nondurable
Long Branch-Asbury Park, N.J.	0.2	High	Nondurable
Mobile, Ala.	0.5	Low	Manufacturing[3]
Montgomery, Ala.	0.5	Medium	Nondurable
Muskegon-Norton Shores-Muskegon Heights, Mich.	0.9	High	Nondurable
Northeast Pennsylvania, Pa.	0.2	High	Construction, nondurable
Owensboro, Ky.	0.5	High	Nondurable
Parkersburg-Marietta, W.Va.	0.1	Medium	No declines
Patterson-Clifton, Passaic, N.J.	0.1	High	Wholesale and retail trade
Pensacola, Fla.	0.5	Medium	Nondurable
Portland, Maine	0.2	Medium	No declines
Portland, Oreg.	1.2	Medium	Nondurable
Saginaw, Mich.	1.2	High	(2)
Salem, Oreg.	0.8	Low	Durable, construction
Savannah, Ga.	0.2	Medium	Durable, construction, services
Sioux City, Iowa	1.3	Medium	Durable, construction, wholesale and retail trade
Sioux Falls, S.D.	0.3	Low	Wholesale and retail trade
South Bend, Ind.	0.1	Medium	No declines
Spokane, Wash.	0.7	Low	Construction
Toledo, Ohio	0.6	High	No declines
Topeka, Kans.	0.4	Low	No declines
Trenton, N.J.	0.2	High	Nondurable, durable
Williamsport, Pa.	0.5	High	No declines

[1] High denotes rate change in excess of the national increase (3.7 percentage points); medium denotes rate change between 2.1 and 3.7 points; low denotes a change of 2.0 points or less.

[2] Data not available since March 1979.

[3] Data are not available separately for durable and nondurable goods.

percentage points, from a 6.4- to 5.9-percent average for the first half of 1979. However, during this period, 50 metropolitan areas had over-the-year increases in unemployment rates. (See table 4.) More than one-half of these were cyclically high unemployment-prone areas during the last recession, while only about one-seventh were cyclically low unemployment-prone areas.

Nearly all of the areas experienced over-the-year employment declines in one or more industry sectors.[5] Reductions were about evenly divided between construction, durable goods, and nondurable goods.

The most prominent declines were in the industrial metropolitan areas of Michigan, Indiana, and Ohio, generally high unemployment-prone areas in the 1974–75 recession. Four areas in Pennsylvania and three in New Jersey also experienced increases in unemployment in 1979. These also were high unemployment-prone areas during 1974–75.

Areas less prone to increases in unemployment during the 1974–75 period but whose rate increased in 1979 include Birmingham and Mobile, Alabama; Boise City, Idaho; Salem, Oregon; Sioux Falls, South Dakota; Spokane, Washington; and Topeka, Kansas. In most of these areas, employment declined in nondurable goods and, in a few instances, in durable goods manufacturing; Salem also experienced construction declines.

Thus, changes in construction and manufacturing employment continue to influence the economies of many States and metropolitan areas. As the concentration of employment shifts geographically, States and areas which gain employment in cyclically-sensitive industries may increase their incidence of unemployment, while States and areas with broadening service economies may decrease their incidence of cyclical unemployment. ☐

FOOTNOTES

[1] The average yield of new FHA mortgages rose from 8.62 percent in the second half of 1973 to 8.92 percent in the first 6 months of 1974 and to 9.82 percent in the second half of 1974, before easing to 9.04 percent during the first half of 1975. *Economic Report of the President, 1976*, p. 239.

[2] Percentage point changes are used in this analysis because they are believed to be most comparable to the national average. If the percent change in the rate of unemployment were used, one State (Massachusetts) would be shifted from the high to low recession-prone category, and four States (Colorado, Illinois, Iowa, and Kentucky), would be shifted from the low to high recession-prone category.

[3] Nationally, the unemployment rate increased 2.9 percentage points on an annual basis from 1974 to 1975. The increase in Illinois was the same as the national increase; while the rise in New Hampshire was above average (3.6 percentage points), but the increases were below average in Wisconsin (2.4 percentage points) and in West Virginia (1.6 percentage points). It is, therefore, likely that many of the eight large metropolitan areas in Illinois, Manchester, New Hampshire, and some of the seven areas in Wisconsin experienced above-average increases in the rate of unemployment.

[4] The Washington, D.C. metropolitan area, which includes the Northern Virginia suburbs, also had a relatively small increase in unemployment.

[5] Industry employment data are not available for Michigan metropolitan areas since March 1979. However, the rise in unemployment rates in most of the Michigan area is clearly automobile-related.

Folding paperboard box industry shows slow rise in productivity

More efficient equipment and production techniques contributed to an increase in output per hour and a decline in work hours in 1963–78; the advance was smaller than for manufacturing as a whole

JAMES D. YORK

Productivity in the folding paperboard boxes industry has risen at nearly the same rate as for manufacturing generally. A major contributor was the introduction of more efficient equipment and production methods.

As measured by output per employee-hour, productivity in the industry increased at an average annual rate of 2.0 percent during 1963–78, compared with 2.2 percent for all manufacturing industries.[1] In this period, output rose at an average annual rate of 0.3 percent and employee-hours declined at an average annual rate of 1.7 percent. (See table 1.) Productivity gains have been boosted by advances in printing technology, widespread adoption of power equipment for finishing operations, and faster gluing machinery.

Long-term growth in the industry's productivity has not been steady and declined slightly during 1973–78. From 1963–69, output per employee-hour increased at an average annual rate of 2.1 percent. This period was characterized by rising output, and stable employment and work hours. Output increased at a rate of 2.1 percent while employee-hours showed no overall change. Declines in productivity occurred in 1965 and 1969. The decline of 5.2 percent in 1965 was offset by increased growth during the next two years. The productivity decline of 2.8 percent in 1969 was the result of a 6.2-percent increase in output, outpaced by a 9.3-percent increase in employee-hours. The largest increase in productivity occurred in 1967, when output fell 0.9 percent, but employee-hours fell 9.5 percent. The resulting increase in productivity was 9.5 percent. During 1969–76, productivity increased at a rate of 3.5 percent. The period was characterized by a slight dip in output and a rapid decline in hours. Output decreased at an average annual rate of 0.4 percent, while hours decreased at a rate of 3.8 percent. Competition from substitute packaging materials adversely affected the industry's market and encouraged efforts to achieve greater efficiency. Improved equipment, such as faster printing presses, permitted the industry's producers to maintain output, while reducing employment and work hours. Productivity increased in five years of this 7-year period. The 1970 decline of 7.2 percent was more than offset by the large gains of 9.2 and 8.4 percent that occurred during the next two years. A 0.4-percent decline occurred in 1975 (a recession year) when output fell 10.9 percent and work hours, 10.6 percent.

In 1977, productivity fell 5.1 percent; employee-hours had increased 6.9 percent but output rose only 1.4 percent. In an effort to work off a backlog of orders from the preceding year, and to ensure meeting customer demand, more employees were added during 1977. Anticipated demand did not materialize, however. Frequent changes in production runs, associated with order backlogs, led to reduced efficiency. In 1978, productivity continued to decline as an increase in employee-hours, 7.7 percent, outpaced the increase in output, 3.9 percent.

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Industry serves a broad market

Folding paperboard boxes are used to package a variety of consumer products, including beverages, cosmetics, and detergents. Because the range of products is great, the industry's market is strongly influenced by the entire economy, rather than by the sales of only a few products.

Competition from substitute packaging materials, such as plastic, has limited the growth of the markets for various types of folding paperboard boxes, contributing to the lack of long term growth over the 15-year period covered by the study.

The largest use of paperboard boxes is in packaging dry foods.[2] More box tonnage is used for this than for any other item. Dry food's share of the market for paperboard boxes has increased slightly, from 25 percent of tonnage shipped during 1963 to over 27 percent during 1978. Of the various dry foods packaged in paperboard boxes, cereals and pet foods have shown the most growth in recent years.

Beverage carriers and soap containers are two other important uses. Output of beverage carriers increased rapidly during 1963–68. During 1968–72, however, output declined. It began to increase again in 1973, and by 1978 the output of beverage carriers passed the peak reached 10 years earlier. Substitute packaging was probably a factor in the decline of 1968–72, as sales of malt beverages, and bottled and canned soft drinks increased rapidly. Shipments of soap cartons showed no discernible trend over the 1963–78 period.

Changing market conditions have dampened the demand for retail boxes during recent years. Many fast-food chains have introduced substitute packaging materials, such as styrofoam, which have cut into the container market.[3] Available data indicate that shipments of retail boxes (including laundry boxes) increased by 33 percent during 1971–74, after fluctuating somewhat in preceding years. Since 1974, however, shipments have resumed the irregular movements of earlier years.

The production of paperboard box containers for textile and candy products increased during 1963–68, but has been declining since. In contrast, the production of boxes for medicinal products nearly doubled over the 1963–78 period.

Table 1. Productivity and related indexes for the folding paperboard boxes industry, 1963–78

[1967 = 100]

Year	Output per employee-hour			Output	Employee-hours		
	All employees	Production workers	Nonproduction workers		All employees	Production workers	Nonproduction workers
1963 . .	93.6	93.0	96.8	96.8	103.4	104.1	100.0
1964 . .	95.7	94.9	99.3	97.1	101.5	102.3	97.8
1965 . .	90.7	90.1	93.4	95.5	105.3	106.0	102.2
1966 . .	91.3	90.7	94.2	100.8	110.5	111.2	107.1
1967 . .	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1968 . .	105.9	104.7	111.5	104.1	98.3	99.4	93.4
1969 . .	103.0	101.7	109.4	110.6	107.4	108.8	101.1
1970 . .	95.5	95.3	96.3	91.6	95.9	96.1	95.1
1971 . .	104.3	104.9	101.7	92.2	88.4	87.9	90.7
1972 . .	113.1	113.1	113.0	101.9	90.1	90.1	90.2
1973 . .	114.1	114.0	114.5	102.0	89.4	89.5	89.1
1974 . .	120.4	121.8	114.8	102.3	85.0	84.0	89.1
1975 . .	119.9	122.8	108.2	91.1	76.0	74.2	84.2
1976 . .	124.4	126.1	117.6	101.5	81.6	80.5	86.3
1977 . .	118.0	119.0	114.1	102.9	87.2	86.5	90.2
1978 . .	113.8	113.8	113.7	106.9	93.9	93.9	94.0
	Average annual rates of change (in percent)						
1963–78	2.0	2.2	1.4	0.3	–1.7	–1.9	–1.1
1973–78	–.1	–.1	.1	1.0	1.1	1.2	.9

Employment declines

Total employment in the folding paperboard box industry declined 8.4 percent between 1963 and 1978, an average of 1.5 percent per year. In 1963, there were 51,300 employees, but by 1978 there were only 47,000. Industry employment, however, did not decline steadily. During 1963–69, total employment fluctuated, but there was no downward trend. The two largest movements were a 9.2-percent decrease in 1968 and a 10-percent increase in 1969. During 1969–78 there was a significant downward trend. Employment declined 12.1 percent, equivalent to an average annual rate of 1.8 percent. The two largest decreases occurred in 1970 and 1975, periods of strong cyclical contraction. The 1970 decline was nearly 9 percent, and in 1975, more than 11 percent. Conversely, employment rose in 1972 and 1976 as a result of increased economic activity. Employment continued to grow during 1977 and 1978.

The number of production workers fell more rapidly from 1963–78 than did the number of nonproduction workers. The average annual rate of decline for production workers was 1.6 percent, compared to a rate of 1.1 percent for nonproduction workers. The many technological advances in production equipment appear to have contributed to the more rapid decline in the number of production workers.

Average hourly earnings have risen steadily since 1972, the first year for which such data are available. From 1972 to 1978, average hourly earnings rose 65 percent, from $3.70 to $6.09. In terms of both absolute levels and trends, the average hourly earnings for the period closely paralleled those for all manufacturing.

Improvements in technology

The traditional method of producing folding paperboard boxes consists of several stages. Paperboard, in the form of a roll, is fed to a sheeter which cuts the roll into discrete sheets. These sheets are fed through a press which performs the desired printing. After printing, the paperboard passes to the cutter and creaser, which cuts out the carton blanks and puts creases at points where the carton is to be folded. The cut and creased cartons, which are still held in the paperboard sheets by small connections left by the cutting blades, proceed to the finishing operation. At this stage, the scrap is removed by a process known as stripping. This is the last step in producing many types of folding cartons, which are then ready for delivery to the user. Other types are glued together before being shipped.

Improvements have been made in all stages of the production process. For longer production runs, many plants now bypass the sheeter altogether and feed the paperboard sheet directly to the printing press, speeding production. This means increased efficiency for long production runs, when setup time is unimportant. In shorter runs, however, setup time is an important consideration because these operations require more frequent changes in the production line. Consequently, sheeters continue to be used for runs of shorter length; their brief setup time requirements more than offset their lack of production speed.

Significant changes have taken place in printing. The offset lithography process has supplanted the older, letterpress process throughout much of the industry. Lithography is based on the principle that oil and water do not mix. Image and non-image areas on lithographic plates are separated by chemical means, rather than by a height differential, as in the letterpress method. In addition, the letterpress plates make direct contact with the paperboard, often requiring an exacting preparation to compensate for height irregularities in the image carriers. Much less preparation is needed for lithographic plates, however, because they lack significant height differentials, and make contact with a resilient rubber blanket rather than the actual paperboard.[4]

Another change in printing is the greater use of presses which apply many colors in a single pass, eliminating the need for multiple passes.

Faster drying inks and ink-drying equipment have become available, eliminating the long production delays associated with older, slower drying inks.[5] Newly developed ultraviolet inks, for example, dry almost instantly when exposed to ultraviolet light, permitting the paperboard to pass quickly to the cutting and creasing process.[6] With conventional inks, the printed paperboard often had to be held for hours or days before being cut and creased.

Some manufacturers are now purchasing inks in premixed form, eliminating the hours otherwise required to mix the inks at the plant.

Part of the problem in maintaining color uniformity in production runs stems from the need to control the thickness of the ink layer, which is applied to the carton. In an effort to insure effective control of the applied ink layer, some manufacturers have adopted computerized color control systems, which enable the ink application specifications for a certain production run to be dialed at a central control console.[7] The ink fountains on the press are then automatically adjusted to apply the ink layer at the proper thickness. By re-entering the same specifications at the console, reprints can be easily produced. This system greatly reduces the amount of adjustment work required to control the thickness of the ink.

After printing, the paperboard is cut and creased. Platen cutters are now available which perform this operation faster than cylinder cutters. Afterward, the scrap must be removed from the cartons. Platen cutters remove some and reduce the amount of finishing required. Some new platen cutters can remove all of the scrap on certain jobs, eliminating the need for a separate finishing operation. Power hammers have greatly improved the efficiency of the stripping process, when used in separate finishing operations, after cutting and creasing is complete.

Many of these operations can be performed in a continuous process, rather than in separate stages. Gravure presses make such continuous processing possible. Although not economical for short-runs, gravure equipment provides great economies in very large-scale production. The gravure press is web fed, and the entire carton-making process, printing, cutting, creasing, and stripping is carried out in one continuous, on-line operation.

As the length of production runs increases to meet the needs of large customers, many producers have adopted the gravure presses, for greater efficiency. Large runs are required to justify their adoption, however, because of the time and expense involved with the setup work.

After the scrap has been stripped away, many types of cartons are ready for shipment, but others must first pass through a gluing operation. There have been many improvements in glues and gluing equipment. Some new glues dry quicker. Greater drying speed and faster gluing equipment have resulted in speedier production.[8] Mechanical feeders have been adopted which increase the rate at which the glue machines can be fed. Their benefits have been largely confined to long runs, however, due to the setup time they require. The adoption of automatic quality control equipment for use on the gluing line has also contributed to increased production speed. The equipment can inspect cartons and reject the faulty ones much more quickly than can human inspectors.

The final step in the production operation involves putting the finished cartons into containers for shipment. Many producers have adopted automatic machinery for this task, resulting in greater speed and reduced labor time. Once packed in shipping containers, the boxes are transferred to storage or shipping areas. Various types of materials handling equipment have facilitated this task. Automatic conveyor systems can transfer the packed containers to the warehouse in predetermined group sizes for easier palletizing.[9] Fork trucks then handle the palletized containers.

Continued gains likely

Productivity should continue to increase as improved production equipment is adopted by more manufacturers. The trend toward faster printing presses is likely to continue. Ultraviolet ink printing, which eliminates the lag in drying time, can be expected to become more popular as the technology is improved and more producers find it affordable.

Faster equipment for cutting and creasing, and gluing operations has increased productivity and should contribute to future improvements. Further improvements in quality control equipment may speed production. A number of manufacturers with long production runs have found it economical to adopt the more efficient gravure presses, continued adoption of which appears likely and should add to overall efficiency in the industry.

Computer technology will also contribute to future gains in productivity. Computerized control of ink application has already been adopted by some manufacturers and will likely spread. Computers can also be applied to the process of making dies for the cutting and creasing process. New applications for computers should, in time, aid further advances in productivity.[10]

Another operation which may become more efficient in the future is warehousing. The technology for automated warehousing already exists but represents an expensive investment. However, the gains which might be realized could induce producers to use it.

Continued competition from substitute packaging materials should be an incentive for producers to reduce costs, resulting in widespread adoption of the best available technologies, and the development of improved production equipment.

Measurement techniques and limitations

The productivity indexes in this study measure the change over time in industry output per unit of labor input. These indexes do not measure the specific contribution of labor, but reflect the influence of many factors, such as changes in technology, capital investment, capacity utilization, and the skill and effort of the work force.

The preferred output index for manufacturing industries would be obtained from data on quantities of the various goods produced by the industry, each weighted (multiplied) by the employee-hours required to produce one unit of each good in some specified base period. Thus, those goods which require more labor time to produce would be given more importance in the index.

The annual output index for the folding paperboard box industry is based on quantity data published by the Paperboard Packaging Council in the annual issues of the *Marketing Guide.* Because unit labor weights are not available at the detailed product level, substitute unit value weights, assumed to be proportional to unit employee-hour weights, have been used to combine the products. The annual output indexes have been adjusted to levels based on data reported in the *Census of Manufacturers.* The most current adjustments presented in this study reflect data from the 1972 economic census.

Employment and employee-hour indexes were derived from data published by the Bureau of the Census. Employees and employee-hours are each considered homogeneous and additive, and thus, do not reflect changes in the qualitative aspects of labor, such as skill and experience. A technical note describing the methods used to develop the indexes is available from the Division of Industry Productivity Studies, Bureau of Labor Statistics. ☐

FOOTNOTES

[1] The folding paperboard box industry is composed of establishments primarily engaged in manufacturing folding paperboard boxes from purchased paperboard. It is designated as industry 2651 in the 1972 Standard Industrial Classification (SIC) Manual. All average annual rates of change are based on the linear least squares trend of the logarithms of the index numbers. Extension of the indexes will appear in the annual BLS Bulletin, *Productivity Indexes for Selected Industries.*

[2] Based on data from the Paperboard Packaging Council.

[3] *Marketing Guide,* Paperboard Packaging Council, 1976, p. 2.

[4] See *The Folding Carton,* Paperboard Packaging Council, 1975, pp. 30–31.

[5] See "Prospects for Radiation Cured Inks are Best in Paperboard Packaging," *Paperboard Packaging,* May 1974, pp. 20–26. Also, see "First U.S. Installation of Dutch Infrared System Speeds Printing of High-Quality Drug Cartons," *Paperboard Packaging,* February 1978, pp. 66, 67.

[6] *The Folding Carton,* p. 33.

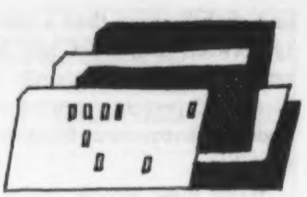
[7] Ibid., p. 34.

[8] See "Tripling ot Speed, Increase in Design Versatility Made Possible with Straight-Line Gluer," *Paperboard Packaging,* February 1978, pp. 62–65.

[9] See "Production Rolling at Container's Newest, Biggest Carton Plant," *Paperboard Packaging,* January 1964, p. 58.

[10] See "Computer-Aided Package Design Yields Major Savings in Distribution Costs," *Paperboard Packaging,* September 1978, pp. 85–87.

Research Summaries



Conflicts between work and family life

JOSEPH H. PLECK, GRAHAM L. STAINES, AND LINDA LANG

How prevalent is the conflict between work and family life in the general population of workers? What forms does it take? What working conditions exacerbate it? For the first time, the Quality of Employment Survey, conducted for the U.S. Department of Labor by the Survey Research Center at the University of Michigan, provides some data on the extent to which work interferes with family life.[1]

The survey results suggest that a substantial minority of workers living in families experienced conflict between work and family life. These conflicts most often concerned excessive work time, schedules, and fatigue and irritability caused by work. Parents reported more conflict than other couples, but, surprisingly, women did not report more conflict than men although the kinds of conflicts reported by the two sexes differed. Specific working conditions, such as excessive hours at work, scheduling, and physically or psychologically demanding work were associated with experiencing work-family conflict, which, in turn, was related to diminished job satisfaction, and contentment with life in general.

Prevalence and types of interferences

Workers in the survey[2] who were currently married or living with a child under 18 were asked: "How much do your job and your family life interfere with each other—a lot, somewhat, not too much, or not at all?" Table 1 shows the responses of various groups of workers. More than 10 percent of the entire sample said that work-family conflict occurred "a lot" (severe conflict) and another quarter indicated that it occurred "somewhat" (moderate conflict). Altogether, more than a third of all workers living in families experienced either moderate or severe work-family conflicts.

As expected, parents experienced conflict significantly more often than other workers. Being a parent increased the incidence of moderate or severe conflict by about 7 percentage points among husbands in two-earner families, 14 points among breadwinning husbands, and 13 percent among wives of employed husbands. Working parents of preschool children also reported more conflict than did parents of school-age children.

However, several expected differences were not confirmed by the data: the employment status of the spouse was unrelated to work-family conflict and employed women did not, on average, report work-family conflict significantly more often than did employed men. Among all employed women (including wives and those heading single-parent families), about 35 percent reported moderate or severe conflict, compared with 34 percent for employed husbands. The margin was somewhat greater if employed wives were compared with employed husbands—37 versus 34 percent—but still was not significant. Employed women who headed one-parent families actually reported work-family conflict somewhat less often than did men.

Thus, work-family conflict is evident among a substantial minority of workers. It appears heightened among parents, compared with other couples; but not among women, compared with men. Employed women and men experienced work-family conflicts to a similar degree. It is possible that these data underestimate sex differences. For example, employed women may be less willing than men to acknowledge conflicts, because they feel others will use these conflicts as evidence that they should not be working. Also, employed women with severe work-family conflict may have more freedom than employed men to leave the labor force. Nonetheless, the data suggest that working men encounter work-family conflicts to an extent more similar to women than is usually thought.

Workers who reported "somewhat" or "a lot" of interference between their work and family life were asked how these roles interfered with each other. The three most common responses were "excessive work time," "schedule conflicts," and "fatigue and irritability."[3] The frequencies of these conflicts are shown in table 2. Half the sample with moderate or severe interference reported excessive time spent at work as a specific problem,

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and slightly more than a quarter reported incompatibility between their work and family schedules (sometimes resulting from other family members' work schedules). Nearly 15 percent reported negative physical or psychological consequences from work, such as fatigue and irritability.

When these specific types of work-family interference problems were examined, sex differences became evident. Employed men were significantly more likely than women to report excessive work time as a problem, while employed women were more likely than men to report schedule incompatibilities and fatigue and irritability (resulting from their work) as impinging on their family life.

Thus, while men and women reported to the same degree all forms of work-family conflict combined, they experienced this conflict in different ways. Men more often reported excessive work time, at least in part because they worked more hours than women. Women more often reported schedule conflicts, presumably because women more often have to see that family responsibilities are met and have to arrange their work schedule accordingly. Women's greater family responsibilities may also be the reason for their more frequent reports that physical and psychological consequences of work caused family problems. Fatigue and irritability brought home from work may make it more difficult for a woman to perform her family tasks, and thus, may cause a problem for her family. These same feelings may not have this effect for the husband because he generally has fewer home tasks to perform.

Contributing job characteristics

What job characteristics seem to cause work-family conflict? Other information in the survey makes it possible to analyze several working conditions as potential sources of these conflicts. The specific job characteristics[4] are shown in table 3.

Table 1. Frequency of work-family conflict

[In percent]

Group	Not at all	Not too much	Somewhat	A lot
Total sample	24.3	41.3	24.0	10.4
Employed husbands	25.9	40.4	23.6	10.1
Wife employed	26.7	41.8	21.0	10.5
No children	35.1	37.1	20.3	7.4
Youngest 0–5 years	22.9	41.3	22.9	12.8
Youngest 6–17 years	20.0	46.8	20.7	12.3
Wife not employed	25.0	38.7	26.6	9.7
No children	35.0	38.7	20.0	6.3
Youngest 0–5 years	20.4	32.8	37.1	9.7
Youngest 6–17 years	20.3	45.6	20.8	13.3
Employed wives	22.5	40.5	26.5	10.5
Husband employed	22.9	39.1	27.7	10.4
No children	37.1	33.7	18.5	10.7
Youngest 0–5 years	11.8	40.3	36.1	11.8
Youngest 6–17 years	16.3	43.5	31.0	9.2
Husband not employed	18.8	55.8	14.0	11.6
Employed women in one-parent families	17.0	58.0	13.6	11.4
Youngest 0–5 years	18.6	55.8	9.3	16.3
Youngest 6–17 years	15.6	60.0	17.8	6.7

NOTE: The total sample size is 1,084; percentages are based on weighted sample.

Table 2. Frequency of common types of work-family conflicts

[In percent]

Group	Excessive work time	Schedule incompatibility	Fatigue and irritability
Total sample	50.0	28.0	14.8
Employed husbands	59.1	20.4	8.8
Wife employed	62.8	22.4	10.9
No children	52.8	31.4	15.1
Youngest 0–5 years	65.8	42.1	10.5
Youngest 6–17 years	69.2	12.3	7.7
Wife not employed	55.8	18.6	7.0
No children	57.5	22.5	5.0
Youngest 0–5 years	53.1	19.8	7.4
Youngest 6–17 years	58.8	13.7	7.8
Employed wives, husband employed	38.7	38.7	27.4
No children	36.4	31.8	43.2
Youngest 0–5 years	26.4	41.5	26.4
Youngest 6–17 years	49.3	40.8	18.3
Employed female single parents	10.0	50.0	15.0

NOTE: The total sample size is 372; percentages are based on weighted sample among those experiencing moderate or severe conflict.

The characteristics most strongly and significantly associated with all work-family conflict were number of hours worked; frequent overtime; the work schedule, particularly the afternoon shift; and physically or psychologically demanding work. Having to work with an irregular starting time, having low control over whether one works overtime, and having little flexibility to change one's work schedule or take time off from work for personal or family matters were also significantly associated with work-family conflict, though to a lesser degree. This pattern of correlates of work-family conflict is intuitively plausible. Interestingly, being self-employed, holding a second job, and time spent or problems experienced in commuting to work were unrelated to conflict.

The three types of work-family conflict also had an expected pattern of correlates. Reporting that excessive work time interfered with one's job and family life was related to excessive hours spent working, as well as to the frequency of overtime and number of hours worked. Schedule incompatibilities between work and family demands were uniquely related to afternoon, evening, and irregular work shifts. Reporting that fatigue and irritability generated at work interfered with family life was associated with describing one's work as physically or psychologically demanding.

The analysis of specific types of conflict reveals certain unexpected correlates as well. The various job characteristics concerning overtime were not associated with reporting schedule conflicts between work and family, although they were associated with perceiving excessive time at work as causing problems for the family. It may be that workers subject to overtime, particularly men, perceive its effects on their families less in terms of disrupting their families' schedules and more in terms of simply taking time away from their families.

Holding a job which makes high physical or mental demands was associated not only with perceiving work-generated fatigue and irritability as causing problems for the family, but also with reports of excessive time spent at work. In these workers' descriptions of their work-family problems, it may be that the boundary between saying that their job makes them tired and that they work too much is a subtle one: having a demanding job can produce either.

Surprisingly, inability to alter one's schedule or to take time off was unrelated to workers' reporting schedule conflicts between work and family life, though it is related to the two other conflicts. Other evidence indicated that the majority of workers in the survey felt their work schedule suited them.[5] Having a schedule that cannot be easily changed caused problems only if the schedule was unsuitable to begin with. When such a schedule did cause problems for the family, workers perceived these problems as their working too much or their job leaving them too tired, rather than in terms of conflicts with the schedules of other family members.

Correlation with overall satisfaction

When work-family conflict occurs, does it have any consequences? One kind of evidence on this point concerns the relationship between reports of conflict and measures of workers' satisfaction with their jobs and family life, and their satisfaction with life in general. Table 3 shows the correlation coefficients between these measures[6] and work-family conflict. Workers who said their job and family lives interfered with each other reported significantly lower satisfaction with both their jobs and their family life. They also reported significantly lower contentment with life in general.

The three specific types of work-family conflict had the same correlates, with one important exception: perceiving one's work time as excessive and interfering with family life was not associated with diminished family satisfaction. To reduce workers' satisfaction with their family life, time at work has to do more than simply take the worker away from the family; it has to conflict with others' schedules or leave the worker tired.

MINIMIZING CONFLICTS between work and family life can be only one of many goals in the design of work schedules. Just as working conditions which may be desirable for employers or workers may reduce family well-being, working conditions that reduce work-family conflicts may be costly in other ways. The survey results do not suggest that working conditions be changed in any particular way to benefit the family; rather, they show that the scheduling and demands of work do affect workers' lives, and imply that these effects should be examined, together with other factors, when policies about working conditions are considered. ☐

Table 3. Correlation coefficients between work-family conflicts and job characteristics and satisfaction

Job characteristics and satisfaction	Work-family conflicts			
	All conflicts	Excessive work time	Schedule conflict	Fatigue and irritability
Job characteristics:				
Main job hours[1]	[2]0.24	[2]0.27	−0.02	0.01
Total job hours[1]	[2].25	[2].30	−.02	.03
Day shift[3]	[2]−.19	[4]−.07	[2]−.21	.03
Afternoon shift[5]	[2].13	.02	[2].22	−.01
Night shift[6]	.05	.00	[2].09	−.02
Irregular shift	[4].07	.01	[2].11	.03
Overtime frequency[7]	[2].13	[2].11	.03	.04
Overtime hours[2]	.10	[2].18	.01	−.05
Low overtime control[8]	[4].09	.07	.10	−.04
Schedule inflexibility[9]	[2].12	[2].09	.03	[4].07
Work demands[10]	[2].25	[2].19	.03	[2].15
Self-employed	.00	−.04	−.04	[4]−.08
Second job	.01	.07	.01	.02
Commuting time	−.04	−.05	−.02	−.02
Commuting problems	.05	.00	.00	.06
Satisfaction:				
Job satisfaction	[2]−.19	[11]−.08	[11]−.09	[2]−.11
Family satisfaction	[2]−.15	−.02	[2]−.10	[11]−.08
Life satisfaction	[2]−.18	[2]−.10	[2]−.10	[11]−.09

[1] Per week.

[2] Significant at 0.001.

[3] Jobs with regular starting times between 3:30 and 11:59 a.m. (90 percent of which had starting times between 6 and 10 a.m.).

[4] Significant at 0.05.

[5] Jobs with starting times between noon and 5:59 p.m.

[6] Jobs with starting times between 6 p.m. and 1:30 a.m.

[7] Overtime frequency was classified by workers as occurring "never," "sometimes but less than weekly," or "weekly or more often," and assigned values of 1, 2, and 3.

[8] Low overtime control was assessed by an index of items concerning whether the worker or employer decided whether the worker put in overtime hours, and whether the worker could refuse overtime without penalty.

[9] The schedule inflexibility index is constructed from items concerning difficulty in changing work days, in changing work hours, and in taking time off from work for personal or family matters.

[10] The work demands index was based on the physical effort required by one's job; whether the job required one to work fast, and whether the job required one to work hard.

[11] Significant at 0.01.

NOTE: The sample size varies from 942 to 1084. Correlations are Pearson's *r* or point-biserial correlations.

FOOTNOTES

[1] This report is condensed from one submitted to the Assistant Secretary of Labor for Policy, Evaluation, and Research under contract No. J-9-M-7-0119. For a general summary of the survey's results, see Graham L. Staines and Robert P. Quinn, "American workers evaluate the quality of their jobs," *Monthly Labor Review*, January 1979, pp. 3–12.

[2] Information on the sample drawn for this survey appears in Robert P. Quinn and Graham L. Staines, *The 1977 Quality of Employment Survey* (Ann Arbor, Mich., Survey Research Center, 1978), Ch. 2.

[3] The other 4 general categories were time (not further specified); schedule uncertainty; work travel; and vacation-related problems. The category "time" was reported by 14 percent of workers with moderate or severe conflict; the other categories were evident in fewer than 5 percent each.

[4] Further details are in Joseph H. Pleck, Graham L. Staines, and Linda Lang, *Work and Family Life: First Reports on Work-Family Interference and Workers' Formal Childcare Arrangements, from the 1977 Quality of Employment Survey* (Wellesley, Mass., Wellesley College Center for Research on Women, 1978).

[7] Quinn and Staines, *The 1977 Quality of Employment Survey*, pp. 82–86.

[8] Job satisfaction is based on items concerning satisfaction with both general and specific features of one's job. The family satisfaction index is based on items concerning how happy one's marriage is, how satisfied individuals are with their marriage, and how satisfied they are with their family life. Life satisfaction is based on the items "Taking all things together, how would you say things are these days? Would you say you're very happy, pretty happy, or not too happy these days?" "In general, how satisfying do you find the ways you're spending your time these days? Would you call it completely satisfying, pretty satisfying, or not very satisfying?" and 8 other items assessing specific feelings or words that can characterize a person's life (for example, full versus empty, and hopeful versus discouraging). Details on job and life satisfaction are in Robert P. Quinn and Linda J. Shepard, *The 1972–73 Quality of Employment Survey* (Ann Arbor, Mich., Survey Research Center, 1974), pp. 47–69. For family satisfaction, see Pleck, Staines, and Lang, *Work and Family Life*, pp. 15–16.

Age Discrimination in Employment Act: a review of recent changes

JULIA E. STONE

As originally enacted, Title VII of the Civil Rights Act of 1964 required the Secretary of Labor to conduct a study of age discrimination in employment. The study led, 3 years later, to enactment of the Age Discrimination in Employment Act of 1967 (ADEA) to prohibit employment discrimination against persons age 40 to 65. These age limits were chosen to focus coverage on workers especially likely to experience job discrimination because of their age. The "upper age limit" was set at 65 because it was a common retirement age in U.S. industry. In 1978, the act was amended to extend protection beyond age 65—without any upper age limit in the Federal sector and until age 70 for most other workers in the United States.

The law prohibits discrimination on the basis of age in such matters as hiring, job retention, compensation and other terms, conditions, and privileges of employment. Employers, employment agencies, and labor organizations are covered by the act.[1] They are prohibited from using employment-related advertisements that indicate any preference, limitation, specification, or discrimination based on age. Employment agencies and labor organizations may not use age as a basis for classifying or referring persons for employment.

There are certain exceptions to the application of the act's prohibitions. An employer may discharge or otherwise discipline an individual for good cause. The law's prohibitions also do not apply where age is a bona fide occupational qualification reasonably necessary to the normal operation of a particular business, or where differentiation is based on reasonable factors other than age. Also, employers are allowed to make some age distinctions in providing fringe benefits to facilitate the employment of older workers.

Mandatory retirement age

The major issue addressed by the Age Discrimination in Employment Act Amendments of 1978 was mandatory retirement. Data from a 1973 Employment Practices Survey conducted by the Bureau of Labor Statistics indicated that approximately half of the private nonagricultural work force was subject to mandatory retirement provisions.[2] Most of the provisions set the mandatory retirement age at 65, some used a higher age, and a very few stipulated a lower age.

In the Congressional deliberations which led to enactment of the 1978 ADEA amendments,[3] the following themes were advanced in support of action to restrict mandatory retirement. Individual ability to perform a job, rather than arbitrary age distinctions, should be the basis for continued employment. Public opinion, as evidenced in a 1974 Harris survey, is opposed to forced retirement based on age. As Americans experience greater longevity and the number of older persons grows, those who are capable of working beyond age 65 should be permitted to do so. Because of widespread retirement before age 65, a relatively small portion of the work force has actually been forced to retire between age 65 and 70; and the availability of fully accrued pension and social security benefits at age 65 should continue to facilitate voluntary retirement at age 65. Medical evidence has indicated that mandatory retirement can have a detrimental effect on a person's physical, emotional, and psychological health, and even on his or her life span. Following retirement, many people experience financial difficulties because of various factors. These include considerable decreases in income which often accompany retirement, difficulty in finding reemployment, longer life spans over which to stretch savings, erosion of fixed pensions by inflation, and—especially for women who have entered the labor force after raising a family or being widowed or divorced—restricted accrual of eligibility for significant retirement benefits as a result of mandatory retirement. It was also suggested that forced retirement of capable older workers results in unnecessary demands on governmental programs, such as the social security system and various assistance programs at State and local levels, as well as the Federal level.

Concerns regarding possible adverse effects of eliminating mandatory retirement were also discussed during the legislative process. Three major areas of concern were identified: (1) the possibility of an adverse impact on employment opportunities for young people and on promotional opportunities for midlevel employees—including minorities and women; (2) uncertainty regard-

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ing workers' productivity beyond age 65 and potential administrative burdens in evaluating employees' performance; and (3) possible implications for pension arrangements.

New coverage and limited exemptions

Rather than entirely remove the act's upper age limit, Congress agreed to extend age discrimination protection without an upper age limit for almost all Federal employment (effective September 30, 1978) and until age 70 for most private and nonfederal public employment (effective January 1, 1979).

The extension of coverage to age 70 for private sector and State and local government employment was accomplished by raising the law's upper age limit from 65 to 70. Also, new language was added to Section 4(f)(2) of the law to clearly prevent mandatory retirement of covered workers under employee benefit plans such as retirement, pension, or insurance plans.[4] On April 6, 1978, this protection against mandatory retirement took effect for employees under age 65. On January 1, 1979, it took effect for workers up to age 70—along with the new age-70 limit on coverage. However, for workers employed under collective bargaining agreements, the protection against mandatory retirement under Section 4(f)(2) was phased in and became generally applicable on January 1, 1980. Mandatory retirement at ages 65 through 69 was also allowed to continue for tenured faculty in institutions of higher education until July 1, 1982, and indefinitely for certain high-level executives and policymakers.

The deferred application of the newly stated restriction of mandatory retirement under employee benefit plans affected employees working under collective bargaining agreements in effect on September 1, 1977. Mandatory retirement of such employees at ages 65 through 69 was allowed to continue until termination of their agreement or January 1, 1980, whichever came first.[5] The delay was provided to give maximum deference to collective bargaining agreements negotiated between labor and management, because the contracts had been negotiated in good faith with reciprocal agreements and concessions made on various issues, including mandatory retirement. This avoided undue disturbances in labor-management relations while pension plan agreements were clarified. A provision in the Equal Pay Act of 1963, allowing a similar delay where there were collective bargaining agreements in effect, was cited as a precedent for this temporary exemption.

The 1978 amendments also included an exemption allowing mandatory retirement of tenured employees in institutions of higher education at ages 65 through 69 until July 1, 1982,[6] in response to concern regarding declining enrollments and faculty reductions resulting from demographic trends. Advocates of the exemption asserted that the prohibition against mandatory retirement until age 70 could result in the faculty reductions having a disproportionate impact on recently hired, untenured faculty—particularly women and minorities. There was also some concern that current financial difficulties of colleges and universities could be exacerbated by requiring retention of highly paid senior faculty beyond age 65 without allowing for budgetary planning. In addition, concern was expressed that the nature of tenure agreements, designed to protect the academic freedom of faculty, would be compromised without the exemption.

The exemption allowing the mandatory retirement of high-level executives and policymakers at ages 65 through 69 applies only when the individual has been employed in "a bona fide executive or a high policymaking position" for the 2 years prior to mandatory retirement *and* is entitled to an immediate nonforfeitable annual retirement benefit provided by the employer equivalent to a straight-life annuity of at least $27,000.[7] This amount excludes retirement benefits attributable to contributions of prior employers or to employee contributions. It also excludes retirement income from social security. The definition of "bona fide executive" set forth in regulations under the Fair Labor Standards Act[8] should be met for an individual to come within the scope of the exemption as an executive. Employees in high policymaking positions were placed in the exemption to encompass high-level personnel whose positions and responsibilities give them a significant role in the development and implementation of corporate policies though they may have little or no line authority.[9] The reasons cited for this exemption were the need to assure promotional opportunities—especially for midlevel employees and for achieving affirmative action goals—and the difficulty involved in evaluating the performance of top executive personnel.

Federal workers

In extending age discrimination protection for Federal workers, coordination of the 1978 amendments with provisions under various other statutes governing employment in the Federal sector was a significant concern. Thus, effective September 30, 1978, along with providing for application of the ADEA to Federal employment without any upper age limit, the 1978 amendments also repealed a statutory civil service provision that required the mandatory retirement of Federal workers when they reached age 70 and had 15 years of Federal service. A prohibition against Federal hiring of workers age 70 or older on a permanent basis was also repealed. The amendments did not repeal mandatory retirement provisions applicable to Federal employees in certain specific occupations—air traffic controllers, law enforcement officers, firefighters, employees of the Alaska Railroad, the

Panama Canal Company, the Canal Zone Government, the Foreign Service, and the Central Intelligence Agency.[10] However, Congressional committees which have jurisdiction over such employment in the Federal Government agreed to review the remaining mandatory retirement provisions to determine if they should be continued

The 1978 amendments also clearly specified that the Federal sector is only subject to the age-40 coverage limit and the provisions contained in Section 15 of the Age Discrimination in Employment Act. Section 15 was added to the act in 1974 to extend coverage to Federal employment. The 1978 language makes clear, for example, that the Federal sector coverage is not affected by the exemptions allowing continued mandatory retirement of certain employees under collective bargaining agreements, in institutions of higher education, or in executive and high-level policymaking positions.

Procedural amendments

Two amendments modified the procedural requirements involved in private individuals' lawsuits and governmental enforcement of the act. These amendments were a response to concern about frequent dismissal of lawsuits by the courts on procedural grounds, without consideration of the substance of the age discrimination complaints involved. A third procedural amendment concerned the right of aggrieved individuals to a jury trial. All three went into effect on April 6, 1978.

Filing of charges. Before going to court with a private lawsuit, an individual who believes that he or she has suffered discrimination in violation of the ADEA is required to notify the Federal enforcement agency[11] of the alleged violation within 180 days of its occurrence (or within 300 days if the alleged violation occurs in a State which has an agency empowered to grant or seek relief from age discrimination).[12] The notification required by the 1978 amendments is in the form of a "charge alleging unlawful discrimination." This charge may be filed in the form of a written statement which identifies the potential defendant and describes the action believed to be discriminatory. This replaced a requirement that a "notification of intent to sue" be filed within the 180- (or 300-) day period.[13] The new language parallels the 180-day charge language under Title VII of the 1964 Civil Rights Act.

In many instances, age discrimination is not discovered by the victim until some time after the alleged unlawful practice has occurred. In some instances, a potential plaintiff may take time to attempt to resolve an issue directly with the employer or may take time to obtain an informed legal opinion as to the likelihood of a successful lawsuit. In the past, courts that interpreted the "notice of intent to sue" as a jurisdictional requirement observed the 180- or 300-day time limits rigidly. Congressional conferees on the 1978 amendments explained that the "charge" requirement should not be construed as a jurisdictional prerequisite to judicial consideration, and therefore, equitable modification would be possible. Thus, if a court concludes that a plaintiff had a legitimate excuse for failing to give notice within the 180- or 300-day period, the lawsuit need not be dismissed.[14]

Tolling the statute of limitations. Before instituting court action to enforce the act, the Federal enforcement agency is required to attempt to eliminate alleged discriminatory practices and gain voluntary compliance through "informal methods of conciliation, conference, and persuasion." The 1978 amendments provide that the statute of limitations—2 years for nonwillful violations and 3 years for willful violations—may be tolled for up to a year while informal conciliation is being attempted under this provision.

The purpose of providing for tolling of the statute of limitations during the conciliation process was to assure that, especially in large and complex cases, the enforcement agency should not be forced to go to court simply to protect the right to action without having first had adequate time to complete the conciliation process. This amendment was also designed to prevent those who may have violated the law from delaying or postponing the conciliation process with the possibility of avoiding backpay liabilities because of the statute of limitations. The rationale for placing a time limitation on the tolling provision was to avoid placing an inequitable burden of potential liabilities on employers through prolonged conciliation during which claimants' rights would also go unsatisfied. As indicated during the legislative process, an enforcement agency need not complete conciliation prior to going to court; the courts may stay lawsuits pending before them to permit completion of the conciliation process.

Right to a jury trial. The 1978 amendments clearly provide that the option of a jury trial is available to individuals in cases where there are factual issues regarding alleged discrimination involving potential monetary liabilities, such as backpay.[15] As indicated during legislative consideration of this amendment, the liquidated damages remedy available under the act is in the nature of legal, rather than punitive relief, and is therefore within the scope of the provision.

Study requirements

The 1978 amendments required that the effects of the new coverage provisions be studied. A Department of Labor study of involuntary retirement must include an examination of the effects of raising the upper age limit to 70 and a determination as to the feasibility of further extending or eliminating the age-70 limit on coverage for private sector and nonfederal public employment. The report must also examine the effects of the exemptions allowing age 65 through 69 mandatory retirement of tenured teaching personnel in institutions of higher education and of certain executives and high-level policymakers. A final report is required by January 1, 1982, preceded by an interim report by January 1, 1981.[16]

A report on the effects in the Federal sector by the Office of Personnel Management was required by January 1, 1980.

Administration of the act

In 1979, the Equal Employment Opportunity Commission assumed administrative responsibility for enforcement of the Age Discrimination in Employment Act. On January 1, 1979, this commission took charge of Federal sector enforcement activities for which the Civil Service Commission had been responsible; on July 1, 1979, it assumed ADEA enforcement responsibilities for private sector and State and local government employment, previously carried out by the Department of Labor.[17] Thus, the Equal Employment Opportunity Commission has become generally responsible for enforcing antidiscrimination protection for older workers covered under this law, as well as the protection, under Title VII of the 1964 Civil Rights Act, against discrimination in employment on the basis of race, color, religion, national origin, and sex.

The transfer of ADEA enforcement responsibility to the Equal Employment Opportunity Commission and the important changes made in the act by the 1978 amendments mark an important juncture in the evolution of the Nation's efforts to deal with discrimination in employment as it affects older workers. The experience of workers, employers, and others affected by the 1978 amendments, the required studies of the impact of the new amendments, EEOC experience in enforcing the law, and continuing public attention to the employment needs of older Americans can be expected to contribute valuable information and insights as to whether further modifications of the law may be appropriate in the future. ☐

FOOTNOTES

[1] The ADEA applies to private employers of 20 or more persons, to State and local government agencies, to public and private employment agencies servicing such employers, and to labor organizations if they have 25 or more members or represent the employees of covered employers or refer persons to covered employers for employment.

[2] The Employer Policies and Practices Survey was conducted in September of 1973 by the Bureau of Labor Statistics for the Employment Standards Administration of the Department of Labor. Results of this survey were reported in: Department of Labor, Employment Standards Administration, *Age Discrimination in Employment Act of 1967, A Report Covering Activities Under the Act During 1976*, Submitted to Congress in 1977 in Accordance with Section 13 of the Act, pp. 72–73 and pp. 34–37.

[3] House of Representatives Report No. 95–527, July 25, 1977; Senate Report No. 95–493, Oct. 12, 1977; House of Representatives Report No. 95–950, *Conference Report*, Mar. 14, 1978; and *Congressional Record*, September 13 and 23, and October 19, 1977, and Mar. 21 and 23, 1978.

[4] The 4(f)(2) exception, as amended in 1978, stipulates that while it is not unlawful for an employer, employment agency, or labor organization

> "to observe the terms of a bona fide seniority system or any bona fide employee benefit plan such as a retirement, pension or insurance plan, . . . no such seniority system or employee benefit plan shall require or permit the involuntary retirement of any individual [within the Act's age group coverage] because of the age of such individual."

The clarification of the 4(f)(2) provision in effect overruled the Supreme Court's decision in *United Air Lines, Inc. v. McMann*, 434 U.S. 192 (1977), which permitted application of a mandatory retirement requirement (before age 65) in observance of the terms of an employee benefit plan that predated the original enactment of the law. For a discussion of the case, see *Monthly Labor Review*, February 1978, p. 57.

[5] As the extended grace period does not apply to mandatory retirement under nonunion employee benefit plans, mandatory retirement of employees at ages 65 through 69 under nonunion pension plans has been prohibited under section 4(f)(2) of the ADEA since Jan. 1, 1979, when the age 70 upper age limit on coverage took effect.

[6] The language of the exemption, contained in Section 12(d) of the act, is as follows:

> "Nothing in this Act shall be construed to prohibit compulsory retirement of any employee who has attained 65 years of age but not 70 years of age, and who is serving under a contract of unlimited tenure (or similar arrangement providing for unlimited tenure) at an institution of higher education . . ."

[7] The language of the exemption, contained in Section 12(c) of the Act, is as follows:

> "Nothing in this Act shall be construed to prohibit compulsory retirement of any employee who has attained 65 years of age but not 70 years of age, and who, for the 2-year period immediately before retirement, is employed in a bona fide executive or a high policymaking position, if such employee is entitled to an immediate nonforfeitable annual retirement benefit from a pension, profitsharing, savings, or deferred compensation plan, or any combination of such plans, of the employer of such employee, which equals, in the aggregate, at least $27,000.
>
> "In applying the retirement benefit test, . . . if any such retirement benefit is in a form other than a straight-life annuity (with no ancillary benefits), or if employees contribute to any such plan or make rollover contributions, such benefit shall be adjusted in accordance with regulations prescribed by the Secretary, after consultation with the Secretary of the Treasury, so that the benefit is the equivalent of a straight-life annuity (with no ancillary benefits) under a plan to which employees do not contribute and under which no rollover contributions are made."

[8] See 29 Code of Federal Regulations, Part 541, Section 541.1.

[9] A detailed discussion of the intended scope of the exemption is contained in House of Representatives Report No. 95–950, *Conference Report*, Mar. 14, 1978, pp. 9–10.

[10] Maximum age requirements for entry into Federal employment in certain occupations—for law enforcement officers, firefighters and traffic controllers—were also left unchanged. It should be noted, as well, that under section 15(b) of the ADEA, reasonable exemptions may be established in the Federal sector where it is determined that age is a bona fide occupational qualification necessary to performance of a job.

[11] The U.S. Department of Labor was the agency responsible for enforcement activities under the ADEA until July 1, 1979, when, under

Reorganization Plan No. 1 of 1978, this authority was transferred to the U.S. Equal Employment Opportunity Commission.

[12] In *Oscar Meyer & Co. v. Evans*, 99 S. Ct. 2066 (May 21, 1979), the Supreme Court ruled that workers who seek relief from alleged discrimination under the ADEA must first resort to available State remedies before bringing suit in Federal court. See *Monthly Labor Review*, Sept. 1979, p. 59.

[13] A parallel requirement applicable to Federal employment was not modified by the 1978 amendments to the ADEA and continues to require filing of a notice of intent to sue within the 180-day period.

[14] A 2-year—or in the case of a willful violation, a 3-year—statute of limitations on the recovery of back wages continues to be applicable under section 7(e)(1) of the ADEA.

[15] In *Lorillard v. Pons*, 434 U.S. 575 (1978), the Supreme Court ruled that a jury trial was available under the original language of the ADEA, based on its similarity to the Fair Labor Standards Act, which permits jury trials. See *Monthly Labor Review*, April 1978, p. 51.

[16] Section 5 of the ADEA, as enacted in 1967, stipulated—without a time limit—that: "The Secretary of Labor is directed to undertake an appropriate study of institutional and other arrangements giving rise to involuntary retirement, and report his findings and any appropriate legislative recommendations to the President and to the Congress."

[17] Under Reorganization Plan No. 1 of 1978, which authorized these transfers, the Department continues to be responsible for research (including studying the effects of the 1978 amendments) and for educational and informational activities relating to the expansion of the employment opportunities for older persons.

New occupational rates of labor force separation

DIXIE SOMMERS AND CARIN COHEN

The Bureau of Labor Statistics has recently revised its estimates of labor force separation rates by occupation. These rates represent the net annual rates at which people withdraw from the labor force to retire or because of disability, family responsibility, or death. They, therefore, account for a significant proportion of total job openings in specific occupations.

Because data that differentiate separation rates for specific occupations and States are not available, the Bureau develops proxy rates by applying national age- and sex-specific separation data to the age and sex distribution of employment in specific occupations for the Nation and by State. The newly revised estimates are for 1970, 1980, and 1985. They update those published by the Bureau in 1974.[1]

Table 1 displays the new occupational rates. In almost every occupation, the new 1970 rates are lower than the earlier estimates. Changes in the 1985 rates vary, however, depending on whether more men or more women are expected to be in an occupation. The predominantly male occupations show rate increases, while the predominantly female occupations show declines.

The new occupational rates reflect changes in the age- and sex-specific rates upon which the Bureau bases its occupational estimates. The new 1970 age-specific separation rates for men differ slightly from the previous estimates, reflecting more comprehensive 1970 mortality and labor force participation data. The new 1985 male rates show similar change at ages less than 55 years but increase markedly at 55 years and over because of the significant downward shift in labor force participation. Rates for all but older women, however, *decreased* markedly from earlier rates, reflecting the declining likelihood of female labor force separation because of children and a decline in female mortality rates between 1960 and 1970. Separation rates for older women were higher than the previous estimates, as generally higher labor force participation for younger women has resulted in more labor force separation among women approaching retirement age.

Projecting job availability

Separation rates are used primarily to estimate the number of job openings expected as a result of workers leaving the labor force. Of course, these replacement needs are only one source of future job openings in an occupation; other sources include growth in employment and the need to replace workers who transfer to other occupations or who move to other areas.

State separation rates by occupation are used in the Bureau's State and area projections activities which are part of its Occupational Employment Statistics (OES) program. The State and area projections effort provides information on current and projected employment by industry and occupation, projected job openings resulting from employment growth, and projected openings resulting from labor force separations. This information is developed for States and labor market areas using methods and data from the two other parts of the OES program: the National/State Industry-Occupation Matrix system and the Occupational Employment Statistics survey. State employment security agencies use these data to develop State and area occupational employment estimates and projections.

Current and projected occupational employment and estimates of future job openings are used at the national, State, and local levels for a variety of activities. Projections are used in vocational guidance and employment counseling. Current occupational employment data are used in job development activities and for analysis of current labor market conditions. Current employment and projections are also used extensively, particularly at the State and local levels, in planning occupational training activities, including vocational education programs and training programs sponsored under the Comprehensive Employment and Training Act.

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Table 1. Estimated and projected national labor force separation rates, by occupation, 1970, 1980, and 1985

[Separations per 1,000 persons]

Occupation	1970	1980	1985
Professional, technical, kindred:			
Engineers, aero-astronautic	10.9	13.0	13.6
Engineers, chemical	12.2	15.0	15.7
Engineers, civil	20.2	27.6	28.7
Engineers, electrical	12.2	15.0	15.6
Engineers, industrial	15.0	18.7	19.5
Engineers, mechanical	15.5	20.1	20.9
Engineers, metallurgical	14.7	18.3	19.1
Engineers, mining	24.2	34.9	36.2
Engineers, petroleum	12.9	16.2	16.9
Engineers, sales	17.4	23.5	24.4
Engineers, other	16.5	22.3	23.2
Agricultural scientists	23.1	30.9	32.0
Atmospheric, space scientists	17.8	20.9	21.7
Biological scientists	17.7	21.3	22.1
Chemists	15.6	19.7	20.5
Geologists	15.6	20.5	21.2
Marine scientists	15.4	20.1	20.8
Physicists and astronomers	10.6	13.1	13.6
Life, physical scientists, not elsewhere classified (n.e.c.)	15.3	17.9	18.7
Actuaries	18.8	24.0	25.0
Mathematicians	13.1	14.9	15.5
Statisticians	26.6	30.2	31.2
Agriculture, biological technicians, except health	21.0	24.8	25.8
Chemical technicians	13.4	15.9	16.6
Drafters	12.0	15.1	15.7
Electrical, electronic technicians	9.6	11.2	11.7
Industrial engineering technicians	14.7	17.3	18.1
Mathematical technicians	9.4	10.4	10.8
Mechanical engineering technicians	14.1	16.7	17.4
Surveyors	13.6	18.2	18.9
Engineering, science technicians, n.e.c.	14.1	16.7	17.4
Chiropractors	42.7	63.1	64.6
Dentists	11.5	18.1	18.6
Dietitians	42.0	41.8	42.5
Optometrists	31.9	48.0	49.4
Pharmacists	35.4	51.8	53.5
Physicians, MD osteopaths	9.2	13.5	13.9
Podiatrists	38.2	52.5	54.4
Registered nurses	37.0	37.5	38.4
Therapists	26.2	29.3	30.4
Veterinarians	17.4	24.4	25.2
Other medical and health practitioners, n.e.c.	44.3	51.7	52.4
Clinical laboratory technologists, technicians	23.8	26.9	28.1
Dental hygienists	30.8	34.8	36.3
Health record technologists, technicians	44.8	43.7	44.4
Radiologic technologists, technicians	24.5	28.2	29.5
Therapy assistants	27.6	30.4	31.4
Other health technologists, technicians	22.4	26.1	27.1
Airplane pilots	8.8	10.3	10.6
Air traffic controllers	10.4	12.0	12.5
Embalmers	20.3	29.8	30.8
Flight engineers	10.6	12.7	13.1
Radio operators	25.8	33.7	34.9
Tool programmers, numerical	9.6	11.2	11.7
Other technicians, except health	16.4	19.3	20.1
Computer programmers	9.2	10.6	11.1
Computer systems analysts	8.8	10.0	10.4
Other computer specialists	9.1	10.4	10.8
Economists	16.8	21.9	22.7
Political scientists	19.6	25.7	26.6
Psychologists	19.0	21.2	21.8
Sociologists	19.6	25.8	26.7
Urban and regional planners	13.0	16.5	17.1
Other social scientists	32.4	39.2	40.1
Adult education teachers	26.7	29.8	30.6
College and university teachers	20.7	24.6	25.4
Elementary school teachers	37.7	38.4	39.2
Preschool, kindergarten teachers	32.7	33.5	34.4
Secondary school teachers	23.8	26.1	26.9
Teachers, except college and university, n.e.c.	47.3	47.6	48.0
Actors	22.7	27.3	28.2
Athletes and kindred workers	19.0	24.4	25.3
Authors	29.7	36.7	37.5
Dancers	27.0	32.1	33.8
Designers	20.3	24.8	25.6
Editors and reporters	28.5	34.0	35.0
Musicians and composers	27.0	30.6	31.2
Painters and sculptors	25.1	30.6	31.6
Photographers	20.5	26.6	27.5
Public relations specialists	25.9	32.9	34.0
Radio, TV announcers	9.5	11.3	11.6
Writers, artists, entertainers, n.e.c.	22.7	26.7	29.6
Accountants	25.6	32.4	33.5
Architects	22.0	31.5	32.6
Archivists and curators	37.2	45.8	46.8
Clergy	31.9	47.7	49.3
Religious, except clergy	52.0	55.8	53.4
Farm management advisors	18.6	22.4	23.3
Foresters, conservationists	19.5	25.5	26.6
Home management advisors	35.2	37.2	38.4
Judges	65.3	2.4	5.6
Lawyers	32.1	48.2	49.7
Librarians	42.2	42.3	43.0
Operations, systems research	12.9	15.2	15.8
Personnel, labor relations	21.4	24.9	25.8
Research workers, n.e.c.	16.6	20.0	20.8
Recreation workers	23.6	27.5	28.4
Social workers	30.0	32.7	33.6
Vocational, education counselors	25.0	27.5	28.3
Managers, officials, proprietors:			
Bank, financial managers	23.4	30.5	31.6
Credit managers	24.4	29.3	30.3
Buyers, shippers, farm products	34.4	50.7	52.5
Buyers, wholesale, retail	32.2	39.7	40.9
Purchasing agents, buyers, n.e.c.	22.9	28.3	29.5
Sales managers, retail trade	20.9	24.7	25.5
Sales managers, except retail trade	17.3	22.0	22.9
Assessors, controllers, local public administration	57.2	76.7	78.6
Construction inspectors, public administration	38.5	55.2	57.4
Health administrators	38.3	41.9	42.8
Inspectors, except construction, public administration	25.8	34.1	35.5
Officials, administrators, public administration	32.4	42.2	43.6
Postmasters and mail superintendents	46.2	52.4	53.8
School administrators, college	26.4	31.9	33.0
School administrators, elementary, secondary	28.8	32.3	33.3
Funeral directors	34.4	48.2	49.8
Managers, superintendants, building	62.2	75.9	77.3
Office managers, n.e.c.	28.5	32.9	33.9
Ship officers, pilots, pursers	22.5	29.7	31.0
Officials of lodges, unions	32.1	41.9	43.4
Railroad conductors	29.9	38.9	40.8
Restaurant, cafe, bar managers	31.2	36.7	37.8
Other managers, administrators	29.0	38.3	39.6
Salesworkers:			
Advertising agents, salesworkers	24.6	33.5	34.6
Auctioneers	35.4	52.2	53.9
Demonstrators	29.8	31.7	32.7
Hucksters and peddlers	37.4	41.1	41.9
Insurance agents, brokers, etc	23.9	32.4	33.4
Newspaper carriers and vendors	17.2	23.5	24.1
Real estate agents, brokers	45.9	61.7	63.3
Stock and bond sales agents	27.4	40.1	41.3
Sales and salesworkers, n.e.c.	29.5	39.7	40.7
Clerical workers:			
Secretaries, legal	36.0	38.0	39.2
Secretaries, medical	33.2	35.4	36.6
Secretaries, other	33.6	36.0	37.3
Stenographers	36.9	38.8	40.0
Typists	33.0	35.7	36.9
Bookkeeping, billing operators	29.2	32.0	33.3
Calculating machine operators	39.3	39.7	40.6
Computer, peripheral equipment operators	11.2	12.6	13.1
Duplicating machine operators	27.7	31.6	32.6
Keypunch operators	25.1	29.0	30.4
Tabulating machine operators	18.5	20.7	21.5
Other office machine operators	31.3	34.8	35.8
Bank tellers	26.4	29.8	31.1
Billing clerks	31.5	34.7	35.8
Bookkeepers	36.9	39.6	40.5
Cashiers	31.0	33.9	34.9
Clerical assistants, social welfare	35.1	39.3	40.3
Clerical supervisors, n.e.c.	26.5	29.8	30.8
Collectors, bill and account	28.7	36.5	37.6
Counter clerks, except food	35.9	41.4	42.5
Dispatchers, starter, vehicle	22.9	28.8	30.0

Table 1. Continued—Estimated and projected national labor force separation rates, by occupation, 1970, 1980, and 1985

[Separations per 1,000 persons]

Occupation	1970	1980	1985
Clerical workers: —continued			
Enumerators and interviewers	29.9	34.0	34.9
Estimators, investigators, n.e.c.	26.4	32.2	33.3
Expeditors, product controllers	19.0	22.4	23.4
File clerks	33.5	36.6	37.7
Insurance adjusters, examiners	18.3	22.4	23.3
Library attendants, assistants	34.2	35.6	36.5
Mail carriers, post office	17.0	21.3	22.1
Mail handlers, except post office	30.6	37.1	38.3
Messengers and office helpers	40.2	63.6	65.4
Meter readers, utilities	15.1	19.8	20.6
Payroll, timekeeping clerks	31.2	34.9	36.0
Postal clerks	22.6	26.0	27.0
Proofreaders	43.7	48.3	49.5
Real estate appraisers	35.0	53.5	56.3
Receptionists	37.3	39.3	40.5
Shipping, receiving clerks	20.0	25.2	26.3
Statistical clerks	31.3	35.2	36.3
Stock clerks, storekeepers	21.8	26.9	27.9
Teachers aides, except monitors	22.0	24.2	25.1
Telegraph messengers	17.3	21.6	22.4
Telegraph operators	28.7	34.3	35.5
Telephone operators	36.0	37.9	39.0
Ticket station, express agents	20.6	24.8	25.8
Weighers	25.9	32.6	33.9
Miscellaneous clerical workers, n.e.c.	30.6	34.6	35.7
Crafts and kindred workers:			
Carpenters and apprentices	24.8	34.8	36.0
Brick and stonemasons and apprentices	16.8	21.9	22.9
Bulldozer operators	17.0	21.7	22.7
Cement and concrete finishers	16.4	21.6	22.5
Electricians and apprentices	17.9	23.2	24.3
Excavating, grading, machine operators	18.0	23.0	24.0
Floor layers, except tilesetter	16.8	22.5	23.4
Painters and apprentices	27.4	38.1	39.7
Paperhangers	42.7	59.5	61.5
Plasterers and apprentices	23.5	32.2	33.6
Plumbers, pipefitters and apprentices	20.7	27.6	28.8
Roofers and slaters	13.4	17.6	18.3
Structural metal craft workers	16.0	20.3	21.2
Tilesetters	14.9	19.6	20.4
Blue-collar worker supervisors, n.e.c.	20.9	25.9	27.0
Blacksmiths	42.0	64.8	67.0
Boilermakers	23.9	31.0	32.4
Heat treaters, annealers, and so forth	22.1	27.1	28.5
Forge and hammer operators	17.7	22.0	23.0
Job and die setters, metal	17.3	21.4	22.4
Machinists and apprentices	20.3	26.3	27.5
Millwrights	20.7	25.7	27.0
Metal molders and apprentices	16.1	19.7	20.6
Pattern and model makers	23.2	30.6	31.9
Rollers and finishers, metal	21.0	25.2	26.5
Sheetmetal workers and apprentices	16.2	20.8	21.6
Tool and diemakers and apprentices	20.1	26.3	27.4
Air conditioner, heating, refrigerator mechanics	17.0	22.6	23.5
Aircraft mechanics	13.8	16.6	17.4
Auto accessories installers	12.5	16.6	17.3
Auto body repairers	12.8	16.5	17.1
Auto mechanics and apprentices	16.3	21.4	22.3
Data processing machine repairers	5.5	6.0	6.2
Farm implement mechanics	22.4	31.4	32.6
Heavy equipment mechanics, including diesel	18.9	24.3	25.4
Household appliance mechanics	18.3	24.2	25.2
Loom fixers	22.3	28.2	29.6
Office machine repairers	11.5	15.1	15.6
Radio, television repairers	15.9	20.8	21.6
Railroad, car shop repairers	25.9	33.1	34.8
Other mechanics and apprentices	20.0	27.5	28.6
Bookbinders	31.7	35.0	35.9
Compositors and typesetters	25.2	33.5	34.7
Electrotypers, stereotypers	30.1	41.6	43.3
Engravers, except photoengravers	24.9	32.5	33.6
Photoengravers, lithographers	18.3	23.7	24.7
Printing press operators and apprentices	16.4	21.1	21.9
Electric power line installers, repairers	10.6	12.5	13.0
Locomotive engineers	34.3	46.2	48.3
Locomotive engineer helpers	16.7	21.8	22.7
Power station operators	20.9	25.0	26.4
Telephone installers, repairers	8.7	10.0	10.4
Telephone line installers, splicers	6.7	7.7	8.0
Bankers	31.6	37.3	38.4
Cabinetmakers	28.8	41.3	42.8
Carpet installers	9.6	12.0	12.4
Crane, derrick, and hoist operators	18.1	22.5	23.5
Decorators, window dressers	34.8	37.5	38.3
Dental laboratory technicians	22.5	29.6	30.8
Furniture and wood finishers	30.5	42.1	43.7
Furriers	62.2	87.0	89.4
Glaziers	15.4	20.5	21.3
Inspectors, log and lumber	25.8	34.7	36.2
Inspectors, other	26.5	34.2	35.7
Jewelers and watchmakers	38.3	56.3	58.3
Millers, grain, flour, feed	26.3	35.2	36.7
Motion picture projectionists	44.5	71.8	74.0
Opticians, lens grinders, polishers	22.3	29.0	30.1
Piano, organ tuners, repairers	47.3	75.8	78.1
Shipfitters	18.1	22.8	23.9
Shoe repairers	52.3	79.4	81.7
Sign painters and letterers	34.6	50.0	51.8
Stationery engineers	28.4	38.3	40.0
Stone cutters, stone carvers	24.5	33.7	35.0
Tailors	45.2	59.8	61.3
Upholsterers	27.4	36.8	38.1
Crafts, kindred workers, n.e.c.	13.1	25.4	26.4
Operatives:			
Drill press operatives	20.7	25.1	26.1
Furnace tenders, smelters, pourers	17.7	22.0	23.0
Grinding machine operatives	19.5	24.9	26.0
Heaters, metal	24.1	29.7	31.2
Lathe, milling machine operatives	18.3	23.4	24.4
Metalplaters	16.6	20.9	21.8
Other precision machine operators	18.0	22.3	23.2
Punch stamping press operatives	19.6	22.7	23.6
Solderers	26.3	28.6	29.6
Welders and flame cutters	15.7	19.4	20.3
Carding, lapping, combing operators	29.9	32.5	33.8
Knitters, loopers, and toppers	28.0	30.6	31.5
Spinners, twisters, and winders	27.8	29.8	30.7
Weavers	29.0	32.5	33.5
Other textile operatives	24.7	28.2	29.2
Checkers, examiners, and so forth, manufacturing	24.9	27.7	28.7
Graders and sorters, manufacturing	31.5	34.4	35.3
Meat wrappers, retail trade	25.0	26.5	27.3
Packers, wrappers, except meat, produce	26.1	28.8	29.7
Producers, graders, packers, except factory, farm	35.8	39.0	40.0
Asbestos, insulation workers	13.1	16.1	16.8
Assemblers	21.1	23.9	24.8
Blasters	19.4	24.4	25.5
Bottling, canning operatives	25.5	28.7	29.8
Surveyor helpers	11.7	15.3	15.9
Clothing ironers and pressers	36.3	38.6	39.6
Cutting operatives, n.e.c.	23.4	27.9	28.9
Dressmakers, except factory	79.5	71.6	71.2
Drillers, earth	17.5	22.6	23.6
Dry wall installers, lathers	8.6	10.6	11.0
Dyers	17.5	22.2	23.2
Filers, polishers, sanders, and buffers	22.7	28.7	29.9
Garage workers, gas station attendants	14.2	20.3	21.0
Laundry, dry cleaning operators, n.e.c.	40.5	44.0	44.9
Meat cutters, butchers, except manufacturing	23.9	33.1	34.3
Meat cutters, butchers	20.7	24.8	25.8
Milliners	76.4	68.0	67.7
Mine operatives, n.e.c.	15.6	19.4	20.3
Mixing operatives	16.3	20.4	21.3
Oilers, greasers, except automobile	22.2	28.0	29.3
Painters, manufacturing articles	17.1	20.9	21.8
Photographic process workers	23.7	27.2	28.2
Riveters and fasteners	21.0	23.6	24.5
Sailors and deckhands	17.0	21.5	22.5
Sawyers	22.7	29.7	31.0
Sewers and stitchers	38.8	39.4	40.3
Shoemaking machine operatives	30.7	34.1	35.1
Furnace tenders, stokers, except metal	29.0	39.0	40.7
Winding operatives, n.e.c.	22.3	24.9	25.8
Miscellaneous machine operatives	20.5	24.0	25.0

Table 1. Continued—Estimated and projected national labor force separation rates, by occupation, 1970, 1980, and 1985

[Separations per 1,000 persons]

Occupation	1970	1980	1985
Operatives: —continued			
Operatives, n.e.c.	21.7	25.7	26.6
Boat operators	23.8	33.2	34.5
Bus drivers	26.3	34.6	36.1
Conductors and operators, urban rail transit	17.8	22.1	23.1
Delivery and route workers	15.8	21.1	21.9
Fork lift, tow motor operatives	12.4	15.0	15.7
Rail vehicle operators, n.e.c.	18.8	23.5	24.6
Parking attendants	35.3	57.9	59.5
Railroad brake operators	17.4	21.7	22.7
Railroad switch operators	17.9	22.3	23.4
Taxicab drivers, chauffeurs	31.5	45.2	46.9
Truckdrivers	15.4	19.6	20.4
Service workers:			
Lodging quarters cleaners, except private household	47.6	46.5	47.1
Building interior cleaners, n.e.c.	46.0	50.9	51.8
Janitors and sextons	41.0	57.8	59.7
Bartenders	31.7	43.5	45.0
Waiters' assistants	8.9	10.6	10.9
Cooks, except private	38.0	39.3	40.0
Dishwashers	27.9	31.7	32.3
Food counter, fountain workers	31.7	33.6	34.4
Waiters	28.7	31.5	32.5
Food workers, except private household, n.e.c.	38.3	39.4	40.0
Dental assistants	31.4	34.8	36.2
Health aides, except nursing	32.6	34.7	35.8
Health trainees	32.3	37.9	39.8
Lay midwives	40.8	40.4	41.1
Nurses aides, orderlies	35.0	36.4	37.3
Practical nurses	42.3	42.2	43.0
Flight attendants	32.0	38.5	40.7
Attendants, recreation, amusement	25.8	37.3	38.4
Attendants, personal service, n.e.c.	50.9	59.6	60.7
Baggage porters and bellhops	25.4	36.2	37.5
Barbers	39.6	62.0	64.0
Boarding, lodging housekeepers	94.0	93.2	93.1
Bootblacks	55.7	56.0	56.2
Child care workers, except private household	54.5	52.4	52.8
Elevator operators	54.5	77.1	79.4
Hairdressers, cosmetologists	33.9	36.1	37.3
Housekeepers, except private	48.4	48.0	48.6
School monitors	23.3	24.5	25.1
Ushers, recreation, amusement	16.3	20.4	21.0
Welfare service aides	35.2	36.7	37.4
Crossing guards, bridgetenders	58.7	62.9	65.0
Firefighters	11.8	14.3	14.9
Guards	48.3	73.8	76.3
Marshals and constables	44.0	69.5	71.6
Police and detectives	12.2	15.8	16.4
Sheriffs and bailiffs	29.2	43.1	44.5
Child care workers	62.6	58.4	58.6
Cooks, private	90.5	81.5	81.0
Housekeepers, private	82.6	74.6	74.2
Launderers, private household	86.7	85.2	84.5
Private household cleaners, servants	71.3	65.2	65.1
Laborers except farm:			
Animal caretakers, except farm	26.5	35.5	36.7
Carpenters, helpers	16.2	22.2	23.1
Construction laborers, except carpenters' helpers	18.1	24.1	25.1
Fishers, hunters and trappers	24.9	34.9	36.2
Freight, material handlers	15.6	19.6	20.4
Garbage collectors	18.0	24.8	25.8
Gardeners, groundkeepers, except farm	38.1	59.7	61.6
Longshore workers, stevedores	21.9	28.2	29.5
Timbercutting, logging workers	17.1	23.0	23.9
Stock handlers	13.1	15.9	16.3
Teamsters	18.8	25.7	26.8
Vehicle washers, equipment cleaners	17.2	22.0	22.8
Warehouse laborers, n.e.c.	16.4	21.0	21.9
Other laborers	24.1	31.3	32.7
Farmers and farmworkers:			
Farmers (owners and tenants)	47.4	72.6	75.0
Farm managers	32.8	48.2	49.9
Farm labor supervisors	28.9	40.0	41.5
Farm laborers, wage workers	28.3	40.7	42.0
Farm laborers, unpaid family workers	28.2	35.7	36.4
Farm laborers, self-employed	31.3	42.8	44.3

Rate construction

The national age- and sex-specific data the Bureau uses to derive its labor force separation estimates are from the "working life" tables it constructs for the total U.S. population. The working life table is an actuarial device that summarizes the labor force activity and mortality experience of the population. It applies death and labor force participation rates to a hypothetical population for each year of age. Increases in the labor force with population age are interpreted as net labor force accessions, decreases as net labor force separations. Net labor force separations for each year of age are divided by the total population for that age to derive its net separation rate.

BLS constructs working life tables for each of several population groups known to have differing labor force participation patterns: all men and four marital and family-status groups for women (never married, married with no children, married and in the labor force after birth of last child, and divorced, widowed, or separated). Comparison of separation rates among marital status groups for women allows estimation of labor force separations resulting from marriage and birth of children.[2]

. . . *and revision.* There are two major data requirements for using the working life table to calculate separation rates—mortality rates and labor force participation rates. Separation rates are, therefore, revised periodically to reflect changes in death and labor force participation patterns. Working life tables are also projected for estimates of future rates of mortality and labor force participation by age and sex.

The revised separation rates now available are based on 1970 mortality rates published by the U.S. Public Health Service[3] and on labor force participation rates from the 1970 Census of Population, replacing the 1960 rates for women and preliminary 1970 rates for men used for earlier estimates. Projected working life tables for 1980 and 1985 are based on the same comprehensive 1970 data on mortality used for the 1970 tables but on projected labor force participation rates by age and sex, developed by the Bureau's Division of Special Labor Force Studies.[4]

Limitations. The working life table has a number of limitations when it is used to develop occupational separation rates. A major drawback is that the method assumes that mortality and labor force participation rates do not vary by occupation for workers of the same age and sex. This is a limitation in calculating labor force separation for occupations having highly educated workers, because labor force attachment generally is stronger for the highly educated than for most workers. In the case of two occupations, physicians and dentists, the Bureau has developed more accurate, alternative rates from data sources other than the working life table.

OCCUPATIONAL SEPARATION RATES are useful in a number of applications in addition to preparing projections of job openings. Researchers may obtain the rates by contacting the Chief, Division of Occupational Outlook, Bureau of Labor Statistics, Washington, D.C. 20212. ☐

FOOTNOTES

[1] See *Tomorrow's Manpower Needs*, Supplement 4, "Estimating Occupational Separations from the Labor Force for States" (Bureau of Labor Statistics, 1974). The revised rates are available upon request from the Bureau of Labor Statistics.

The proxy national labor force separation rates by occupation (shown in table 1) are used in the Bureau's occupational outlook program to estimate the replacement needs published in the *Occupational Outlook Handbook, 1978–79*, Bulletin 1955 (Bureau of Labor Statistics, 1978), *Occupational Projections and Training Needs*, Bulletin 2020 (Bureau of Labor Statistics, 1979), and related publications.

[2] 1970 working life tables were published in Howard N Fullerton, Jr., and James J. Byrne, "Length of working life for men and women, 1970," *Monthly Labor Review*, February 1976, pp. 31–35.

[3] *Vital Statistics of the United States, 1970*, Volume II, Part A (U.S. Public Health Service, 1974), Section 5. These data update the 1970 death rates used in *Tomorrow's*, Supplement 4.

[4] Projected labor force participation rates are those used in preparing labor force projections published in Howard N Fullerton, Jr., and Paul O. Flaim, "New labor force projections to 1990," *Monthly Labor Review*, December 1976, pp. 3–13.

Employment and pay trends in the retail trade industry

BARBARA COTTMAN JOB

As the demand for consumer goods and customer convenience has risen, so has employment in retail trade, advancing by 4 million workers between 1968 and 1978. Only service businesses and State and local governments have added a comparable number of workers over the same period. Who are the workers in the retail trade industry, what are their jobs, and under what kinds of hour and pay arrangements do they work?

In 1978, the industry employed 15.6 million persons in a wide range of activities, such as selling clothing, furniture, fuels, food, and automobiles.[1] About one-third of the Gross National Product passes through the retail trade sector.[2] Sales often serve as a bellwether of the Nation's economic well-being. Retail trade provides the major outlet for personal consumption items and is the major provider of new jobs for young people and women. More than three-fifths of the 2.2-million growth in the number of teenage workers between 1968–78 was in retail trade. During the same period, the industry also accounted for nearly one-third of the growth in the number of working young adults age 20–24 years. Of the 11-million overall increase in women's employment, nearly one-fourth was in retail trade. (See table 1.) In 1968, about 27 percent of persons working in the industry were under 25 years of age, but by 1978, nearly 40 percent were under 25. Women increased their share of employment in the industry from about 45 percent in 1968, to 50 percent in 1978.

All of the employment growth in the industry was among wage and salary earners, their numbers increasing by nearly 40 percent during the decade, from 9.9 million to 13.9 million. About half of the growth was among part-time workers. The number of self-employed and unpaid family workers remained essentially unchanged at 1.7 million. Paid hours of wage and salary workers grew by only 26 percent.[3] By 1978, 35 percent of those employed in retail trade worked less than 35 hours per week, up from 29 percent in 1968 (only entertainment and recreation services used a comparable share of part-time workers in 1978). Further, a reduction in the average workweek of full-time employees was only partially offset by increases for part-time workers.[4] Thus, not only were more people in the industry working at part-time jobs, but even many full-time workers were on the job fewer hours. Accordingly, the average workweek in retail trade declined from 37.2 to

Table 1. Total employment and retail trade employment, by age and sex, 1968 and 1978

[Annual averages in thousands]

Age and sex	1968		1978		1968 to 1978 change:		Change in retail trade employment as percent of change in total employment
	Total	Retail trade	Total	Retail trade	Total	Retail trade	
Both sexes, 16 years and over	75,920	11,585	94,373	15,636	18,453	4,051	22.0
16–19 years	5,780	1,841	7,981	3,221	2,201	1,380	62.7
20–24 years	8,762	1,287	13,498	2,772	4,736	1,485	31.4
25 years and over	61,378	8,457	72,894	9,643	11,515	1,186	10.3
Men, 16 years and over	48,114	6,409	55,491	7,772	7,377	1,363	18.5
Women, 16 years and over	27,807	5,176	38,881	7,865	11,074	2,689	24.3

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35.1 hours between 1968 and 1978.

Despite the decline in the average workweek, retail trade establishments have generally extended their hours of operation to include longer evening and Sunday service, through their heavy reliance upon part-time workers and flexible work schedules. One indication of the industry's flexibility in work scheduling is that it is a primary employer of "moonlighters" (multiple jobholders). In May 1978, of the 4.5 million persons working at two or more jobs, about 1 in 6 was in retail trade as a second job.[5] Only agriculture provided a similar share of secondary employment opportunities.

To some degree, the industry has extended both its operating hours and output without corresponding increases in per-employee hours. Labor-saving innovations, such as self service in gas stations, reduced the number of employee hours required per sale. In retail food stores, changes in equipment reduced the time spent in completing sales transactions, and affected the way employees use their time in preparing to serve customers' needs. For example, the introduction of electronic scales and cash registers substantially reduced the customer's checkout time. These machines are often part of computerized inventory control systems, which eliminate much of the manual work associated with ordering, monitoring, and maintaining stocks. Fast defrosting and self-defrosting refrigerators, centralized poultry processing plants and centralized warehouses, conveyor belts and overhead "railway" systems to load and unload in warehouses, and the increased use of prepackaged meat and produce, have all helped reduce on-site employee-hours. Even the installation of special surfaces in meat departments has helped; the new floors require less time and effort to clean up.

In the area of labor-saving management practices, the move to simplify work processes has received a major impetus from the fast-food chains. Their refinement of the steamlined and standardized approach to managing a largely unskilled work force, subject to high turnover, is likely to set the pattern for continued productivity advances in the food service industry for many years to come. The chains will no doubt spur the increased use of off-premise food preparation, standardized (uniform and frozen portions) food products, limited menu choices, shortened food preparation time, self-service, and higher ratios of equipment to workers. All of these developments have tended to hold down the industry's demand for employee-hours. They shift certain work activities, such as food processing and preparation, from retail employees on-site, to employees either in related industries such as food processing, or to goods-producing industries such as small appliance manufacturing. Certain other work activities, such as cleaning tables, have been shifted to the unpaid labor of consumers. Moreover, these developments have not only reduced the demand for labor time in retail trade, but probably have reduced the labor time needed for the final product.[7] Lastly, these innovations have tended to transform the type of work done in the retail trade industry. Some jobs which once required specialized skill or knowledge have been restructured to require little knowledge or training. This trend is widespread throughout retail trade, but especially in the food service industry. An example is fast-food restaurants, with their stocks of simple equipment, standardized menus, and heavy reliance upon self service. These innovations have reduced the need for qualified cooks and chefs, and for knowledgeable trained service personnel such as waiters, waitresses, and stewards. With the widespread introduction of advanced electronic computing machines and the growing standardization of consumer products, even the need for knowledgeable sales clerks, cashiers, and bookkeepers will decline accordingly. Equipment and products are being designed to be operated (or sold) by minimally trained, unskilled persons, of whom high turnover rates are expected.[8]

Turnover and tenure

Frequent turnover is a characteristic feature of employment in retail trade. It seems that the industry relies heavily on intermittent, short-term workers.[9] Only about half of the persons who worked in retail trade during 1977 had year-round experience, either full time or part time. This proportion was among the lowest of all industry groups, and it differed markedly by sex.

About half of the work experience of women in retail trade during 1977 was part time, and little was year round. A comparable proportion of work experience for men was both full time and year-round. To some extent, the variations between men and women in the duration and type of experience reflect occupational differences. Retail employment for women tends to be concentrated in three occupational groups, clerical, service, and sales, which in 1978 accounted for nearly four-fifths of the retail jobs held by women. Men's employment, by contrast, tends to be more varied, encompassing most of the occupational spectrum. (See table 2.) Two of the occupations in which women are concentrated, service and sales, are characterized by very low rates of full-time, year-round employment. For example, only 20 percent of all food service workers and about 30 percent of retail trade sales workers were employed both year-round and full time during 1977. However, even in these two occupations, the proportion of women working year-round, full time tended to be lower than that for men.

Not only do workers in retail trade tend to work less than year-round, they also tend to work for shorter periods for any specific employer. As of January 1978, half of the women in the industry had worked for their current employers for less than 1.5 years, about 1 year less than the median tenure for all women employees. Half of the men had worked less than 2.5 years, about 2 years less than the median tenure for all men employees. The comparatively short tenure for both men and women in retail trade reflects the use of many temporary workers.

Earnings below average

The relative instability of retail trade employment may be associated with the industry's low earnings profile.[10] In May 1978, the median usual weekly earnings of workers in the industry were only 59 percent of those for all wage and salary workers.[11] (See table 3.) This ratio has changed little since 1967, the earliest year for which data are available. About three-fifths of the retail trade workers reported usual weekly earnings of less than $150, while only 30 percent of workers in other industries reported earnings that low.[12] Three-fifths of persons working in other industries were in the $150–400 per week range. Only one-third of wage and salary workers in retail trade reported such earnings.

The differences in earnings between retail trade workers and those in other industries reflect, in part, the industry's greater employment of young, relatively inexperienced persons and heavy reliance on part-time workers, occupational structure, and extent of unionization.[13] In 1978, about 1 in 5 retail trade workers was under 20 years of age. In all other industries combined, less than 1 in 20 was in that age group. Because young workers generally earn less regardless of industry, the concentration of the young in retail trade tends to result in lower than average wages. Although the industry employs many part-time workers, even among full-time workers a substantial difference in earnings persists. Earnings of full-time retail trade workers averaged about 73 percent of those for full-time workers in all industries. About 65 percent of retail trade employees were in relatively low-skilled, low-paying occupations, such as service, sales, unskilled labor, and clerical work. Only 37 percent of workers in other industries were in these occupations. Thus, given the occupational mix in retail trade, and assuming that service, sales, unskilled labor, and clerical jobs are generally low-paying regardless of industry, it is not unexpected that average earnings in retail trade are lower than in other industries. In both retail trade and all industries combined, workers covered by union contracts tended to earn substantially more than those who were not. However, a much smaller proportion of retail trade workers was covered by union contracts than in other industries. In May 1978, about 1 in 4 wage and salary workers reported that they were covered by a union contract. In retail trade the proportion was 1 in 9.

Table 2. Employment in nonfarm retail trade by occupation and sex, 1978 annual averages

[Numbers in thousands]

Occupation	Men		Women	
	Number	Percent	Number	Percent
Total	7,772	100.0	7,865	100.0
Professional and technical	163	2.1	89	1.1
Managers and administrators	2,080	26.8	835	10.6
Sales	1,157	14.9	2,015	25.6
Clerical	370	4.8	2,220	28.2
Craft and kindred	991	12.8	160	2.0
Operatives, except transport equipment	622	8.0	200	2.5
Transport equipment operatives	338	4.3	22	.3
Laborers	797	10.3	133	1.7
Service	1,253	16.1	2,191	27.9

Table 3. Median usual weekly earnings of wage and salary workers in all industries and retail trade, by sex, full- and part-time status, and union coverage, May 1978

[Workers in thousands]

Category	All industries	Retail trade
Total wage and salary workers	84,968	13,765
Total reporting usual weekly earnings	66,246	10,773
Both sexes	$195	$116
Full-time	227	166
Part-time	61	57
Covered by a union contract	265	179
Not covered by a union contract	165	111
Men	255	167
Full-time	272	217
Part-time	58	57
Covered by a union contract	296	237
Not covered by a union contract	229	160
Women	138	95
Full-time	166	124
Part-time	62	58
Covered by a union contract	198	137
Not covered by a union contract	125	92

There were marked differences in the earnings of male and female workers, both full-time and part-time. The usual weekly earnings for women were about 57 percent of those for men. Women working part time tended to earn about the same as men working part time. Thus, the overall disparity in female-male earnings appears to stem primarily from differences in the earnings paid to full-time workers. As with the inter-industry earnings differential, one possible explanation is occupational differences. Whether they work full time or part-time, women tended to be employed in relatively low-paying sales, service, and clerical jobs. Nearly 80 percent of women working full time and about 85 percent of those working part time were in these three occupations. Men, however, not only engage in a wider array of occupations, but their employment also shows more occupational variation between full-time and part-time workers. For example, nearly 30 percent of full-time male workers were employed as craftworkers and operatives, relatively well-paying occupations, but only 15 percent of part-time male workers were in such occupations. About 37 percent of men were working full time in the low-paying occupations of sales, service, and unskilled labor. Half of the part-timers, however, were in those occupations. This greater proportion of men working full time in better paying occupations may have contributed to the greater difference in pay between men and women working full-time. ☐

——FOOTNOTES——

[1] The data in this article are based primarily on the Current Population Survey (CPS) and its supplements. The Bureau of Labor Statistics regularly publishes industry employment estimates based on the results of two separate surveys, the Current Employment Statistics (CES) program and the CPS. The CES program is generally recognized as the major source of information on employment by industry. CES statistics are derived from a sample survey of business establishments, scientifically selected to represent the industrial structure of the nonagricultural economy. However, CPS results are used in this article. CPS not only provides estimates of employment, hours, and earnings of workers, by industry, but unlike the CES, also yields data on full- and part-time status, occupation, and demographic characteristics of workers, by industry. The differing CPS and CES estimates of employment, hours, and earnings are due to differences in the concepts and coverage of the two surveys. For a comprehensive discussion of this, see Gloria P. Green, "Comparing employment estimates from household and payroll surveys," *Monthly Labor Review*, December 1969, pp. 9–20. For the period of this study 1968–78, employment growth in retail trade as measured by the CES was 4.2 million, comparable to the CPS at 4.1 million.

The retail trade industry includes establishments engaged in selling merchandise for personal or household consumption, and for rendering incidental services. In general, retail establishments are classified by type of business, according to the principal lines of commodities sold (groceries, hardware, etc.), or the usual trade designation (drugstore, cigar store, etc.). Gasoline service stations and eating and drinking places are included in this industry group. Although industries are not always classified in the CPS according to the Standard Industrial Classification (SIC) Manual, its designation of retail trade closely parallels what is included in SIC codes 52–59. See U.S. Bureau of the Census, 1970 Census of Population, *Classified Index of Industries and Occupations.*

[2] See *Survey of Current Business*, Bureau of Economic Analysis, April 1979, pp. 11 and S–12.

[3] The data on paid hours of wage and salary workers in the retail trade industry are based largely on the CES estimates of average weekly hours for production or nonsupervisory workers, and employment data for all employees. For the retail trade industry, these CES data are supplemented by other sources, including the Census, CPS, and the Internal Revenue Service. See *BLS Handbook of Methods for Surveys and Studies*, BLS Bulletin 1910-Chapter 31, Output per employee-hour measures: Industries and the Federal Government.

[4] Average workweeks as measured in the CPS.

[5] See *Multiple Jobholding, in May 1978*, Special Labor Force Report 221, (Bureau of Labor Statistics, 1979).

[6] Most of the information in this section was obtained from studies of trends in output per employee-hour, in various segments of the retail trade industry. See Brian L. Friedman and John L. Carey, "Productivity in gasoline stations, 1958–73," *Monthly Labor Review*, February 1975, pp. 32–37; John Duke, "New car dealers experience long-term gains in productivity," *Monthly Labor Review*, March 1977, pp. 29–33; John L. Carey and Phyllis Flohr Otto, "Output per unit of labor input in the retail food store industry," *Monthly Labor Review*, January 1977, pp. 42–47, and Richard B. Carnes and Horst Brand, "Productivity and new technology in eating and drinking places," *Monthly Labor Review*, September 1977, pp. 9–15.

[7] See Howard Young, "Jobs, Technology, and Hours of Labor: The Future of Work in the U.S.," presented at hearings of the Joint Economic Committee, Special Study of Economic Change, Washington, D.C., June 14, 1978.

[8] See Carnes and Brand, "Eating and drinking places," p. 14, and Labor Information Network, *Employers' Views and Training: A Nonstatistical Approach to Data Gathering*. (New York, 1978).

[9] Work experience data are based on the March 1978 supplement to the CPS. Job tenure data are derived from the January 1978 supplement.

[10] See Carey and Otto, "Retail food stores," p. 44, for a study dealing with the food service industry.

[11] These earnings data for wage and salary workers are derived from the May 1978 supplement to the CPS; they may differ somewhat from the data derived from the CES for reasons noted in footnote 1. The term "usual" as applied to weekly earnings is vague. The reference period applied is not a specific calendar week; the CPS respondents determine the proper application period. It is vital to note that the data may not include earnings from tips. Because the subject is not systematically explored in the CPS interview, the decision whether to include tips is left to each respondent. To the extent that the data do not include earnings from tips, earnings of workers in retail trade, especially those of food service workers, are understated. For a fuller discussion of these earnings data, see Janice N. Hedges and Earl F. Mellor, "Weekly and hourly earnings of U.S. workers, 1967–78," *Monthly Labor Review*, August 1979, pp. 31–41.

[12] The distributions of earnings were computed only for persons who reported their earnings. In May 1978, about 22 percent of all wage and salary earners and a similar proportion of workers in retail trade, did not report their usual weekly earnings. Among workers paid by the hour, in industry as a whole and in retail trade in particular, about 14 percent did not report their earnings in May 1978.

[13] Other factors relating to demand for products and services, the structure of employer-employee relationships, profit margins and equipment usage, etc., contribute to the earnings differentials among industries. Most of these factors are beyond the scope of a research summary; they are mentioned only to round out the range of possible factors underlying the inter-industry gaps in earnings. Since no statistical analysis of these data was performed, no attempt is made to determine the relative contributions of various factors to the rather low earnings in the industry.

Work experience of the population in 1978

ANNE MCDOUGALL YOUNG

More than 110 million persons were employed at some time during 1978, 3.2 million more than in 1977, with women accounting for two-thirds of the increase. Among women who worked, the proportion who worked all year at full-time jobs rose to a record 44 percent (table 1). The proportion of men who worked year round, full time also rose in 1978, returning to the level prevailing before the 1974–75 recession.

As in previous years, millions of Americans continued to move into and out of the labor force during 1978. Many persons were employed only for short periods to fit school or household schedules or seasonal demands. Others entered or left military service, and there

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was the normal replacement resulting from death, retirement, and disability.[1] The work force also included a total of 17.7 million persons who encountered some unemployment during 1978, about 1.8 million fewer than in 1977. Most of these persons worked during part of the year.

As in earlier years, the proportion of white and Hispanic men who worked during 1978 (82 and 83 percent) was larger than that for black men (73 percent). Hispanic men were the least likely to have worked year round, full time. Among women, the proportion who worked during the year differed little by race or Hispanic origin—averaging about 55 to 57 percent. Black women were more likely than white and Hispanic women to have worked all year at full-time jobs.

Trends in year-round employment

Since 1968, about two-thirds of the increase in the number of women with work experience has been among women who worked all year (table 2). The expansion in year-round employment was greatest among women ages 25 to 34. These are the young women—

Table 1. Work experience during the year of persons 16 years of age and over, by extent of employment, sex, and race, 1977 and 1978

[Numbers in thousands]

Extent of employment	Both sexes		Men		Women		White		Black		Hispanic origin[1]	
	1977	1978	1977	1978	1977	1978	1977	1978	1977	1978	1977	1978
Population	158,188	160,756	74,814	76,070	83,374	84,686	138,999	140,999	16,449	16,794	7,518	7,543
Worked during the year[2]												
Number	107,096	110,290	60,717	61,917	46,379	48,373	94,991	97,603	10,196	10,655	4,938	5,091
Percent of population	67.7	68.6	81.2	81.4	55.6	57.1	68.3	69.2	62.0	63.4	65.7	67.5
	Percent distribution											
Worked during the year	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Full time[3]	78.6	79.1	87.5	87.9	67.0	67.8	78.5	78.9	79.4	80.7	83.3	83.2
50 to 52 weeks	54.9	56.4	64.7	66.3	42.1	43.7	55.2	56.8	52.6	52.5	52.0	53.8
1 to 49 weeks	23.7	22.6	22.7	21.7	24.8	24.2	23.3	22.1	26.7	28.1	31.3	29.3
Part time[4]	21.4	20.9	12.5	12.1	33.0	32.2	21.5	21.1	20.6	19.4	16.7	16.8
50 to 52 weeks	7.2	7.0	4.1	4.0	11.2	10.9	7.2	7.2	6.6	6.2	5.2	5.4
1 to 49 weeks	14.3	13.8	8.3	8.1	21.9	21.2	14.2	13.9	14.0	13.2	11.5	11.5

[1] Persons of Hispanic origin may be of any race.
[2] Time worked includes paid vacation and sick leave.
[3] Usually worked 35 hours or more per week.
[4] Usually worked 1 to 34 hours per week.

Table 2. Persons who worked during the year and who worked 50 to 52 weeks, by sex, age, and occupation, 1968 and 1978

[16 years and over]

Category	MEN						WOMEN					
	Worked during the year		Worked 50 to 52 weeks				Worked during the year		Worked 50 to 52 weeks			
			Number		Percent of total who worked				Number		Percent of total who worked	
	1968	1978	1968	1978	1968	1978	1968	1978	1968	1978	1968	1978
Total	53,312	61,917	39,251	43,562	73.6	70.4	36,918	48,373	18,803	26,387	50.9	54.5
AGE												
16 to 19 years	5,221	5,704	1,413	1,434	27.1	25.1	4,177	5,100	765	1,121	18.3	22.0
20 to 24 years	5,698	8,797	2,954	4,551	51.8	51.7	5,791	8,111	2,398	3,699	41.4	45.6
25 to 34 years	10,962	15,767	9,076	12,119	82.8	76.9	6,710	12,220	3,221	6,751	48.0	55.2
35 to 44 years	10,704	11,274	9,287	9,433	86.8	83.6	6,860	8,684	3,918	5,331	57.1	61.4
45 to 54 years	10,463	10,215	8,927	8,617	85.3	84.4	7,127	7,420	4,639	5,105	65.1	68.8
55 to 64 years	7,461	7,625	5,945	6,062	79.7	79.5	4,762	5,213	3,115	3,602	65.4	69.1
65 years and over	2,803	2,534	1,649	1,347	58.8	53.2	1,491	1,626	747	778	50.1	47.8
OCCUPATION												
Professional, technical and kindred workers	7,024	9,115	5,844	7,415	83.2	81.3	4,845	7,431	2,770	4,598	57.2	61.9
Managers and administrators, except farm	6,759	8,185	6,092	7,248	90.1	88.6	1,424	2,822	1,062	2,049	74.6	72.6
Sales workers	2,868	3,593	2,219	2,721	77.4	75.7	2,696	3,464	1,116	1,568	41.4	45.3
Clerical and kindred workers	3,780	3,749	2,847	2,766	75.3	73.8	12,104	16,442	6,966	10,170	57.6	61.9
Craft and kindred workers	10,529	12,755	7,981	9,000	75.8	70.6	382	802	242	446	63.4	55.6
Operatives, except transport	8,103	7,318	5,530	4,668	68.2	63.8	5,366	5,435	2,583	2,682	48.1	49.3
Transport equipment operatives	2,671	3,673	1,985	2,435	74.3	66.3	100	283	26	88	26.0	31.1
Laborers, except farm	4,314	5,157	1,955	2,206	45.3	42.8	206	657	85	256	41.3	39.0
Private household workers	65	27	33	17	([1])	([1])	2,365	1,421	929	516	39.3	36.3
Service workers, except private household	3,871	5,844	2,439	3,356	63.0	57.4	6,246	8,952	2,536	3,727	40.6	41.6
Farmers and farmworkers	3,328	2,500	2,326	1,729	69.9	69.2	1,184	664	408	288	34.5	43.4

Table 3. Women who worked year round, full or part time, as proportion of total who worked during the year, by age and race, 1968 and 1978

Age	1968		1978	
	White	Black[1] and other races	White	Black[1] and other races
16 years and over, total	51.1	50.1	54.2	56.8
16 to 19 years	18.8	14.6	23.0	12.5
20 to 24 years	41.9	37.7	46.4	40.5
25 to 34 years	47.3	51.6	54.5	60.0
35 to 44 years	56.9	58.4	60.4	67.5
45 to 64 years	65.4	63.4	68.6	71.1
65 years and over	50.6	45.9	60.4	54.9

[1] According to the 1970 census, 89 percent of this group were black. The others were American Indians, Asians and Pacific Islanders, and other nonwhite races. These data differ slightly from data in table 1 which are for black *only*.

born in the baby boom which followed World War II—who have established a new pattern of labor force participation for their age group. Today they are marrying later, often after several years in the labor market, and returning to work following the birth of children much sooner than did their mothers. In March 1979, 46 percent of all mothers under age 35 with a child under age 6 were in the labor force. Among women of all ages with children under 6 years, 43 percent were in the labor force during all of 1978 (50 to 52 weeks).

Since the early 1970's, black women have—in general—been more likely to work all year full time than white women and that difference persisted in 1978.[3] If women who work all year at part-time jobs are included with year-round, full-time workers, the black-white difference narrows slightly. However, black women under age 25 have consistently been less likely to work all year than white women in that age group, and the difference in proportions increased substantially over the decade (table 3). One of the reasons for this is that more black than white teenagers left school before graduating, and therefore lacked an important credential for jobs which provide steady employment. Also, among young women in the labor force, a higher percentage of blacks than whites had children under age 6. In the 25-to-34 age group, the proportions of both white and black women with year-round employment rose by 7 to 8 percentage points and that for black women ages 35 to 44 jumped even more. The proportions of white and black women with young children were about the same at these ages.

In contrast to the upward trend over the decade in year-round employment among women, the proportion of men with such steady work declined by 3 percentage points and dropped sharply among white and black men 25 to 34 years old—the "baby boom" cohort. Given that men in this age group have traditionally had high labor force participation rates, the decline in year-round employment may indicate some generational crowding with respect to the so-called "good" jobs which offer steady employment.[4] Less year-round work also reflects the larger proportion of men in the age group with some unemployment during 1978 than during 1968 (15.9 versus 11.6 percent); in 1968, the Vietnam war took a large group of men out of the civilian economy, and there was also a high level of business activity.

The over-all figures obscure the sharp decline in year-round work among black men under age 25, in contrast to little change among young white men. Reasons for the deterioration in the employment situation of young blacks have been extensively explored in other reports with reference to their higher school dropout rate, their lack of vocational training, the scarcity of jobs in the inner city, and the range of socioeconomic factors which influence behavior in the labor market.[5] During the past 25 years, the employment situation of young blacks has continued to deteriorate even in times of general economic improvement.[6] In that context, the lower proportion of black teenagers and young adults with year-round work is further evidence of the extent of change.

Table 4. Occupational distribution of persons who worked 50 to 52 weeks, by race and sex, 1968 and 1978

[Numbers in thousands]

Category	White		Black and other races[1]	
	1968	1978	1968	1978
MEN				
Total: Number	35,681	39,504	3,570	4,058
Percent	100.0	100.0	100.0	100.0
Professional, technical and kindred workers	15.6	17.5	7.6	12.3
Managers and administrators, except farm	16.6	17.5	5.0	7.9
Sales workers	6.0	6.6	2.4	2.5
Clerical and kindred workers	7.2	6.2	7.5	8.1
Craft workers	20.9	20.9	14.7	17.8
Operatives, except transport	13.5	10.3	20.0	15.2
Transport equipment operatives	4.8	5.3	7.5	8.7
Laborers, except farm	3.9	4.6	16.1	9.1
Private household workers	.1	....	.3	.1
Service workers, except private household	5.5	6.9	13.6	15.6
Farmers and farmworkers	6.0	4.1	5.2	2.7
WOMEN				
Total: Number	16,463	22,897	2,340	3,490
Percent	100.0	100.0	100.0	100.0
Professional, technical and kindred workers	15.2	17.7	11.8	15.9
Managers and administrators, except farm	6.2	8.3	2.1	4.2
Sales workers	6.5	6.5	1.9	2.4
Clerical and kindred workers	39.5	39.9	19.7	29.1
Craft workers	1.3	1.8	.9	1.0
Operatives, except transport	13.5	9.6	15.3	14.2
Transport equipment operatives	.1	.3	.1	.3
Laborers, except farm	.4	.9	.9	1.5
Private household workers	2.3	1.2	23.0	7.0
Service workers, except private household	12.1	12.6	23.2	24.0
Farmers and farmworkers	2.8	1.2	1.1	.8

[1] See footnote 1, table 3.

Table 5. Persons 16 years and over who experienced some unemployment during year, by sex, 1977 and 1978

Extent of unemployment	Both sexes		Men		Women		White		Black		Hispanic origin[1]	
	1977	1978	1977	1978	1977	1978	1977	1978	1977	1978	1977	1978
	Numbers (in thousands)											
Persons who worked or looked for work during the year	109,863	112,362	61,675	62,680	47,989	49,683	96,734	98,985	10,972	11,304	5,097	5,240
Percent with unemployment	17.8	15.8	17.4	15.3	18.3	16.4	16.7	14.7	27.1	25.0	23.9	21.3
Persons with unemployment	19,512	17,738	10,727	9,572	8,785	8,166	16,150	14,548	2,973	2,831	1,218	1,116
Did not work but looked for work	2,568	2,072	958	763	1,610	1,310	1,743	1,382	774	649	159	149
With work experience	16,944	15,666	9,770	8,809	7,175	6,856	14,407	13,166	2,200	2,182	1,059	967
	Percent distribution											
Did not work but looked for work	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1 to 14 weeks	57.7	59.6	42.7	48.2	66.7	66.2	59.8	60.6	52.6	57.2	46.5	59.7
15 weeks or more	42.3	40.4	57.3	51.6	33.3	33.7	40.2	39.4	47.4	42.3	53.5	40.3
Unemployed persons with work experience	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Year-round workers[2] unemployed 1 to 2 weeks	3.8	4.3	4.3	5.0	3.2	3.4	4.0	4.5	3.0	3.2	3.3	3.4
Part-year workers[3] unemployed	96.2	95.7	95.7	95.0	96.8	96.6	96.0	95.5	97.0	96.8	96.7	96.6
1 to 4 weeks	24.7	25.9	20.5	20.8	30.4	32.4	25.6	27.5	19.0	16.2	21.1	26.1
5 to 14 weeks	33.8	35.7	35.1	37.7	31.9	33.1	34.6	35.8	28.8	35.3	32.7	33.3
15 weeks or more	37.7	34.1	40.1	36.5	34.4	31.1	35.8	32.2	49.2	45.3	42.9	37.2
With 2 spells of unemployment or more	32.6	32.5	38.2	35.0	27.8	29.3	32.2	31.7	35.7	37.3	38.1	32.4

[1] See footnote 1, Table 1.
[2] Worked 50 or 51 weeks.
[3] Worked less than 50 weeks.
NOTE: Because of rounding, sums of individual items may not equal totals.

Occupational changes

The increase in year-round, full-time employment among women reflected movement into occupations which are likely to require a more regular work commitment. Most women who worked all year—both white and black—were employed as professional and technical workers, managers, clerical workers, or service workers. Since 1968, the proportion of women employed year round in professional and technical jobs rose by almost 5 percentage points, was unchanged among managers, and rose 4 percentage points among both sales and clerical workers.

Occupational shifts over the decade were especially dramatic for black women. For example, their year-round employment as private household workers dropped from 23 to 7 percent between 1968 and 1978 (table 4). At the same time, the proportion of black women in clerical work expanded from 20 to 29 percent, and there were substantially more employed in the higher paying white-collar occupations, such as professional and managerial work. Among white women, the proportion in white-collar positions rose from 68 to 72 percent, while the percentage of operatives declined.

The decline in year-round employment among men showed a similar occupational pattern for whites and blacks, with the sharpest drop among transport equipment operatives. Although the number of men in this occupation increased by more than a million from 1968 to 1978, more than half of the increase was among part-year or part-time workers. In 1978, 36 percent of the men in this occupation worked part of the year, compared with 28 percent in 1968. The proportion of men who worked year round in service occupations also declined substantially, as two-thirds of the 2-million increase in employment was among part-year or part-time workers. By 1978, 52 percent of the men in service occupations worked less than year round, up from 45 percent in 1968.

The 17.7 million persons who encountered some unemployment during 1978 represented 15.8 percent of those who were in the labor force for either all or part of the year—the lowest such proportion since the mid-decade recession. In 1977, unemployment had reached 17.8 percent of the persons who were in the labor force (table 5). About 15.7 million, or 9 out of 10 of the persons with some unemployment during 1978, were also employed during part of the year. The number who never held a job—although they engaged in some jobseeking—was about 2.1 million, down from 2.6 million in 1977.

The decline in the incidence of unemployment affected all major labor force groups. The proportion of the work force with some unemployment fell by almost 2 percentage points for men and women, to 15.3 and 16.4 percent respectively. The proportion of white workers encountering unemployment during 1978 was 14.7 percent, while the percentages for blacks and Hispanic workers were, respectively, 25.0 and 21.3, all lower than in 1977. The number of persons accumulating 15 weeks of unemployment or more decreased substantially from 1977 to 1978—from 7.5 to 6.2 million—while the number with comparatively short spells of unemployment was down only slightly. □

FOOTNOTES

[1] The data for this report are based on responses to special "work experience" questions included in the March 1979 Current Population Survey (CPS), conducted for the Bureau of Labor Statistics by the Bureau of the Census. The work experience questions refer, retroactively, to the civilian work experience of persons during the entire preceding year. Because many persons enter and leave the labor force during the course of the year, the number of persons with employment and with unemployment as determined through the work experience questions is much greater than the annual average for the same year based on the monthly survey conducted during the year. Persons who reached age 16 during January, February, or March 1979 are included. However, the work experience of persons who were in the civilian labor force during 1978 but were not in the civilian noninstitutional population in March 1979 is not included; similarly data on persons who died in 1978 or in 1979, before the survey date, are not reflected.

This is the latest in a series of reports on this subject. Data from the March 1978 survey were published in the *Monthly Labor Review* in March 1979 (pp. 53–57) and issued with additional tabular data and explanatory notes as Special Labor Force Report 224. This report will be reprinted with additional data from the March 1979 survey as a Special Labor Force Report later this year.

[2] The rise in the proportion of women who work during the year has been documented in previous work experience reports such as Special Labor Force Report 224 for 1977 and Special Labor Force Report 201 for 1976, both reprints of research summaries in the *Monthly Labor Review.*

[3] In this discussion of year-round employment and occupational changes, "black" refers to black and other races. Data for black, only, were not available for 1968.

[4] Daniel E. Hecker, "The Jam at the Bottom of the Funnel: The Outlook for College Graduates," *Occupational Outlook Quarterly,* Spring 1978, pp. 37–39. See also Richard Freeman and Holloman J. Herbert, "The Declining Value of College Going," *Change, The Magazine of Higher Learning,* September 1975, pp. 24–31, 64; Michael Ornstein, "Entry into the American Labor Force," Academic Press, Inc. 1976, p. 183; Lewis C. Solomon, "Higher Education and Good Jobs," *National Review,* October 15, 1976, p. 1122.

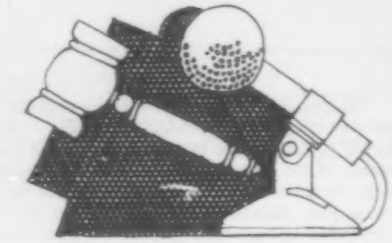
[5] For example: Norman Bowers, "Young and Marginal: An overview of youth employment," *Monthly Labor Review,* October 1979, pp. 4–18; Beacham, Herbert C., "Background and Training Needs of Persistently Unemployed Negroes," *Journal of Industrial Teacher Education,* Winter 1971, pp. 4–11; "Hardcore Personality and Industrial Illness and Accidents," *Industrial Medicine,* Vol. 39, No. 4, April 1970, pp. 33–37. See also "Young, Black and Unemployed," *The New York Times,* March 11–14, 1979.

[6] Morris J. Newman, "The labor market experience of black youth, 1954–78," *Monthly Labor Review,* October 1979, pp. 19–27.

Erratum

In the article "The political and legal issues of binding arbitration in government," appearing in the September issue of the *Review,* the representative of a police bargaining unit in Buffalo was incorrectly identified on p. 39. At the time of the challenged arbitration award, the unit was represented by the Police Benevolent Association.

Conventions



Mine Workers' new president wins dues increase, right to name VP

MARY A. ANDREWS

The United Mine Workers of America saw its new president, Samuel Morgan Church, Jr., gavel his way to victory at the union's triennial convention in Denver, Colo. In the tradition of John L. Lewis, Church won on a number of important issues, including a dues increase, a newly established strike fund, and presidential authority to appoint a vice president.

More than 1,200 delegates, representing 230,000 active and retired members, adopted as a basic theme for the December 10–19 meeting, "unity and rebuilding of the UMW." They revised a number of significant provisions of the union's constitution and formulated guidelines for the 1981 negotiations with the Bituminous Coal Operators Association. For the first time, members of working committees were elected by the delegates, rather than appointed by the president.

In his keynote address, Church invoked the spirit of Lewis, who headed the union for more than 40 years, by urging unity and stressing that "we must once again become the mighty power that we were. With your help, I will see to it that America and its leaders know we are strong, and above all united for the common good of the union. Unity is important to the future of the UMW, the labor movement, and the future of the United States and Canada." All UMW members are in these countries.

Credentials fight

A floor debate erupted during the delegates' consideration of a partial report of the credentials committee, which established the number of votes that were to be cast by the delegates. The convention first rejected this report by a voice vote. This meant that the convention could not formally seat the delegates and begin its business. Accordingly, Church told the delegates they had two options: to recess until the credentials committee report was complete and updated; or to have a roll-call vote on the partial report. The delegates chose a roll-call vote. When it became apparent to Church that the vote would be in favor of accepting the committee's partial report, he suspended the roll-call vote and asked for a voice vote, which resulted in the adoption of the entire report. It was generally agreed by convention delegates that in winning the credentials report battle Church passed his first test of leadership.

Church expressed a desire to appoint his own successor to the post of vice president, citing a need for compatibility. The post had become vacant when President Arnold Miller resigned because of poor health, turning the leadership of the union over to Church.[1]

After a brief but spirited debate, the delegates endorsed a resolution from the floor to waive a provision of the union's constitution requiring a general election to fill the vacancy.[2] Some of the opposing delegates argued that such a waiver was not in the spirit of the democratic process and represented a loss of autonomy for them as representatives of the rank and file. The majority, however, upheld the president's right to pick a vice president. Another consideration was a saving of about $750,000, the cost of running an election. Church chose not to fill the vacancy during the convention. At a press briefing, however, he mentioned that he had narrowed the list of prospective candidates down to about five persons.

Shrinking assets

Willard A. Esselstyn, secretary-treasurer, told the delegates about the union's current financial difficulties, pointing to a decline in the union's liquid assets, from $46 million in 1970 to $2 million in 1979. Loans made by the union to its districts, costly legal settlements, and aid given to striking miners, combined with inflation, have brought the union to its current financial condition. With $2 million left in the bank, approximately the cost of holding the convention, Esselstyn said the union would soon be at the "zero level" unless a dues increase were approved.

Dues increase. On a roll-call vote, following a sharp debate, the delegates approved a constitutional amendment to increase working miners' dues by more than

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100 percent. The last increase was in 1973. The dues will be about $48 million a year and will be divided equally among the locals, the districts, and the international union. Dues will be raised from the current flat rate of $12 a month to $26.67. Working miners will pay an amount equivalent to 3 hours' wages a month assessed at the grade 1 underground miner wage scale of $8.89 per hour. Linking the dues structure to the hourly wage will automatically raise dues when wages increase. The hourly formula was used to tie dues to inflation and a member's ability to pay. The higher dues level was considered a major victory for Church, who saw it as another test of his leadership. "Give me a chance, give me what I need to work with, and if you don't like my performance, in just 3 years you can get rid of me," he told the delegates.

Some who opposed the change in the dues structure acknowledged that an increase might be needed but asserted that 3 hours' pay a month was too much. They argued that its adoption would make it too difficult to face their members back home, particularly when some of their locals and districts also were having financial troubles. They were also critical of what they called excessive spending by the union's officers, and called upon Church to curtail it. In response, Church promised to review the union's spending and staffing and said that money may be saved.

The dues increase also will provide the UMW with the necessary funds to increase its organizing activities. The organizing committee recommended that specific funds be earmarked for the organizing department, in order to launch an intensive campaign to bring thousands of miners and millions of tons of coal under the UMW's banner. The committee called for an increase in the number of organizers from about 40 to about 150. The present organizing staff has been operating on a budget of about $500,000 a year.

Church told the delegates that his proposal for 50 more Western organizers (currently there are nine) will be a top priority of his administration. Major organizing efforts will be planned in the coal-rich Rocky Mountain West, an area where the UMW is weak and threatened by an increasing number of nonunion operations. But he warned the delegates that such efforts will not be cheap. "If our organizing in the West is to be thorough, we must realize the cost will be huge. 'Big money' will be needed to help organize the rich West."

Strike fund and assessments. The convention approved another constitutional change to establish a strike fund. The International Executive Board will be authorized to call selective strikes against one or more companies which are not members of the Bituminous Coal Operators Association. This will be a major change in UMW's strategy, which usually relies on industrywide work stoppages. The adopted measure calls for the executive board to assess working miners $25 a week to raise the money for striking miners. The new strategy is primarily directed at the Consolidation Coal Co. (Consol) which, last May, withdrew from the association, the coal industry's bargaining arm for 30 years. Consol, which employs about 20,000 of the union's members, plans to negotiate separately with the union during 1981.

In the early days of the convention, the delegates returned to the constitution committee a proposed amendment which would have permitted unlimited yearly assessments to provide for posting of bonds and payment of legal judgments against the UMW. Toward the end of the convention, the delegates authorized the executive board to assess working miners $10 a year for this purpose. The assessment authority is necessary, union officials said, because of the $16 million in potential court judgments facing the union during 1980. The lawsuits were filed by some of the coal operators, largely because of the rash of wildcat strikes that marked Miller's tenure.

Some delegates who spoke asserted that the large dues increase and establishment of a selective strike fund obviated the need for any assessment.

During the convention, it was announced that the U.S. Supreme Court had ruled the UMW International Union is not automatically liable for wildcat strikes.[3] The decision supported a lower court ruling that denied damages to the Carbon Fuel Co. of West Virginia for losses suffered from 48 wildcat strikes by three of District 17's locals during 1969–73. In a unanimous decision written by Justice William Brennan, the Supreme Court ruled that the Taft-Hartley Act, under which the suit was filed, does not impose liability on a parent union for strikes of locals the union did not authorize. In 1947, when Taft-Hartley was enacted, the international union deleted a clause in the national agreement requiring it to take disciplinary or other action to end unauthorized strikes. Because the contract only called for arbitration of disputes and for the union to preserve the integrity of the contract, the court ruled that neither the international nor District 17 could be held liable.

Bargaining goals for 1981

In preparing for UMW's 1981 bargaining rounds, the negotiators may be faced with rapidly changing economic conditions, along with a weakening demand for coal. The Bituminous Coal Operators Association contract, scheduled to expire in March 1981, covers 125,000 workers and has set the pattern for the union's three other major contracts: the Western Surface Coal Agreements (12,000 workers) which expire April 1981,[4] the National Coal Mine Construction Agreement (14,000 workers) which expires March 1981, and the

Anthracite Wage Agreement (2,000 workers) which expires May 1981.

The delegates adopted the collective bargaining committee's report (which is intended as a guide to the negotiators) and asked for higher pay differentials on both the afternoon and midnight shifts, and for an uncapped cost-of-living increase of 1 cent per .3 percentage-point rise in the Consumer Price Index.

In addition, a shorter workweek will be sought, aimed at expanding the number of jobs for miners. Presently, an estimated 20,000 union miners are unemployed, and thousands more are on reduced work schedules because of lagging coal sales.

The committee also proposed that the negotiators of the contract explore the possibility of placing arbitrators under contract. This is intended to ensure that an arbitrator's fee would not be raised during the term of the contract; that bench decisions (usually oral and handed down immediately after a hearing, without recourse to further argument or evidence) be issued when they are mandated by the wage agreement; and that the use of post-hearing briefs be limited to emergency situations only. The committee felt the proposal would "give the parties more control over arbitrators" and possibly ensure that they would uphold the "integrity" of the union's wage agreement.

A broad set of collective bargaining goals designed to protect workers from hazardous and unhealthful work was also adopted. Proposals for the new contract provide that a full-time union safety inspector and a full-time nurse be employed at every mine; the right to strike over unsafe working conditions; the quadrupling of the annual protective clothing allowance paid by the operators to $500; postponement of any new rules disputed by workers for safety reasons until ruled on by an arbitrator; and, safety and health training of employees.

Other floor action

The office of Vice President for Pensioners' Affairs was abolished, to become effective at the end of the incumbent's term in December 1982. Because retirees have the right to vote for local union presidents and vice presidents, they are considered to have adequate representation, making the vice president's job unnecessary.

Also approved was a resolution stripping membership from a worker taking a temporary supervisory job, and requiring payment of a new initiation fee to rejoin the union upon return to the regular job.

Church and other UMW leaders accused the Government of neglecting coal in the U.S. energy program. Church indicated that increasing coal production could free the United States from dependence on the Organization of Petroleum Exporting Countries (OPEC) cartel and provide work for unemployed coal miners. The delegates endorsed a legislative committee report reaffirming legislative goals of the 1976 convention, including a national coal development policy, a curb on nuclear power, breakup of multinational oil companies, and continued regulation of gasoline and domestic oil prices to benefit miners in rural areas.

Guest speakers at the convention included Sen. Edward Kennedy, D-Mass., U.S. Assistant Secretary of Labor, William Hobgood (who delivered Secretary Ray Marshall's speech), and Congressman Nick J. Rahall, D-W.Va. □

FOOTNOTES

[1] The resignation was accepted by the UMW International Executive Board, and Samuel Morgan Church, Jr., was sworn in on November 16, 1979. Under terms of the resignation, Arnold Miller will be designated "president emeritus" and will receive his full salary ($42,000 a year) until the expiration of his term in December 1982. At that time, the International Executive Board will determine whether to continue his salary. Miller won the union presidency in December 1972, defeating W. A. "Tony" Boyle, who subsequently was convicted of conspiracy to murder an earlier rival, Joseph A. Yablonski.

[2] Article V., Section 2(a), UMW Constitution provides that the President shall fill by appointment all vacancies occurring in any International office. However, if at the time a vacancy occurs in the office of vice president, secretary-treasurer, or executive board member, if more than 2 years of the term remains, he shall call for an election to fill the vacancy, the election to be held as promptly as possible.

The amendment to Article V., Section 2(a) reads as follows:

> (b) Notwithstanding the provisions of Section 2(a) above, the President shall fill by appointment the vacancy existing in the office of Vice President which was created by the elevation of former Vice President Samuel Morgan Church, Jr.

[3] *Carbon Fuel Company vs. United Mine Workers of America*, 48 U.S.L.W. 4059 (U.S. December 10, 1979); for a further discussion of the case, turn to p. 51.

[4] Separate agreements expiring at different dates are to be negotiated with individual companies in 1981.

Significant Decisions In Labor Cases

Long leash for wildcats

In one of its first opinions of the 1979–80 term, the Supreme Court clarified the legal responsibility of parent unions when their local affiliates are involved in an unauthorized strike. Unanimously, the Court concluded that, under the National Labor Relations Act, a parent union may be held liable for damages resulting from such strikes when it can be proved that the local acted with the express or implied authority of the parent union. The Court also ruled that the terms of a collective bargaining contract determine whether and to what extent a parent union has an obligation to attempt to resolve unauthorized strikes; failure to fulfill such an obligation also could result in damage liability. Because the United Mine Workers International Union did not instigate, support, ratify, or encourage a series of wildcat strikes between 1969 and 1973 and because the UMW had no contractual obligation to resolve the strikes, it could not be held liable for resulting strike damages, the Court ruled. (*Carbon Fuel Co.*[1])

The Carbon Fuel Co. claimed that a UMW contract provision specifying arbitration of grievances required the international to use "all reasonable means" to end unauthorized strikes. Congressional policy favoring arbitration imposes such an obligation when an arbitration clause exists, the company urged.

Writing for the Court, Justice William Brennan rejected this argument, which had created a conflict among the Circuit Courts of Appeals.[2] The "agency" test of union liability for unauthorized strikes established by Congress, he reasoned, precluded an extension of the policy in favor of arbitration which would impose an obligation on parent unions to intervene. However, Brennan noted that this result did not affect the *content* of arbitration clauses.

Carbon Fuel also claimed that a contract provision requiring the UMW to "maintain the integrity" of the contract obligated the international to attempt to end unauthorized strikes as part of its responsibility under the arbitration clause. On this issue, Brennan relied on elements of the Court's decisions in the *Steelworkers* Trilogy.[3] Essentially, he emphasized that when a contractual agreement is specific the courts may not substitute a different result. Thus, when the parties have agreed not to arbitrate, Federal policy in favor of arbitration cannot impose such an obligation. Brennan noted that, in 1952, specific contract language requiring the UMW to attempt to end unauthorized strikes was deleted. Because such a requirement to intervene had been purposefully negotiated out of the agreement, it could not now be covered by the contract's arbitration provision. Although the full scope of the UMW's responsibility to "maintain the integrity" of the contract was left unsettled, the Court ruled that in light of the parties' bargaining history the union no longer had any obligation to resolve wildcat strikes.

The Court's decision in *Carbon Fuel* made clear that a parent union is not liable for wildcat strike damages when (1) the local did not act as the agent of the parent "in accordance with their fundamental agreement of association"; *and* (2) the parent has fulfilled its responsibility under the collective bargaining agreement to resolve such unauthorized strikes. Thus, where contract language is unclear, a parent union could be held liable for wildcat strike damages if it failed to fulfill obligations found (by a court or an arbitrator) to be contained in the contract.

Landbased longshoring

The availability of compensation for both disability and death suffered by longshoremen and harbor workers was substantially broadened by Congress in 1972. Court interpretations of earlier laws had limited compensation to the disabilities or death that occurred "on navigable waterways." This distinction resulted in cases where workers injured in falls were awarded compensation depending on where they landed—over water or on land.[4] The 1972 law corrected this type of inequity by extending coverage to certain land areas and by covering "any person engaged in maritime employment."

In a 1977 case,[5] the Supreme Court explained that one of the congressional reasons for expanding coverage was the increased use of containerized shipping—which permits traditional longshoring tasks to be performed in a variety of locations. Thus, the Court ruled that workers involved in packing and unpacking containers or

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"Significant Decisions in Labor Cases" is written by Gregory J. Mounts of the *Monthly Labor Review* staff.

those who, at least part of the time, could be assigned to perform such "indisputable" longshoring tasks were covered by the 1972 law. However, the Court left unresolved whether Congress meant to include other workers who handle ships' cargo within the definition of "maritime employment."

Late in 1979, clear occupational boundaries for coverage under the 1972 law were finally established. Congress meant to include all workers involved in moving cargo between ship and land transportation when it provided injury compensation for maritime employment, the Supreme Court unanimously held.[6] The Court explained that Congress was more concerned with the nature, not the location, of employment. Thus, the entire process of moving cargo from one form of transportation to another remains longshoring even though some intermediate—and integral—steps are now performed away from the water's edge.

The Court's decision approved a ruling by the 5th Circuit that two injured workers—one while fastening vehicles onto railroad flatcars and another while unloading cotton into a pier warehouse—were covered by the law because of the nature of their work. However, specifying both the nature and location of employment makes clear that not all who work within the land areas designated in the law are covered. Persons whose responsibility is only to pick up cargo for further transshipment are not covered despite the fact that they work at a marine situs, the Court emphasized.

The costs of discrimination

In another case decided early in its 1979–80 term, the Supreme Court ruled that Federal funds available under the Emergency School Aid Act may be denied to elementary and secondary schools based on statistical evidence of a disparate racial impact in the hiring, promotion, or assignment of employees.[7]

Congress made funds available under the law to defray the costs associated with the "elimination of minority group discrimination" and to encourage the adoption of such desegration programs. Schools compete for a limited amount of total funds, but become ineligible if they have engaged in certain discriminatory employment practices specified by the law. However, the ambiguity of the law's ineligibility provision had left it unclear whether schools could be denied aid based on the discriminatory *impact* of their practices or whether denial could be based only on proof of discriminatory *intent.*

The Court reasoned that Congress intended to provide financial assistance to schools, in part, as an enticement to encourage voluntary elimination of *de facto* as well as *de jure* minority group segregation and isolation. To disqualify only those applicants with a conscious intent to perpetuate racial isolation would defeat the congressional objective of ending both forms of discrimination, the Court declared.

In approving the use of an impact test, the Court explained that a school could possibly rebut the disparate effect shown by statistical evidence by proof of "educational necessity," analogous to the "business necessity" justification applied under Title VII of the 1964 Civil Rights Act.

Finally, the Court addressed the question of denying antidiscrimination aid to some of the actual victims of discrimination:

> There is no force in the suggestion that a decision adverse to the Board here will serve to harm or penalize the very children who are objects of the beneficial provisions of the act. A ruling of ineligibility does not make the children who attend New York City schools any worse off; it does serve to deny them benefits that in theory would make them better off. The funds competed for, however, are not wasted, for they are utilized, in any event, to benefit other similarly disadvantaged children. It is a matter of benefit, not of deprival, and it is a matter of selectivity. ☐

FOOTNOTES

[1] *Carbon Fuel Co. v. United Mine Workers of America,* 48 U.S.L.W. 4059 (U.S., Dec. 10, 1979).

[2] The Third and Eighth Circuits had ruled that a parent union was liable under a no-strike clause for failure to use best efforts to end unauthorized strikes: *Eazor Express, Inc. v. Teamsters,* 520 F. 2d 951 (3d Cir. 1975); *United States Steel v. UMWA,* 534 F. 2d 1063 (3d Cir. 1976); *Bituminous Coal Operators v. UMWA,* 585 F. 2d 586 (3d Cir. 1978); *Republic Steel Corp. v. UMWA,* 570 F. 2d 467 (3d Cir., 1978); and *Wagner Elec. Corp. v. Local 1104,* 496 F. 2d 954 (8th Cir. 1974). The Fourth Circuit (in this and earlier cases) and the Sixth Circuit had both reached a contrary result: *United Construction Workers v. Haislip Baking Co.,* 223 F. 2d 872 (4th Cir. 1955); *UMWA v. Carbon Fuel Co.,* 582 F. 2d 1346 (4th Cir. 1978); and *Southern Ohio Coal Co. v. UMWA,* 551 F. 2d 695 (6th Cir. 1977).

[3] *United Steelworkers v. American Mfg. Co.,* 363 U.S. 564 (1960); *United Steelworkers v. Warrior & Gulf Navigation Co.,* 363 U.S. 574 (1960); and *United Steelworkers v. Enterprise Wheel & Car Corp.,* 363 U.S. 593 (1960).

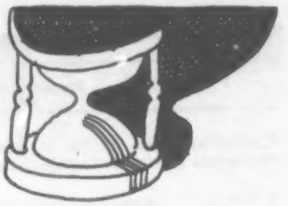
[4] See *Nacirema Operating Co. v. Johnson,* 396 U.S. 212 (1969).

[5] *Northeast Marine Terminal Co. v. Caputo,* 432 U.S. 249 (1977).

[6] *P. C. Pfeiffer Co., Inc. v. Ford,* 48 U.S.L.W. 4018 (U.S., Nov. 27, 1979).

[7] *Board of Ed., City of New York v. Harris,* 48 U.S.L.W. 4035 (U.S., Nov. 28, 1979).

Major Agreements Expiring Next Month



This list of collective bargaining agreements expiring in April is based on contracts on file in the Bureau's Office of Wages and Industrial Relations. The list includes agreements covering 1,000 workers or more.

Employer and location	Industry	Union[1]	Number of workers
Area Grocery Contract (Minnesota and Wisconsin)[2]	Retail trade	Food and Commercial Workers	1,200
Associated Contractors of Ohio, Inc., 2 agreements (Ohio and Kentucky)	Construction	Carpenters; and Operating Engineers	5,500
Associated General Contractors of America:			
Central Illinois Builders Chapter	Construction	Carpenters	1,600
Chattanooga Chapter (Alabama, Georgia, and Tennessee)	Construction	Carpenters	1,200
Mid-Florida, and 1 other association	Construction	Carpenters	2,200
New Orleans Chapter (Louisiana)	Construction	Building and Construction Trades Council	7,350
Northeastern Florida Chapter (Florida and Georgia)	Construction	Carpenters	1,500
Ohio Building Chapter, 2 agreements	Construction	Carpenters; and Laborers	4,500
St. Louis Chapter, 2 agreements (Missouri)	Construction	Carpenters; and Laborers	7,700
Bendix Corp., Master Agreement (Interstate)	Transportation equipment	Auto Workers (Ind.)	6,900
Borg-Warner Corp., York Division (Decatur, Ill.)	Machinery	Allied Industrial Workers	1,200
Builders of Tazewell County and 5 others (Peoria, Ill.)	Construction	Carpenters	4,300
California Conference of Mason Contractors Association, Inc. (Los Angeles, Calif.)	Construction	Bricklayers	1,000
Caterpillar Tractor Co. (California)	Machinery	Machinists	1,400
Charmin Paper Products Co. (Green Bay, Wisc.)	Paper	Paperworkers	1,500
Chicago Lithographers Association (Illinois)	Printing and publishing	Graphic Arts	4,800
Cities Service Co., Copperhill Operations (Copperhill, Tenn.)	Mining	Chemical Workers	1,200
Clark Equipment Co., Industrial Truck Division (Battle Creek, Mich.)	Machinery	Allied Industrial Workers	2,000
Clark Equipment Co., Transmission Division (Jackson, Mich.)	Transportation equipment	Allied Industrial Workers	1,500
Cleveland Electric Illuminating Co. (Ohio)	Utilities	Utility Workers	2,700
Construction Employers Association, Inc. (Kentucky and Indiana)	Construction	Carpenters	2,000
Construction Employers Association, Inc. and 2 others (Kentucky)	Construction	Laborers	3,000
Contractors Association of Eastern Pennsylvania	Construction	Carpenters; Laborers; and Teamsters (Ind.)	4,500
Dayco Corp., Southern Division (Waynesville, N.C.)	Rubber	Rubber Workers	1,600
Dayton Tire & Rubber Co. (Dayton, Ohio)	Rubber	Rubber Workers	1,350
Denver Metropolitan Retail Grocers (Colorado)[2]	Retail trade	Food and Commercial Workers	1,200
ESB Inc., Automotive Division (Interstate)	Electrical products	Auto Workers (Ind.)	1,000
Exxon Corp., Exxon Co., U.S.A., Refinery and Chemical plants (Baytown, Tex.)	Petroleum	Gulf Coast Industrial Workers Union (Ind.)	1,500
Fischer & Porter Co., and 2 others (Pennsylvania)	Instruments	Independent Union of Rotamaster Workers	1,500
Formica Corp. (Cincinnati, Ohio)	Rubber	Electrical Workers (IBEW)	1,050
General Public Utilities Corp., Metropolitan Edison Co. (Pennsylvania)	Utilities	Electrical Workers (IBEW)	1,550
Gould, Inc. (Interstate)	Electrical products	Electrical Workers (IBEW)	1,200
Great Atlantic & Pacific Tea Co., Inc., Grocery Division (Horseheads, N.Y.)	Food products	Teamsters (Ind.)	1,700
Heavy Constructors Association (Kansas and Missouri)	Food products	Operating Engineers	1,750
Home Builders Association (St. Louis, Mo.)	Construction	Carpenters	2,200
Hoover Co. (Canton, Ohio)	Electrical products	Electrical Workers (IBEW)	3,200
Keystone Consolidated Industries, National Lock Division (Rockford, Ill.)	Fabricated metal products	Auto Workers (Ind.)	1,200
Luggage and Leather Goods Manufacturers Association (New York, N.Y.)	Leather	Leather Goods, Plastic and Novelty Workers	1,500
Mason Contractors Association of Baltimore, Inc. (Maryland)	Construction	Bricklayers	1,000
Meat Drivers (Chicago, Ill.)[2]	Food products	Teamsters (Ind.)	1,200

See footnotes at end of table.

Continued—Major Agreements Expiring Next Month

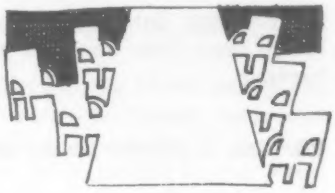
Employer and location	Industry	Union[1]	Number of workers
Metropolitan Edison Co. (Pennsylvania)	Utilities	Electrical Workers (IBEW)	1,550
Minneapolis Automobile Dealers Association (Minnesota)	Retail trade	Teamsters (Ind.)	1,250
Nevada Resort Association, 2 agreements (Las Vegas, Nev.)	Hotels	Hotel and Restaurant Employees	18,800
Northern Illinois Ready Mix and Materials Association (Illinois)	Wholesale trade	Teamsters (Ind.)	1,800
Ohio Contractors Association, and 1 other, 2 agreements (Ohio and Kentucky)	Construction	Bricklayers; Plasterers' and Cement Masons; and Operating Engineers	12,100
Owens-Illinois Inc. (Interstate)	Rubber	Glass Bottle Blowers Association	1,650
Pipe Line Contractors Association, National Agreement (Interstate)	Construction	Plumbers	10,000
Printing Industry of Twin Cities Minnesota (Minneapolis and St. Paul, Minn.)[2]	Printing and publishing	Graphic Arts	1,500
Public Service Electric and Gas Co., 2 agreements (New Jersey)	Utilities	Electrical Workers (IBEW); and Plumbers	2,800
Retail Meat Cutters Contract (Kansas and Missouri)[2]	Retail trade	Food and Commercial Workers	1,000
Retail Meat Markets (Michigan)[2]	Retail trade	Food and Commercial Workers	4,000
Rock Hill Printing and Finishing Co. (Rock Hill, S.C.)	Textiles	Textile Workers	1,800
Rock Products and Ready Mixed Concrete Employers (Southern California)	Mining	Teamsters (Ind.)	5,000
Sheet Metal and Air Conditioning Contractors National Association, Inc. (St. Louis, Mo.)	Construction	Sheet Metal Workers	1,150
Stanadyne Inc. (Chicago, Ill.)	Fabricated metal products	Auto Workers (Ind.)	1,000
Standard Brands, Inc., Planters Peanuts Division (Suffolk, Va.)	Food products	Distributive Workers (Ind.)	1,500
Store Fixture and Architectural Woodwork Institute (California)	Furniture	Carpenters	2,000
United Airlines, Inc., Pilots (Interstate)[3]	Air transportation	Airline Pilots	7,300
Washington Metal Trades, Inc. (Seattle, Wash.)	Fabricated metal products	Boilermakers	2,500
Washington Metal Trades, Inc.	Machinery	Machinists	2,500
West Penn Power Co. (Pennsylvania)	Utilities	Utility Workers	1,100
White Motor Corp., Farm Equipment Co. (Charles City, Iowa)	Machinery	Auto Workers (Ind.)	1,700
Wholesale-Retail Milk Agreement (Illinois)[2]	Wholesale trade	Teamsters (Ind.)	1,200

[1] Affiliated with AFL-CIO except where noted as independent (Ind.).

[2] Industry area (group of companies signing same contract).

[3] Information is from newspaper reports.

Developments in Industrial Relations



Anti-inflation unit urges higher pay lid

The Council on Wage and Price Stability received the recommendations of the Pay Advisory Committee, the 18-member body established as part of the "national accord" between the Administration and organized labor. (See *Monthly Labor Review*, February 1980, p. 12.)

The Pay Advisory Committee's most important recommendation was that the 7-percent standard for annual pay increases be replaced by a 7.5- to 9.5-percent standard. Apparently, this figure was a compromise between labor and business members of the committee. AFL–CIO President Lane Kirkland indicated that unions could accept the standard, saying, "If it had been any worse we couldn't have taken it, and if it had been any better, we wouldn't have gotten it." Committee member R. Heath Larry, former vice chairman of United States Steel Corp., called the new standard "realistic."

The council did not begin applying the new standard to wage settlements and determinations, pending development of criteria for assessing the size of particular settlements and determinations.

Other proposals ease the rule under which employees may receive pay increases above the guidelines if they have traditionally maintained a "tandem" relationship with those of other workers. The major aspects of this policy include:

- Permitting employee units not covered by automatic cost-of-living clauses to maintain historic pay relationships with units that have such clauses.
- Allowing employers to implement above-guidelines increases themselves, rather than seeking council approval. However, employers should be able to prove a tandem relationship.
- No longer requiring identical increases in a tandem relationship, but employers must be able to justify the difference.
- No longer requiring the leader in a tandem relationship to be in the same industry or geographic area. However, the leader must be exempt from or in compliance with the guidelines.

The latter requirement was first applied in January, when the council ruled that the September agreement between General Motors Corp. and the Auto Workers could not serve as the basis for a tandem exception to the guidelines for other companies because the accord exceeded the pay standards. (However, the council did not press General Motors to renegotiate the contract because the company had pledged to adhere to the price standard during the second year of the program, rather than use the alternative profit-margin standard that could permit larger increases.) The January ruling was in response to "numerous inquiries," particularly from the auto parts manufacturers which have traditionally followed the bargaining lead of the major auto companies.

Also, the committee recommended that the cost of contracts with wage escalator clauses be determined assuming that the Consumer Price Index will rise 7.5 percent a year.

The council accepted the committee's recommendation that longevity pay raises be excluded when calculating whether a unit of employees is in compliance with the pay standards. Previously, longevity increases were considered, while pay raises resulting from "legitimate promotions and qualification increases" were excluded. A council official said the change was made because employers were having difficulty distinguishing between raises based on length of service and those based on increased skills.

Another change accepted by the council permits all employees in units with average hourly earnings of $5.35 or less to be excluded from the pay standards. The existing regulation, which permits the exclusion of any worker earning less than $4 an hour, was retained.

In the committee's view, pay adjustments below the low end of the range may occur depending on criteria such as industry practice, prevailing competitive conditions, ability to pay, and prior levels of settlements. Pay adjustments above the range may occur in circumstan-

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"Developments in Industrial Relations" is prepared by George Ruben and other members of the staff of the Division of Trends in Employee Compensation, Bureau of Labor Statistics, and is largely based on information from secondary sources.

ces involving criteria such as productivity improvements, acute labor shortage, gross inequity, or undue hardship.

Chrysler employees accept pay concessions

Chrysler Corp.'s bleak financial outlook was improved when the Auto Workers acceded to the requirements of emergency Federal legislation (the Chrysler Corporation Loan Guarantee Act of 1979) and agreed to a cut in the cost of its 3-year contract with Chrysler. The concessions of $243 million from the pattern of settlements with General Motors Corp. and Ford Motor Co. were in addition to the $203-million concessions in the October Chrysler accord. (See *Monthly Labor Review*, December 1979, pp. 55–57.) As a result, the Federal Government agreed to back loans obtained by the company.

Under the second agreement, Chrysler employees represented by the Auto Workers will receive 3-percent wage increases in March of 1980, 1981, and 1982. (The October settlement provided for increases in March 1980 and January and November of 1981.) There was no change in the 24-cents-an-hour cost-of-living "travel" increase, which was effective September 17, 1979.

Another concession is that employees will not receive any paid personal holidays during the 3-year contract which ends September 14, 1982. The UAW-represented workers will not receive their December 1980 bonus payment—equal to one day's pay—although they did receive the bonus in December 1979 and will receive another in December 1981. Under the October settlement, the workers would have received 9 paid personal holidays in 1981 and 11 in 1982, plus all three of the December bonuses.

The loan guarantee act also obligated Chrysler to give $162.5 million in company stock to its employees. The distribution will be made over a 4-year period, scheduled to begin in July 1980. (This was in addition to a stock ownership plan negotiated in October.) Stock distributed to employees will equal the value of Federal tax credits on certain investments for machinery and equipment. Employees also may invest in additional shares, up to certain limits, with the company matching the amount.

These additional cost concessions and the stock distribution do not apply to the Chrysler employees the UAW represents in Canada. In a separate vote, the Canadian workers rejected the further concessions. Because of this, Chrysler agreed that all of the additional savings resulting from the second accord will be spent in the United States. The union also informed Chrysler that in 1982 it will bargain separately with the company for its members in the two countries.

Seven other unions, representing 4,000 Chrysler workers in the United States, agreed to a total of $16.5 million in concessions, similar to that in the UAW settlement.

U.S. Steel plans plant closings

Plant closings and resulting losses of jobs loomed as an even more important issue in the 1980 steel negotiations, after U.S. Steel Corp. announced that it was closing more than a dozen plants in eight States and permanently laying off about 13,000 workers.

The action was described as "an economic tragedy" by United Steelworkers President Lloyd McBride, who called for immediate Government steps to aid the terminated workers. He said the union would attempt to head off any further closings in the industry by initiating negotiations with management whenever it believes that efforts to modernize and maintain facilities are inadequate.

U.S. Steel Board Chairman David M. Roderick said the facilities scheduled for closing had "become noncompetitive for a variety of reasons, including operating costs, unfairly priced imports, or excessive environmental spending requirements."

The impact was particularly severe in the Youngstown, Ohio, area, where the decision to lay off 4,000 employees was followed by Jones & Laughlin's decision to close a plant with 1,300 employees. (In 1977, Youngstown Sheet and Tube Co. closed a Youngstown plant that had 4,000 employees.)

American Bridge Division plants in Ambridge and Lawrenceville, Pa., were saved from closing after employees reversed their earlier decision and agreed to wage concessions the company said were necessary to make the plants competitive with other steel fabricators. U.S. Steel said that a cost disparity had developed because the two fabrication plants, and a third in Gary, Ind., were covered by the company's contract for basic steel production units, where wages and benefits substantially exceed those at the other fabricators.

The concessions provided that employees of the Ambridge and Lawrenceville plants will receive all benefit improvements included in the 1980 basic steel settlement, but they will not receive the specified wage increases, and their wage escalator adjustments will be limited to 25 cents for each contract year.

U.S. Steel announced that the Gary plant, which was not on the original closing list, would be shut down in 1980. Plant employees again voted to reject the company's request for cost relief.

Government unveils plan to control carcinogens

The Department of Labor announced the first comprehensive Federal policy to identify and protect workers from cancer-causing substances. The new approach, scheduled to become effective in April, is subject to legal challenges by several industry groups, which generally contended that the rules were unclear, excessively rigid, and would be too costly to the industry.

Eula Bingham, assistant secretary of labor for occupational safety and health, said the change would permit at least 10 additional workplace carcinogens to be controlled each year, in contrast to the previous case-by-case approach, which brought 21 carcinogens under controls during the agency's 9-year existence. The substances to be brought under control would be selected from a list of about 500 agents that are suspected of causing cancer. Substances will be designated as "category 1" if scientific testing indicates that they pose a grave danger to workers and "category 2" if there is evidence "suggestive" of the danger of cancer.

Under the new procedures, employers would be required to reduce worker exposure to category 1 substances to "the lowest feasible level," primarily through engineering and work practice controls. If there is a suitable substitute, category 1 substances could be banned entirely. Category 2 substances would be subject to additional testing, but the Occupational Safety and Health Administration could issue temporary emergency standards governing the use of substances in either category.

The industries complained that the new regulations do not require a "cost-benefit" analysis before a standard is imposed. However, OSHA officials said that they do consider the impact on an industry before making a decision. A Federal Circuit Court of Appeals had ruled in favor of the cost-benefit approach in a case involving the benzene standard. A Supreme Court appeal was pending. (See *Monthly Labor Review*, March 1979, p. 68.)

Another objection was OSHA's approach to "negative" evidence produced by studies on humans. Previously, OSHA had ignored such studies. Under the new approach, it will consider the results of negative studies, but only if they examine evidence over a 30-year period, including 20 years of worker exposure, and if the sample studied is large enough to minimize the impact of "confounding variables."

Barbers and Beauticians union plans merger

The Barbers and Beauticians union tentatively agreed to merge into the Food and Commercial Workers union. President Richard A. Plumb of the Barbers and Beauticians said the major reason for the move was that his union did not have the resources to organize the chain beauty shops and barber shops that are supplanting independent shops. The Food and Commercial Workers already represent employees in many shopping malls and department stores in which the new shops are located.

The Barbers and Beauticians, with 35,000 members in 417 locals in the United States and Canada, dates back to the 1800's. The Food and Commercial Workers, which resulted from the 1979 merger of the Retail Clerks and the Meat Cutters, is the AFL-CIO's largest affiliate. It has 1.3 million members, and also dates back to the 1880's.

Plumb said that the merger was expected to be effective in April, after completion of a vote by the union's members. Under the proposal, Plumb would be a vice president of the Food and Commercial Workers and head its new Barbers and Cosmetologists Division.

In another merger development, the International Typographical Union and the Newspaper Guild announced agreement on the structure and authority of leaders of their new organization, as well as on major elements of the method for sanctioning strikes. Union officers participating in the negotiations said they expected the merger to be effective in January 1981.

Forest products workers form new federation

In a move to strengthen their organizing and bargaining, four unions in the West Coast forest products industry have formed the United Federation of Industrial and Tidewater Labor Organizations. The units, with a total membership of 300,000, are the International Longshoremen's and Warehousemen's Union (ILWU); the Western Council of the Lumber Production Industrial Workers; Region 3 of the International Woodworkers of America (a unit of the Carpenters and Joiners); and the Association of Western Pulp and Paper Workers.

ILWU President Jim Herman, who was elected chairman of the new organization, said it was formed in response to the unified approach of employers in 1978 bargaining with the Paper Workers, which prevented the union from attaining its goal of 2-year contracts at all companies. He stressed that each of the four organizations will be "fully, completely and totally autonomous."

New contract for New York State employees

About 47,000 scientific, professional, and technical employees of the State of New York were covered by a 3-year initial contract negotiated by the Public Employees Federation, an affiliate of both the Service Employees and the American Federation of Teachers. The settlement ended 8 months of negotiations that began after the Federation was certified as bargaining agent for the employees. The Federation had defeated an incumbent Civil Service Employees Association in a 1978 representation election.

The contract provides for three annual raises of 7 percent each, a single 9-percent increase for employees hired after April 1, 1979; establishment of a joint committee financed by the State to "assist employees in developing their full professional potential;" establishment of a "prevailing wage" concept for registered nurses under which their salary scales will be linked to those in private industry in the area; lifting of a moratorium on the reclassification of jobs; improvements in hospital, medical, optical, and prescription drug benefits; and a provision for a study of "deferred compensation" for employees.

Cleveland teachers approve contract, end strike

Cleveland's 5,000 public schoolteachers ended an 11-week strike by approving a new 2-year contract that provided for an immediate salary increase of 10 percent, a 4-percent increase in September 1980, and 5 percent in January and April of 1981. The teachers, members of the Cleveland Teachers Union (an affiliate of the American Federation of Teachers), had earlier rejected two offers, and the strike developed into the longest in the system's history.

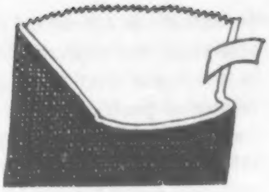
In the wake of the settlement, the school board began discussions with the teachers on how to attain the required 180 days a year of school for the 92,000 students without resorting to overtime, which would cost $200,000 for each Saturday session.

Women workers at Kellogg get back pay

The Kellogg Co. agreed to settle charges of alleged job discrimination against women at its Omaha, Neb., plant. Under the settlement, the company will give $155,950 in back pay to 287 women employees; 140 of this group will get an additional $141,750 in "incentive pay" as an encouragement to work in "nontraditional job areas." The cereal maker also agreed that 40 percent of the people the company hires as laborers and mechanics will be women.

The Department of Labor's charges of job discrimination were based on the assertion that women at the facility were concentrated in lower paying jobs and were not given a chance to compete for jobs usually held by men. ☐

Book Reviews



Global economic guidelines—take your pick

Challenges to a Liberal International Economic Order. Edited by Ryan C. Amacher, Gottfried Harberler, and Thomas D. Willett. Washington, American Enterprise Institute for Public Policy Research, 1979. 448 pp.

Rich and Poor Nations in the World Economy. By Albert Fishlow, Carlos F. Diaz-Alejandro, Richard R. Fagen, and Roger D. Hansen. New York, McGraw-Hill Book Co. for 1980's Project/Council on Foreign Relations, 1978. 264 pp.

Although these two collections are linked by a common issue, the proper structure for the international economic system, they are very different in style, economic substance, and political ideology. At the stylistic level, *Challenges to a Liberal International Economic Order* is a more massive book, both in volume and tone. The conference papers presented are academic in character, intended for someone with a specialized policy interest in the international economic order. *Rich and Poor Nations in the World Economy* is, in contrast, a collection of prescriptive essays that could be read by a well-informed general reader with an interest in foreign economic policy.

The papers in *Challenges to a Liberal International Economic Order* tie together three broad themes. First, the best structure for an international economic regime is the free trade, open market, floating exchanges world that is the subject of neoclassical trade and payments theory. While the contributions stop short of advocating complete *laissez faire,* it is the logical ultimate in liberal economic orders. Second, liberalized economic regimes, and especially the relatively liberal postwar system of the General Agreement on Tariffs and Trade and Bretton Woods, are mutually beneficial to all participants. The third is that the relatively liberal order is under attack and in certain critical areas is crumbling. Two sources of antiliberal pressure are identified, a "new protectionism" on the part of the industrialized developed countries, and the demands for a New International Economic Order.

The argument against the latter, to the extent that such a program involves illiberal international economic practices, is based on empirical work. Jagdish N. Bhagwati's commentary suggests:

> . . . one must go to the evidence to choose the desirable policy framework and that here, 'by and large,' 'more or less' (two splendid English phrases!), the lessons are clear. The outward-looking or export-promoting countries *have* done better than others cross-sectionally; the shift from protectionist to liberal trade and payments policies has *also* helped individual countries, according to time series evidence.

For a more complete statement of this position, Gottfried Harberler's paper, "The Liberal Economic Order in Historical Perspective," is recommended as one of the centerpieces of the collection.

My reading of the basic sense of this conference on the liberal order is that the ascendance of a "new protectionism" on the part of the advanced industrial market economies is a far more serious problem for the liberal order than the demands of a New International Economic Order. Jan Tumlir's urgent essay entitled "The New Protectionism, Cartels, and the International Order" is the key to understanding this point of view. Tumlir first outlines the two major economic forms the new protectionism takes: Cartel, especially popular among Europeans; and proposals for the "fair organization" of the international trade order. Tumlir next develops a very perceptive political model; he sees domestic politics being increasingly fragmented by strong interest groups and domestic politicians responding by defining an increasingly large array of national objectives. In Tumlir's words, "Our political life consists largely of politicians making promises to organized groups. Because each promise entails a function for government, our political life consists largely of government soliciting additional functions for itself."

Even domestically, Tumlir sees that this form of politics can lead to mutual incompatibilities, and, as a result, even domestic economic planning ("organization") breaks down into ". . . political negotiation, an endless series of tests of power, the corporate state—a mutant incapable of survival because it cannot live at peace with its neighbors." The implications of this for the international order are clear: There are objectives in the national array for which the international order is a necessary condition, in the sense that it prevents the

best copy available

predations of others on the array of national objectives; and there are objectives for which it is an impediment, in the sense that it proscribes the export of domestic economic problems. The problem is to construct an international order whose principles are such that universal compliance would not lead to the contradictions that are present now. Two conditions must be met before such an international order may be obtained. First, democratic governments must reject the view that they are merely passive conduits for the objectives of organized political groups, and policymakers must again define their role as reconciling and mediating the interests of various groups in such a way as to build some consensus on a truly national interest. Second, the international order must be constructed in such a way that it actually forces nations to adopt optimal policies. In the field of international economic transactions, theory leads us to believe that this policy is nondiscriminatory noninterference, that is, liberal trade. Tumlir believes that in this manner we would construct an international economic order such that national interest could always be equated to the development and support of the internationl trade and transactions regime.

Rich and Poor Nations in the World Economy presents the centrist, left-liberal, and radical leftist views on the need *for*, and shape of, a New International Economic Order. Albert Fishlow's essay is the most moderate piece offered. The economic paradigm that he centers his work on is an orthodox vision of international market forces straining to achieve the efficiency of the perfectly competitive equilibrium. While there are admittedly major institutional obstacles in the way (and Fishlow will admit to much more than the contributors to *Challenges to a Liberal International Order),* the ideal is still the free interplay of economic forces, guided by the maximization motive. Fishlow's policy prescription follows easily from this outlook; he offers a very generous package of institutional reforms, commodity fund finance, and other *ad hoc* measures that would add up to ". . . a limited reform modifying some of the objectionable features of the present system which could satisfy the limited objectives of all."

Politically, Fishlow sees a world of sovereign nation-state actors engaged in policymaking exercises designed to maximize the national interest. In this political model, the maximizing solution is quite probably a policy package similar to Fishlow's, assuming that all the actors define their interest in and around what Tumlir would call the "array" of economic objectives. I think that this is an overly naive and optimistic analysis of the international politics of the New International Economic Order. Perhaps the most ironic example of his misreading of the politics of the less developed countries, especially his assumption that their goals are reform, not rejection, of the current order, is his use of a short quote from the Shah of Iran's oil minister to support his contention of moderation in the less developed countries. A year later, of course, the Shah himself was violently replaced by virulently rejectionist forces.

Carlos F. Diaz-Alejandro takes a much less sanguine view of the economics and politics of the New International Economic Order. His economics draws heavily on the literature of industrial organization and oligopoly. In his view, oligopolistic "centers" take exploitative advantage of their "peripheries" in a chain that runs internationally from the developed centers to the hinterlands of the less developed countries through the institution of the transnational corporation. In his political model, these same multinationals undermine the sovereignty of states, especially less developed states, to such an extent that reform is a politically impractical solution to the problem of a new order. His prescription stops short of what he terms "complete delinking" from, or rejection of, the current system, noting that the most recent example of complete delinking has been Cambodia. The scenario he favors he calls "selective delinking," which involves guaranteeing the less developed countries the political sovereignty necessary to disengage from, or engage minimally in, an international market that is oligopolistically organized in a manner disadvantageous to those countries involved. Conversely, the less developed countries should selectively enter markets that are organized competitively (or, better yet, in ways that favor them). Diaz-Alejandro's political analysis seems to me to be much shrewder than Fishlow's, but the reader might take issue with much of his economics, especially the automatic assumptions about the malevolence of the transnational corporations.

Richard R. Fagen has written an essay profoundly pessimistic of the possibility of reform of the international economic order in any way that will meaningfully address the issues of international or intranational equity. His economics and politics both draw heavily on a Marxist base, and, therefore, are difficult, to the point of impossibility, to analyze separately. Fagen proposes that the world is dichotomous—on one hand a hierarchy of capitalist bourgeois elites, on the other an exploited (mainly) less-developed subproletariat. In his analysis, the structural incentives in, and institutional framework of, the current order provide little hope for a policy that would meaningfully alleviate either the problem of absolute poverty among members of the subproletariat or of maldistribution of income between the classes. Implicit in his views are an economic model similar to, but far more radical than Diaz-Alejandro's, and a political viewpoint dominated by the perception that sovereign national policies are shaped entirely by the concerns of the financial and commercial interests within the state. I happen to disagree with both analyses, but one must recognize that these ideas do exist, and are much more favorably received by analysts in the less developed countries than by economists in the advanced capitalist nations. Fagen must be commended for the force and clarity with which he presents his alternative paradigm.

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A union's struggle in the South

The Knights of Labor in the South. By Melton Alonza McLaurin. Westport, Conn., Greenwood Press, 1978. 232 pp. (Contributions in Labor History, 4.) $16.95.

The Southern States are usually thought of as antiunion in a rather sweeping sense, referring to attitudes of both employers and employees. Recent events are changing this image somewhat, but for many years it was a widely held stereotype. How wrong such common stereotypes can be is vividly illustrated in this fascinating history, *The Knights of Labor in the South.*

In 1885, the first district of the Knights in the South was formed in Richmond, and there had been some successful organizing activity in Georgia and Alabama as early as the 1870's. While the Knights functioned very briefly in the South as a large organization with significant impact, the history of their organizing work and local activities shows a clear interest on the part of Southern workers in banding together to obtain better wages and working conditions.

The author's careful, detailed account begins with an interesting sketch of general economic conditions in the post-Civil War South, describing the newly developing industries and burgeoning cities. Textiles, lumber, tobacco, mining, and iron became important early; employment in these industries grew, creating many of the same industrial relations problems that arose also in the North.

Another background chapter, "The Southern Labor Force," delineates differences between the South and the North, pointing out that the South continued to be basically an agricultural region for many years, even into the 20th century, with close to 90 percent of its population living in rural areas. Therefore, industrialization and related labor union growth could not possibly parallel that in the North.

The author presents statistics on wages and gives other information on the long hours and bleak conditions commonly endured by Southern workers of the period. The power of the employer and the near-hopeless situation of many of the workers is brought out graphically.

The main part of the book traces the growth of the Knights of Labor in the Southern States and describes their activities in several fields: organizational work; relationships with black members; strikes and boycotts undertaken by Knights' members in the South; political activities; work in educational and cooperative endeavors. Only the latter two activities were truly consistent with the original objectives of the national organization; the author explains how the circumstances of the workers, however, inevitably drew them into conflict with their employers, led to strikes and boycotts, and into efforts to better themselves through political means.

The Knights of Labor was not, because of limitations imposed by its national leaders, an organization well-suited to the needs of Southern industrial workers, but it offered the first hope to many of them for improvement and they joined, trying to adapt the organization to serve their interests. They were disappointed time after time when, in desperation, they asked for strike aid, or even speakers and organizers from the national organization, and received nothing.

What the Knights' organization did accomplish in the South was to introduce the idea of a union among the workers and give them some practical experience in operating one. There were more failures than successes in the history of the Knights in the South, and some of the failures, such as the lost strike at the textile mill in Augusta, Ga., described in the book, were tragic.

The author has assembled an impressive amount of detailed information about the activities of the various local groups of the Knights, and the people who participated. He has organized the subject matter in a logical way, pointing up the significance of the events from several perspectives.

Many of the problems that faced the early organizers of the Knights remain, in some degree, today. This book provides excellent historical background for the study of industrial relations in the South today; in addition it is an absorbing tale about the aspirations and struggles of some very brave workers of an earlier era.

The author is a professor of history at the University of North Carolina, Wilmington, and has written a previous volume on labor history, *Paternalism and Protest: Southern Cotton Mill Workers and Organized Labor, 1875–1905.* His new book is a scholarly work based mainly on extensive research in primary sources, such as the Terence Powderly and John W. Hayes papers. There are many footnotes and a full bibliography. It is by no means dull, however, and is recommended for general reading as well as for reference use by specialists.

—ELIZABETH K. VAN STAAVEREN
Chief Bibliographer, U.S. Department of Labor Library

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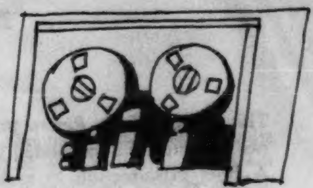

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NOTES ON CURRENT LABOR STATISTICS

This section of the *Review* presents the principal statistical series collected and calculated by the Bureau of Labor Statistics. A brief introduction to each group of tables provides definitions, notes on the data, sources, and other material usually found in footnotes.

Readers who need additional information are invited to consult the BLS regional offices listed on the inside front cover of this issue of the *Review*. Some general notes applicable to several series are given below.

Seasonal adjustment. Certain monthly and quarterly data are adjusted to eliminate the effect of such factors as climatic conditions, industry production schedules, opening and closing of schools, holiday buying periods, and vacation practices, which might otherwise mask short-term movements of the statistical series. Tables containing these data are identified as "seasonally adjusted." Seasonal effects are estimated on the basis of past experience. When new seasonal factors are computed each year, revisions may affect seasonally adjusted data for several preceding years. For a technical discussion of the method used to make seasonal adjustments, see "Appendix A. The BLS Seasonal Factor Method," *BLS Handbook of Methods for Surveys and Studies*, Bulletin 1910 (Bureau of Labor Statistics, 1976), pp. 272–78, and *X-11 Variant of the Census Method II Seasonal Adjustment Program*, Technical Paper No. 15 (Bureau of the Census, 1967). Seasonally adjusted labor force data in tables 2–7 were last revised in the February 1980 issue of the *Review* to reflect the preceding year's experience. Beginning in January 1980, the BLS introduced two major modifications in the seasonal adjustment methodology for labor force data. First, the data are being seasonally adjusted with a new procedure called X-11/ARIMA, which was developed at Statistics Canada as an extension of the standard X-11 method. A detailed description of the procedure appears in *The X-11 ARIMA Seasonal Adjustment Method* by Estela Bee Dagum (Statistics Canada Catalogue No. 12-564E, September 1979).

The second change is that seasonal factors are now being calculated for use during the first 6 months of the year, rather than for the entire year, and then are calculated at mid-year for the July-December period. Revisions of historical data continue to be made only at the end of each calendar year. Annual revision of the seasonally adjusted payroll data in tables 11, 13, 16, and 18 was last introduced in the November 1979 issue of the *Review*. New seasonal factors for productivity data in tables 33 and 34 are usually introduced in the September issue. Seasonally adjusted indexes and percent changes from month to month and from quarter to quarter are published for numerous Consumer and Producer Price Index series. However, seasonally adjusted indexes are not published for the U.S. average All Items CPI. Only seasonally adjusted percent changes are available for this series.

Adjustments for price changes. Some data are adjusted to eliminate the effect of changes in price. These adjustments are made by dividing current dollar values by the Consumer Price Index or the appropriate component of the index, then multiplying by 100. For example, given a current hourly wage rate of $3 and a current price index number of 150, where 1967 = 100, the hourly rate expressed in 1967 dollars is $2 ($3/150 × 100 = $2). The resulting values are described as "real," "constant," or "1967" dollars.

Availability of information. Data that supplement the tables in this section are published by the Bureau of Labor Statistics in a variety of sources. Press releases provide the latest statistical information published by the Bureau; the major recurring releases are published according to the schedule given below. The *Handbook of Labor Statistics 1978*, Bulletin 2000, provides more detailed data and greater historical coverage for most of the statistical series presented in the *Monthly Labor Review*. More information from the household and establishment surveys is provided in *Employment and Earnings*, a monthly publication of the Bureau, and in two comprehensive data books issued annually—*Employment and Earnings, United States*, and *Employment and Earnings, States and Areas*. More detailed information on wages and other aspects of collective bargaining appears in the monthly periodical, *Current Wage Developments*. More detailed price information is published each month in the periodicals, the *CPI Detailed Report* and *Producer Prices and Price Indexes*.

Symbols

p = preliminary. To improve the timeliness of some series, preliminary figures are issued based on representative but incomplete returns.
r = revised. Generally this revision reflects the availability of later data but may also reflect other adjustments.
n.e.c. = not elsewhere classified.

Schedule of release dates for major BLS statistical series

Title and frequency (monthly except where indicated)	Release date	Period covered	Release date	Period covered	MLR table number
Employment situation	March 7	February	April 4	March	1–11
Producer Price Indexes	March 7	February	April 4	March	26–30
Consumer Price Index	March 25	February	April 22	March	22–25
Real earnings	March 25	February	April 22	March	14–20
Productivity and costs:					
Nonfarm business and manufacturing	....	....	April 25	1st quarter	31–34
Work stoppages	March 28	February	April 28	March	37
Labor turnover in manufacturing	March 31	February	April 30	March	12–13

EMPLOYMENT DATA FROM THE HOUSEHOLD SURVEY

EMPLOYMENT DATA in this section are obtained from the Current Population Survey, a program of personal interviews conducted monthly by the Bureau of the Census for the Bureau of Labor Statistics. The sample consists of about 65,000 households beginning in January 1980, selected to represent the U.S. population 16 years of age and older. Households are interviewed on a rotating basis, so that three-fourths of the sample is the same for any 2 consecutive months.

Definitions

Employed persons are (1) those who worked for pay any time during the week which includes the 12th day of the month or who worked unpaid for 15 hours or more in a family-operated enterprise and (2) those who were temporarily absent from their regular jobs because of illness, vacation, industrial dispute, or similar reasons. A person working at more than one job is counted only in the job at which he or she worked the greatest number of hours.

Unemployed persons are those who did not work during the survey week, but were available for work except for temporary illness and had looked for jobs within the preceding 4 weeks. Persons who did not look for work because they were on layoff or waiting to start new jobs within the next 30 days are also counted among the unemployed. The **unemployment rate** represents the number unemployed as a percent of the civilian labor force.

The **civilian labor force** consists of all employed or unemployed persons in the civilian noninstitutional population; the **total labor force** includes military personnel. Persons **not in the labor force** are those not classified as employed or unemployed; this group includes persons retired, those engaged in their own housework, those not working while attending school, those unable to work because of longterm illness, those discouraged from seeking work because of personal or job market factors, and those who are voluntarily idle. The **noninstitutional population** comprises all persons 16 years of age and older who are not inmates of penal or mental institutions, sanitariums, or homes for the aged, infirm, or needy.

Full-time workers are those employed at least 35 hours a week; **part-time workers** are those who work fewer hours. Workers on part-time schedules for economic reasons (such as slack work, terminating or starting a job during the week, material shortages, or inability to find full-time work) are among those counted as being on full-time status, under the assumption that they would be working full time if conditions permitted. The survey classifies unemployed persons in full-time or part-time status by their reported preferences for full-time or part-time work.

Notes on the data

From time to time, and especially after a decennial census, adjustments are made in the Current Population Survey figures to correct for estimating errors during the preceding years. These adjustments affect the comparability of historical data presented in table 1. A description of these adjustments and their effect on the various data series appear in the Explanatory Notes of *Employment and Earnings*.

Data in tables 2–7 are seasonally adjusted, based on the seasonal experience through December 1979.

1. Employment status of the noninstitutional population, 16 years and over, selected years, 1950–79

[Numbers in thousands]

Year	Total non-institutional population	Total labor force		Civilian labor force						Not in labor force
					Employed			Unemployed		
		Number	Percent of population	Total	Total	Agriculture	Nonagricultural industries	Number	Percent of labor force	
1950	106,645	63,858	59.9	62,208	58,918	7,160	51,758	3,288	5.3	42,787
1955	112,732	68,072	60.4	65,023	62,170	6,450	55,722	2,852	4.4	44,660
1960	119,759	72,142	60.2	69,628	65,778	5,458	60,318	3,852	5.5	47,617
1964	127,224	75,830	59.6	73,091	69,305	4,523	64,782	3,786	5.2	51,394
1965	129,236	77,178	59.7	74,455	71,088	4,361	66,726	3,366	4.5	52,058
1966	131,180	78,893	60.1	75,770	72,895	3,979	68,915	2,875	3.8	52,288
1967	133,319	80,793	60.6	77,347	74,372	3,844	70,527	2,975	3.8	52,527
1968	135,562	82,272	60.7	78,737	75,920	3,817	72,103	2,817	3.6	53,291
1969	137,841	84,240	61.1	80,734	77,902	3,606	74,296	2,832	3.5	53,602
1970	140,182	85,903	61.3	82,715	78,627	3,462	75,165	4,088	4.9	54,280
1971	142,596	86,929	61.0	84,113	79,120	3,387	75,732	4,993	5.9	55,666
1972	145,775	88,991	61.0	86,542	81,702	3,472	78,230	4,840	5.6	56,785
1973	148,263	91,040	61.4	88,714	84,409	3,452	80,957	4,304	4.9	57,222
1974	150,827	93,240	61.8	91,011	85,935	3,492	82,443	5,076	5.6	57,587
1975	153,449	94,793	61.8	92,613	84,783	3,380	81,403	7,830	8.5	58,655
1976	156,048	96,917	62.1	94,773	87,485	3,297	84,188	7,288	7.7	59,130
1977	158,559	99,534	62.8	97,401	90,546	3,244	87,302	6,855	7.0	59,025
1978	161,058	102,537	63.7	100,420	94,373	3,342	91,031	6,047	6.0	58,521
1979	163,620	104,996	64.2	102,908	96,945	3,297	93,648	5,963	5.8	58,623

2. Employment status by sex, age, and race, seasonally adjusted

[Numbers in thousands]

Employment status	Annual Average		1979												1980
	1978	1979	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.
TOTAL															
Total noninstitutional population[1]	161,058	163,620	162,448	162,633	162,909	163,008	163,260	163,469	163,685	163,891	164,106	164,409	164,662	164,898	165,101
Total labor force	102,537	104,996	104,155	104,473	104,595	104,280	104,476	104,552	105,475	105,218	105,566	105,696	105,744	106,098	106,310
Civilian noninstitutional population[1]	158,941	161,532	160,358	160,539	160,819	160,925	161,102	161,309	161,504	161,801	162,013	162,375	162,599	162,909	163,020
Civilian labor force	100,420	102,908	102,061	102,379	102,505	102,199	102,398	102,476	103,093	103,128	103,494	103,595	103,652	103,999	104,229
Employed	94,373	96,945	96,157	96,496	96,623	96,254	96,495	96,652	97,184	97,004	97,504	97,474	97,608	97,912	97,804
Agriculture	3,342	3,297	3,260	3,307	3,320	3,215	3,246	3,243	3,267	3,315	3,364	3,294	3,385	3,359	3,270
Nonagricultural industries	91,031	93,648	92,897	93,189	93,303	93,039	93,249	93,409	93,917	93,689	94,140	94,180	94,223	94,553	94,534
Unemployed	6,047	5,963	5,904	5,883	5,882	5,944	5,903	5,824	5,909	6,124	5,990	6,121	6,044	6,087	6,425
Unemployment rate	6.0	5.8	5.8	5.7	5.7	5.8	5.8	5.7	5.7	5.9	5.8	5.9	5.8	5.9	6.2
Not in labor force	58,521	58,623	58,252	58,160	58,314	58,726	58,784	58,917	58,511	58,673	58,519	58,780	58,937	58,810	58,791
Men, 20 years and over															
Civilian noninstitutional population[1]	67,006	68,293	67,726	67,818	67,939	67,967	68,123	68,227	68,319	68,417	68,522	68,687	68,804	68,940	69,047
Civilian labor force	53,464	54,486	54,191	54,349	54,315	54,239	54,288	54,370	54,579	54,597	54,735	54,780	54,709	54,781	54,856
Employed	51,212	52,264	52,024	52,211	52,151	52,049	52,158	52,201	52,325	52,311	52,453	52,443	52,374	52,478	52,279
Agriculture	2,361	2,350	2,303	2,329	2,350	2,295	2,301	2,305	2,327	2,375	2,377	2,371	2,438	2,427	2,387
Nonagricultural industries	48,852	49,913	49,721	49,882	49,801	49,754	49,857	49,896	49,998	49,936	50,076	50,072	49,936	50,051	49,892
Unemployed	2,252	2,223	2,167	2,138	2,164	2,190	2,130	2,169	2,254	2,286	2,282	2,317	2,335	2,303	2,577
Unemployment rate	4.2	4.1	4.0	3.9	4.0	4.0	3.9	4.0	4.1	4.2	4.2	4.2	4.3	4.2	4.7
Not in labor force	13,541	13,807	13,535	13,467	13,624	13,758	13,835	13,857	13,740	13,820	13,787	13,937	14,095	14,159	14,192
Women, 20 years and over															
Civilian noninstitutional population[1]	75,489	76,860	76,228	76,332	76,476	76,532	76,670	76,784	76,897	77,006	77,124	77,308	77,426	77,542	77,656
Civilian labor force	37,416	38,910	38,207	38,399	38,574	38,415	38,619	38,653	39,033	39,304	39,239	39,362	39,445	39,659	39,878
Employed	35,180	36,698	36,012	36,197	36,362	36,216	36,411	36,457	36,873	37,000	37,075	37,112	37,248	37,402	37,574
Agriculture	586	591	596	593	595	572	577	583	585	600	628	572	612	582	540
Nonagricultural industries	34,593	36,107	35,416	35,604	35,767	35,644	35,834	35,874	36,288	36,400	36,447	36,540	36,636	36,820	37,034
Unemployed	2,236	2,213	2,195	2,202	2,212	2,199	2,208	2,196	2,160	2,304	2,164	2,250	2,197	2,257	2,304
Unemployment rate	6.0	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.5	5.9	5.5	5.7	5.6	5.7	5.8
Not in labor force	38,073	37,949	38,021	37,933	37,902	38,117	38,051	38,131	37,864	37,702	37,885	37,946	37,981	37,883	37,778
Both sexes, 16 - 19 years															
Civilian noninstitutional population[1]	16,447	16,379	16,400	16,391	16,404	16,397	16,389	16,381	16,387	16,377	16,367	16,370	16,360	16,326	16,317
Civilian labor force	9,540	9,512	9,663	9,631	9,616	9,544	9,491	9,453	9,481	9,227	9,520	9,473	9,498	9,559	9,497
Employed	7,981	7,984	8,121	8,088	8,110	7,989	7,926	7,994	7,986	7,693	7,976	7,919	7,986	8,032	7,952
Agriculture	385	356	361	385	375	348	368	355	355	340	359	351	336	350	344
Nonagricultural industries	7,596	7,628	7,760	7,703	7,735	7,641	7,558	7,639	7,631	7,353	7,617	7,568	7,651	7,682	7,608
Unemployed	1,559	1,528	1,542	1,543	1,506	1,555	1,565	1,459	1,495	1,534	1,544	1,554	1,512	1,527	1,545
Unemployment rate	16.3	16.1	16.0	16.0	15.7	16.3	16.5	15.4	15.8	16.6	16.2	16.4	15.9	16.0	16.3
Not in labor force	6,907	6,867	6,737	6,760	6,788	6,853	6,898	6,928	6,906	7,150	6,847	6,897	6,862	6,767	6,820
White															
Civilian noninstitutional population[1]	139,580	141,614	140,683	140,825	141,063	141,123	141,331	141,492	141,661	141,822	141,981	142,296	142,461	142,645	142,806
Civilian labor force	88,456	90,602	89,973	90,250	90,260	89,996	90,120	90,215	90,659	90,759	91,082	91,147	91,242	91,579	91,852
Employed	83,836	86,025	85,434	85,786	85,754	85,497	85,632	85,775	86,120	85,976	86,425	86,454	86,571	86,894	86,895
Unemployed	4,620	4,577	4,539	4,464	4,506	4,499	4,488	4,440	4,539	4,783	4,657	4,693	4,671	4,685	4,957
Unemployment rate	5.2	5.1	5.0	4.9	5.0	5.0	5.0	4.9	5.0	5.3	5.1	5.1	5.1	5.1	5.4
Not in labor force	51,124	51,011	50,590	50,430	50,648	51,200	51,313	51,213	51,107	51,161	50,900	51,149	51,219	51,066	50,954
Black and other															
Civilian noninstitutional population[1]	19,361	19,918	19,670	19,714	19,755	19,802	19,850	19,901	19,943	19,979	20,032	20,079	20,128	20,183	20,214
Civilian labor force	11,964	12,306	12,101	12,177	12,238	12,191	12,219	12,260	12,386	12,343	12,404	12,512	12,391	12,432	12,453
Employed	10,537	10,920	10,736	10,746	10,860	10,767	10,816	10,887	11,023	10,982	11,063	11,076	11,044	11,024	10,979
Unemployed	1,427	1,386	1,365	1,431	1,378	1,424	1,403	1,373	1,363	1,361	1,341	1,436	1,347	1,408	1,474
Unemployment rate	11.9	11.3	11.3	11.8	11.3	11.7	11.5	11.2	11.0	11.0	10.8	11.5	10.9	11.3	11.8
Not in labor force	7,367	7,612	7,583	7,486	7,504	7,627	7,674	7,629	7,579	7,639	7,284	7,567	7,737	7,731	7,761

[1] As in table 1, population figures are not seasonally adjusted.

NOTE: The data in this table have been revised to reflect seasonal experience through 1979.

3. Selected employment indicators, seasonally adjusted

[In thousands]

Selected categories	Annual average		1979												1980
	1978	1979	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.
CHARACTERISTIC															
Total employed, 16 years and over	94,373	96,945	96,157	96,496	96,623	96,254	96,495	96,652	97,184	97,004	97,504	97,474	97,608	97,912	97,804
Men	55,491	56,499	56,326	56,476	56,449	56,264	56,372	56,477	56,570	56,408	56,714	56,629	56,580	56,734	56,486
Women	38,882	40,446	39,831	40,020	40,174	39,990	40,123	40,175	40,614	40,596	40,790	40,845	41,028	41,178	41,318
Married men, spouse present	38,986	39,090	39,139	39,291	39,193	38,910	39,046	39,079	39,176	39,180	39,198	39,124	38,846	38,924	38,749
Married women, spouse present	21,881	22,724	22,372	22,522	22,605	22,376	22,547	22,664	22,908	22,889	22,937	22,919	22,940	23,027	23,111
OCCUPATION															
White-collar workers	47,205	49,342	48,303	48,836	48,996	49,061	49,136	49,192	49,536	49,663	49,816	49,736	49,912	49,911	50,313
Professional and technical	14,245	15,050	14,734	14,950	15,012	15,091	15,100	15,010	15,057	15,068	15,141	15,067	15,131	15,272	15,337
Managers and administrators, except farm	10,105	10,516	10,312	10,379	10,382	10,398	10,427	10,534	10,612	10,698	10,659	10,639	10,617	10,535	10,609
Salesworkers	5,951	6,163	6,048	6,090	6,065	6,084	6,101	6,103	6,163	6,145	6,181	6,261	6,362	6,346	6,452
Clerical workers	16,904	17,613	17,209	17,417	17,537	17,488	17,508	17,545	17,704	17,752	17,835	17,761	17,802	17,758	17,915
Blue-collar workers	31,531	32,066	32,290	32,176	32,041	31,705	31,904	31,992	32,051	31,849	32,209	32,205	32,110	32,302	31,882
Craft and kindred workers	12,386	12,880	12,807	12,898	12,792	12,703	12,820	12,944	12,876	12,761	12,993	13,001	12,925	13,041	12,814
Operatives, except transport	10,875	10,909	10,958	10,901	10,981	10,770	10,755	10,804	10,884	10,909	10,964	10,967	10,963	11,042	10,678
Transport equipment operatives	3,541	3,612	3,651	3,602	3,588	3,564	3,644	3,605	3,627	3,604	3,617	3,593	3,628	3,635	3,616
Nonfarm laborers	4,729	4,665	4,874	4,775	4,680	4,668	4,685	4,639	4,664	4,575	4,635	4,644	4,594	4,584	4,774
Service workers	12,839	12,834	12,817	12,804	12,847	12,907	12,772	12,805	12,766	12,821	12,859	12,937	12,899	12,970	12,979
Farmworkers	2,798	2,703	2,764	2,746	2,774	2,659	2,628	2,679	2,678	2,707	2,722	2,686	2,718	2,684	2,680
MAJOR INDUSTRY AND CLASS OF WORKER															
Agriculture:															
Wage and salary workers	1,419	1,413	1,387	1,425	1,415	1,379	1,424	1,423	1,419	1,364	1,399	1,381	1,475	1,451	1,429
Self-employed workers	1,607	1,580	1,584	1,558	1,583	1,553	1,519	1,539	1,558	1,614	1,642	1,602	1,622	1,596	1,564
Unpaid family workers	316	304	295	334	314	291	283	291	291	310	325	313	310	310	293
Nonagricultural industries:															
Wage and salary workers	84,253	86,540	86,029	86,192	86,439	86,105	86,232	86,309	86,454	86,421	86,912	86,982	87,020	87,264	87,578
Government	15,267	15,369	15,251	15,322	15,281	15,359	15,616	15,318	15,393	15,279	15,407	15,423	15,358	15,297	15,414
Private industries	68,986	71,171	70,778	70,870	71,158	70,746	70,616	70,991	71,061	71,142	71,505	71,559	71,662	71,967	72,164
Private households	1,383	1,240	1,247	1,328	1,262	1,172	1,195	1,235	1,219	1,211	1,313	1,261	1,211	1,208	1,132
Other industries	67,603	69,931	69,531	69,542	69,896	69,574	69,421	69,756	69,842	69,931	70,192	70,298	70,451	70,759	71,031
Self-employed workers	6,305	6,652	6,497	6,591	6,542	6,463	6,608	6,629	6,752	6,689	6,731	6,812	6,781	6,737	6,752
Unpaid family workers	472	455	475	455	446	465	460	474	519	450	449	430	417	409	379
PERSONS AT WORK [1]															
Nonagricultural industries	85,693	88,133	87,520	87,543	87,847	86,608	87,785	87,749	88,769	88,855	88,723	88,638	88,617	89,160	89,454
Full-time schedules	70,543	72,647	72,176	72,212	72,529	71,659	72,496	72,243	72,915	73,053	73,159	73,204	72,997	73,137	73,223
Part time for economic reasons	3,216	3,281	3,203	3,176	3,211	3,279	3,283	3,284	3,274	3,298	3,167	3,315	3,392	3,519	3,513
Usually work full time	1,249	1,325	1,252	1,246	1,254	1,287	1,273	1,322	1,334	1,401	1,273	1,354	1,413	1,491	1,549
Usually work part time	1,967	1,956	1,951	1,930	1,957	1,992	2,010	1,962	1,940	1,897	1,894	1,961	1,979	2,028	1,964
Part time for noneconomic reasons	11,934	12,205	12,141	12,155	12,107	11,670	12,006	12,222	12,580	12,504	12,397	12,119	12,228	12,504	12,718

[1] Excludes persons "with a job but not at work" during the survey period for such reasons as vacation, illness, or industrial disputes.

NOTE: The data in this table have been revised to reflect seasonal experience through 1979.

4. Selected unemployment indicators, seasonally adjusted

Employment status	Annual average		1979												1980
	1978	1979	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.
CHARACTERISTIC															
Total, 16 years and over	6.0	5.8	5.8	5.7	5.7	5.8	5.6	5.7	5.7	5.9	5.8	5.9	5.8	5.9	6.2
Men, 20 years and over	4.2	4.1	4.0	3.9	4.0	4.0	3.9	4.0	4.1	4.2	4.2	4.2	4.3	4.2	4.7
Women, 20 years and over	6.0	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.5	5.9	5.5	5.7	5.6	5.7	5.8
Both sexes, 16–19 years	16.3	16.1	16.0	16.0	15.7	16.3	16.5	15.4	15.8	16.6	16.2	16.4	15.9	16.0	16.3
White, total	5.2	5.1	5.0	4.8	5.0	5.0	5.0	4.9	5.0	5.3	5.1	5.1	5.1	5.1	5.4
Men, 20 years and over	3.7	3.6	3.5	3.4	3.4	3.5	3.4	3.5	3.6	3.7	3.7	3.7	3.7	3.7	4.1
Women, 20 years and over	5.2	5.0	5.0	5.0	5.0	5.0	5.0	4.9	4.8	5.2	4.8	5.0	4.9	5.0	5.1
Both sexes, 16–19 years	13.9	13.9	13.8	13.6	13.6	13.9	14.2	13.2	13.8	14.8	14.3	14.1	13.9	13.8	14.0
Black and other, total	11.9	11.3	11.3	11.8	11.3	11.7	11.5	11.2	11.0	11.0	10.8	11.5	10.9	11.3	11.8
Men, 20 years and over	8.6	8.4	8.0	8.6	8.7	8.8	8.4	8.1	8.4	8.1	8.0	8.8	8.4	8.8	9.6
Women, 20 years and over	10.6	10.1	10.5	10.4	10.0	10.5	10.0	10.4	10.0	10.3	9.8	10.2	9.5	10.0	10.0
Both sexes, 16–19 years	36.3	33.5	33.0	34.9	31.5	34.3	36.1	33.5	31.5	32.6	32.3	35.1	32.8	34.3	34.6
Married men, spouse present	2.8	2.7	2.6	2.6	2.6	2.7	2.5	2.7	2.8	2.9	2.9	2.9	2.9	2.8	3.4
Married women, spouse present	5.5	5.1	5.3	5.3	5.2	5.2	5.2	5.1	4.9	5.3	4.8	5.2	4.8	5.0	5.2
Women who head families	8.5	8.3	8.0	8.3	8.2	8.3	8.6	8.0	8.1	7.9	7.7	8.4	8.4	8.4	9.2
Full-time workers	5.5	5.3	5.2	5.2	5.2	5.3	5.2	5.2	5.3	5.4	5.3	5.4	5.4	5.4	5.7
Part-time workers	9.0	8.7	9.1	8.8	9.0	8.7	9.3	8.8	8.3	8.8	8.4	8.9	8.3	8.5	8.7
Unemployed 15 weeks and over	1.4	1.2	1.2	1.2	1.3	1.2	1.2	1.1	1.0	1.1	1.1	1.2	1.1	1.2	1.3
Labor force time lost[1]	6.5	6.3	6.2	6.2	6.2	6.4	6.3	6.3	6.4	6.4	6.2	6.4	6.4	6.4	6.7
OCCUPATION															
White-collar workers	3.5	3.3	3.4	3.4	3.3	3.3	3.2	3.4	3.3	3.5	3.3	3.4	3.2	3.3	3.4
Professional and technical	2.6	2.4	2.5	2.4	2.2	2.3	2.1	2.5	2.5	2.5	2.4	2.7	2.4	2.3	2.2
Managers and administrators, except farm	2.1	2.1	2.0	2.0	2.1	2.3	2.2	2.1	2.0	2.3	2.2	2.2	1.9	2.0	1.9
Salesworkers	4.1	3.9	4.0	4.3	4.1	4.0	4.0	4.4	3.5	4.0	3.8	3.8	3.7	3.8	4.4
Clerical workers	4.9	4.6	4.7	4.7	4.8	4.5	4.5	4.6	4.5	4.9	4.5	4.7	4.4	4.6	4.8
Blue-collar workers	6.9	6.9	6.5	6.5	6.6	6.9	6.8	6.8	6.8	7.3	7.1	7.2	7.5	7.2	8.0
Craft and kindred workers	4.6	4.5	4.4	4.5	4.5	4.4	4.2	4.3	4.4	4.7	4.3	4.6	4.9	4.4	4.9
Operatives, except transport	8.1	8.4	7.8	7.8	7.8	8.5	8.2	7.7	8.3	8.9	9.0	9.1	9.0	9.0	9.9
Transport equipment operatives	5.2	5.4	5.0	6.0	5.2	5.9	5.4	5.7	5.1	6.2	6.1	5.6	5.2	5.0	6.9
Nonfarm laborers	10.7	10.8	9.7	9.7	10.2	10.6	11.1	10.6	11.0	11.3	11.0	10.7	12.2	12.2	12.3
Service workers	7.4	7.1	7.7	7.3	7.3	7.3	7.2	7.2	7.1	7.1	6.7	6.8	6.6	6.6	6.9
Farmworkers	3.8	3.8	2.9	3.4	3.3	3.4	3.6	3.2	4.2	3.9	4.1	4.3	4.5	4.3	4.4
INDUSTRY															
Nonagricultural private wage and salary workers[2]	5.9	5.7	5.7	5.6	5.6	5.7	5.7	5.6	5.7	6.0	5.8	5.9	5.8	5.8	6.2
Construction	10.6	10.2	10.3	10.9	10.1	10.5	10.0	10.0	10.0	10.1	9.6	9.9	10.2	10.3	10.8
Manufacturing	5.5	5.5	5.1	4.9	5.2	5.3	5.4	5.4	5.7	5.9	6.0	6.0	5.9	5.9	6.7
Durable goods	4.9	5.0	4.4	4.2	4.4	4.7	4.4	4.9	5.4	5.4	5.3	5.5	5.6	5.5	6.7
Nondurable goods	6.3	6.4	6.1	5.9	6.4	6.3	6.9	6.3	6.2	6.8	7.1	6.8	6.3	6.4	6.8
Transportation and public utilities	3.7	3.7	3.5	3.2	3.9	3.0	3.6	3.1	3.8	3.7	4.0	3.8	4.2	4.1	4.4
Wholesale and retail trade	6.9	6.5	6.6	6.5	6.3	6.6	6.4	6.7	6.3	6.5	6.4	6.4	6.5	6.4	6.6
Finance and service industries	5.1	4.9	5.1	4.8	4.8	4.8	4.9	4.7	4.9	5.2	4.7	4.9	4.6	4.7	4.8
Government workers	3.9	3.7	3.9	3.8	4.1	3.7	3.6	3.6	3.6	3.7	3.3	4.0	3.8	3.6	3.8
Agricultural wage and salary workers	8.8	9.1	7.5	8.6	8.0	8.7	9.3	7.8	9.7	9.9	10.0	9.9	10.1	9.4	10.3

[1] Aggregate hours lost by the unemployed and persons on part time for economic reasons as a percent of potentially available labor force hours.

[2] Includes mining, not shown separately.

NOTE: The data in this table have been revised to reflect seasonal experience through 1979.

5. Unemployment rates, by sex and age, seasonally adjusted

Sex and age	Annual average		1979												1980
	1978	1979	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.
Total, 16 years and over	6.0	5.8	5.8	5.7	5.7	5.8	5.8	5.7	5.7	5.9	5.8	5.9	5.8	5.9	6.2
16 to 19 years	16.3	16.1	16.0	16.0	15.7	16.3	16.5	15.4	15.8	16.6	16.2	16.4	15.9	16.0	16.3
16 to 17 years	19.3	18.1	18.6	18.5	18.5	18.7	18.9	17.5	17.3	18.5	16.9	18.4	17.3	18.0	19.0
18 to 19 years	14.2	14.6	13.8	14.3	13.5	14.3	15.0	14.4	14.5	15.4	15.6	15.0	14.7	14.5	14.0
20 to 24 years	9.5	9.0	8.7	8.6	8.8	8.6	8.9	8.9	9.1	9.3	9.2	9.6	8.8	9.8	10.1
25 years and over	4.0	3.9	3.9	3.9	3.9	4.0	3.9	3.9	3.9	4.0	3.9	4.0	4.0	3.9	4.2
25 to 54 years	4.2	4.1	4.1	4.1	4.1	4.2	4.0	4.1	4.0	4.2	4.1	4.2	4.3	4.1	4.4
55 years and over	3.2	3.0	3.0	3.0	3.1	3.1	3.1	2.9	3.2	3.1	2.9	3.0	2.7	2.7	3.5
Men, 16 years and over	5.2	5.1	5.1	5.0	5.0	5.1	5.0	4.9	5.1	5.2	5.2	5.2	5.2	5.3	5.7
16 to 19 years	15.7	15.8	16.2	16.1	15.8	16.0	16.1	14.5	15.4	16.3	16.1	15.7	15.8	15.6	16.2
16 to 17 years	19.2	17.9	19.2	19.2	18.9	17.9	18.9	16.8	16.1	18.0	16.7	17.1	17.8	17.9	19.0
18 to 19 years	13.2	14.2	13.7	14.2	13.6	14.1	14.0	14.0	14.8	15.1	15.3	14.4	14.0	13.6	13.9
20 to 24 years	9.1	8.6	8.4	8.1	8.3	8.0	8.2	8.3	8.8	8.8	8.8	9.5	8.4	9.4	10.4
25 years and over	3.3	3.3	3.2	3.2	3.2	3.3	3.1	3.2	3.3	3.4	3.3	3.4	3.5	3.2	3.7
25 to 54 years	3.4	3.4	3.3	3.3	3.3	3.3	3.2	3.2	3.4	3.5	3.6	3.5	3.8	3.4	3.8
55 years and over	3.1	2.9	2.9	2.8	2.8	3.0	2.8	3.1	3.3	3.1	2.8	2.8	2.8	2.6	3.5
Women, 16 years and over	7.2	6.8	6.8	6.8	6.8	6.9	6.9	6.8	6.8	7.0	6.6	6.9	6.6	6.8	6.8
16 to 19 years	17.0	16.4	15.7	15.9	15.5	16.6	16.9	16.5	16.2	17.0	16.4	17.2	16.1	16.4	16.3
16 to 17 years	19.5	18.3	17.8	17.7	18.0	19.6	18.8	18.3	18.6	19.0	17.2	19.8	16.7	18.0	19.1
18 to 19 years	15.9	15.0	14.0	14.5	13.3	14.5	16.0	14.9	14.2	15.7	15.9	15.6	15.5	15.5	14.2
20 to 24 years	10.1	9.6	9.1	9.3	9.5	9.4	9.7	9.7	9.4	9.8	9.6	9.7	9.3	10.2	9.8
25 years and over	5.1	4.8	5.0	5.0	4.9	4.9	4.9	4.8	4.7	4.9	4.6	4.9	4.7	4.7	4.9
25 to 54 years	5.4	5.2	5.4	5.4	5.3	5.3	5.2	5.2	5.0	5.3	5.0	5.2	5.0	5.1	5.2
55 years and over	3.3	3.2	3.2	3.3	3.6	3.2	3.6	2.8	3.1	3.2	2.9	3.4	2.9	2.9	3.4

6. Unemployed persons, by reason for unemployment, seasonally adjusted

[Numbers in thousands]

Reason for unemployment	1979												1980
	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.
NUMBER OF UNEMPLOYED													
Lost last job	2,441	2,475	2,457	2,520	2,356	2,449	2,526	2,680	2,632	2,731	2,729	2,728	2,888
On layoff	752	779	791	839	725	816	797	915	855	929	987	944	1,019
Other job losers	1,689	1,696	1,666	1,681	1,631	1,633	1,729	1,765	1,777	1,802	1,742	1,784	1,869
Left last job	900	828	864	847	940	857	846	875	825	835	845	800	779
Reentered labor force	1,721	1,766	1,766	1,779	1,767	1,753	1,762	1,786	1,760	1,762	1,696	1,771	1,797
Seeking first job	824	856	808	800	824	781	726	745	801	804	736	868	811
PERCENT DISTRIBUTION													
Total unemployed	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Job losers	41.5	41.8	41.7	42.4	40.0	41.9	43.1	44.0	43.7	44.5	45.4	44.3	46.9
On layoff	12.8	13.1	13.4	14.1	12.3	14.0	13.6	15.0	14.2	15.2	16.4	15.3	16.0
Other job losers	28.7	28.6	28.3	28.3	27.7	28.0	29.5	29.0	29.5	29.4	29.0	29.0	30.9
Job leavers	15.3	14.0	14.7	14.2	16.0	14.7	14.4	14.4	13.7	13.6	14.1	13.0	12.2
Reentrants	29.2	29.8	30.0	29.9	30.0	30.0	30.1	29.4	29.2	28.7	28.3	28.8	28.2
New entrants	14.0	14.5	13.7	13.5	14.0	13.4	12.4	12.2	13.3	13.1	12.3	13.9	12.7
UNEMPLOYED AS A PERCENT OF THE CIVILIAN LABOR FORCE													
Job losers	2.4	2.4	2.4	2.5	2.3	2.4	2.5	2.6	2.5	2.6	2.6	2.6	2.9
Job leavers	.8	.8	.8	.8	.9	.8	.8	.8	.8	.8	.8	.8	.7
Reentrants	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.7	1.7
New entrants	.8	.8	.8	.8	.8	.8	.7	.7	.8	.8	.7	.8	.8

7. Duration of unemployment, seasonally adjusted

[Numbers in thousands]

Weeks of unemployment	Annual average		1979												1980
	1978	1979	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.
Less than 5 weeks	2,793	2,869	2,751	2,779	2,780	2,676	2,823	2,880	2,820	3,169	2,776	2,858	2,918	2,816	3,184
5 to 14 weeks	1,875	1,892	1,861	1,877	1,869	1,894	1,919	1,909	1,934	1,738	2,035	1,865	1,899	1,898	1,907
15 weeks and over	1,379	1,202	1,229	1,238	1,291	1,223	1,212	1,152	1,067	1,185	1,152	1,195	1,191	1,230	1,394
15 to 26 weeks	746	684	708	700	729	687	705	656	615	658	644	678	690	711	785
27 weeks and over	633	518	521	539	562	536	507	496	452	527	508	517	501	519	609
Average (mean) duration, in weeks	11.9	10.8	11.2	11.3	11.8	11.0	10.9	10.5	10.1	10.7	10.7	10.5	10.6	10.5	10.5

NOTE: The data in these tables have been revised to reflect seasonal experience through 1979. See pages 74–5.

EMPLOYMENT, HOURS, AND EARNINGS DATA FROM ESTABLISHMENT SURVEYS

EMPLOYMENT, HOURS, AND EARNINGS DATA in this section are compiled from payroll records reported monthly on a voluntary basis to the Bureau of Labor Statistics and its cooperating State agencies by 162,000 establishments representing all industries except agriculture. In most industries, the sampling probabilities are based on the size of the establishment; most large establishments are therefore in the sample. (An establishment is not necessarily a firm; it may be a branch plant, for example, or warehouse.) Self-employed persons and others not on a regular civilian payroll are outside the scope of the survey because they are excluded from establishment records. This largely accounts for the difference in employment figures between the household and establishment surveys.

LABOR TURNOVER DATA in this section are compiled from personnel records reported monthly on a voluntary basis to the Bureau of Labor Statistics and its cooperating State agencies. A sample of 40,000 establishments represents all industries in the manufacturing and mining sectors of the economy.

Definitions

Employed persons are all persons who received pay (including holiday and sick pay) for any part of the payroll period including the 12th of the month. Persons holding more than one job (about 5 percent of all persons in the labor force) are counted in each establishment which reports them.

Production workers in manufacturing include blue-collar worker supervisors and all nonsupervisory workers closely associated with production operations. Those workers mentioned in tables 14–20 include production workers in manufacturing and mining; construction workers in construction; and nonsupervisory workers in transportation and public utilities, in wholesale and retail trade, in finance, insurance, and real estate, and in service industries. These groups account for about four-fifths of the total employment on private nonagricultural payrolls.

Earnings are the payments production or nonsupervisory workers receive during the survey period, including premium pay for overtime or late-shift work but excluding irregular bonuses and other special payments. **Real earnings** are earnings adjusted to eliminate the effects of price change. The **Hourly Earnings Index** is calculated from average hourly earnings data adjusted to exclude the effects of two types of changes that are unrelated to underlying wage-rate developments: fluctuations in overtime premiums in manufacturing (the only sector for which overtime data are available) and the effects of changes and seasonal factors in the proportion of workers in high-wage and low-wage industries. **Spendable earnings** are earnings from which estimated social security and Federal income taxes have been deducted. The Bureau of Labor Statistics computes spendable earnings from gross weekly earnings for only two illustrative cases: (1) a worker with no dependents and (2) a married worker with three dependents.

Hours represent the average weekly hours of production or nonsupervisory workers for which pay was received and are different from standard or scheduled hours. **Overtime hours** represent the portion of gross average weekly hours which were in excess of regular hours and for which overtime premiums were paid.

Labor turnover is the movement of all wage and salary workers from one employment status to another. **Accession rates** indicate the average number of persons added to a payroll in a given period per 100 employees; **separation rates** indicate the average number dropped from a payroll per 100 employees. Although month-to-month changes in employment can be calculated from the labor turnover data, the results are not comparable with employment data from the employment and payroll survey. The labor turnover survey measures changes during the calendar month while the employment and payroll survey measures changes from midmonth to midmonth.

Notes on the data

Establishment data collected by the Bureau of Labor Statistics are periodically adjusted to comprehensive counts of employment (called "benchmarks"). The latest complete adjustment was made with the release of September 1979 data, published in the November 1979 issue of the *Review*. Consequently, data published in the *Review* prior to that issue are not necessarily comparable to current data. Complete comparable historical unadjusted and seasonally adjusted data are published in a Supplement to Employment and Earnings (unadjusted data from April 1977 through June 1979 and seasonally adjusted data from January 1974 through June 1979) and in *Employment and Earnings, United States, 1909–78*, BLS Bulletin 1312–11 (for prior periods).

Data on recalls were shown for the first time in tables 12 and 13 in the January 1978 issue of the *Review*. For a detailed discussion of the recalls series, along with historical data, see "New Series on Recalls from the Labor Turnover Survey," *Employment and Earnings*, December 1977, pp. 10–19.

A comprehensive discussion of the differences between household and establishment data on employment appears in Gloria P. Green, "Comparing employment estimates from household and payroll surveys," *Monthly Labor Review*, December 1969, pp. 9–20. See also *BLS Handbook of Methods for Surveys and Studies*, Bulletin 1910 (Bureau of Labor Statistics, 1976).

The formulas used to construct the spendable average weekly earnings series reflect the latest provisions of the Federal income tax and social security tax laws. For the spendable average weekly earnings formulas for the years 1977–79, see *Employment and Earnings*, September 1979, pp. 6–8. Beginning with data for January 1978, real earnings data are adjusted using the revised Consumer Price Index for Urban Wage Earners and Clerical Workers. Data prior to January 1978 are based on the unrevised Consumer Price Index for Urban Wage Earners and Clerical Workers.

8. Employment by industry, 1949–78

[Nonagricultural payroll data, in thousands]

Year	Total	Mining	Construction	Manufacturing	Transportation and public utilities	Wholesale and retail trade	Wholesale trade	Retail trade	Finance, insurance, and real estate	Services	Government: Total	Government: Federal	Government: State and local
1949	43,754	930	2,194	14,441	4,001	9,264	2,602	6,662	1,828	5,240	5,856	1,908	3,948
1950	45,197	901	2,364	15,241	4,034	9,386	2,635	6,751	1,888	5,357	6,026	1,928	4,098
1951	47,819	929	2,637	16,393	4,226	9,742	2,727	7,015	1,956	5,547	6,389	2,302	4,087
1952	48,793	898	2,668	16,632	4,248	10,004	2,812	7,192	2,035	5,699	6,609	2,420	4,188
1953	50,202	866	2,659	17,549	4,290	10,247	2,854	7,393	2,111	5,835	6,645	2,305	4,340
1954	48,990	791	2,646	16,314	4,084	10,235	2,867	7,368	2,200	5,969	6,751	2,188	4,563
1955	50,641	792	2,839	16,882	4,141	10,535	2,926	7,610	2,298	6,240	6,914	2,187	4,727
1956	52,369	822	3,039	17,243	4,244	10,858	3,018	7,840	2,389	6,497	7,278	2,209	5,069
1957	52,853	828	2,962	17,174	4,241	10,886	3,028	7,858	2,438	6,708	7,616	2,217	5,399
1958	51,324	751	2,817	15,945	3,976	10,750	2,980	7,770	2,481	6,765	7,839	2,191	5,648
1959[1]	53,268	732	3,004	16,675	4,011	11,127	3,082	8,045	2,549	7,087	8,083	2,233	5,850
1960	54,189	712	2,926	16,796	4,004	11,391	3,143	8,248	2,629	7,378	8,353	2,270	6,083
1961	53,999	672	2,859	16,326	3,903	11,337	3,133	8,204	2,688	7,620	8,594	2,279	6,315
1962	55,549	650	2,948	16,853	3,906	11,566	3,198	8,368	2,754	7,982	8,890	2,340	6,550
1963	56,653	635	3,010	16,995	3,903	11,778	3,248	8,530	2,830	8,277	9,225	2,358	6,868
1964	58,283	634	3,097	17,274	3,951	12,160	3,337	8,823	2,911	8,660	9,596	2,348	7,248
1965	60,765	632	3,232	18,062	4,036	12,716	3,466	9,250	2,977	9,036	10,074	2,378	7,696
1966	63,901	627	3,317	19,214	4,158	13,245	3,597	9,648	3,058	9,498	10,784	2,564	8,220
1967	65,803	613	3,248	19,447	4,268	13,606	3,689	9,917	3,185	10,045	11,391	2,719	8,672
1968	67,897	606	3,350	19,781	4,318	14,099	3,779	10,320	3,337	10,567	11,839	2,737	9,102
1969	70,384	619	3,575	20,167	4,442	14,705	3,907	10,798	3,512	11,169	12,195	2,758	9,437
1970	70,880	623	3,588	19,367	4,515	15,040	3,993	11,047	3,645	11,548	12,554	2,731	9,823
1971	71,214	609	3,704	18,623	4,476	15,352	4,001	11,351	3,772	11,797	12,881	2,696	10,185
1972	73,675	628	3,889	19,151	4,541	15,949	4,113	11,836	3,908	12,276	13,334	2,684	10,649
1973	76,790	642	4,097	20,154	4,656	16,607	4,277	12,329	4,046	12,857	13,732	2,663	11,068
1974	78,265	697	4,020	20,077	4,725	16,987	4,433	12,554	4,148	13,441	14,170	2,724	11,446
1975	76,945	752	3,525	18,323	4,542	17,060	4,415	12,645	4,165	13,892	14,686	2,748	11,937
1976	79,382	779	3,576	18,997	4,582	17,755	4,546	13,209	4,271	14,551	14,871	2,733	12,138
1977	82,423	813	3,851	19,682	4,713	18,516	4,708	13,808	4,467	15,303	15,079	2,727	12,352
1978	86,446	851	4,271	20,476	4,927	19,499	4,957	14,542	4,727	16,220	15,476	2,753	12,723

[1] Data include Alaska and Hawaii beginning in 1959.

9. Employment by State

[Nonagricultural payroll data, in thousands]

State	Dec. 1978	Nov. 1979	Dec. 1979p	State	Dec. 1978	Nov. 1979	Dec. 1979p
Alabama	1,361.3	1,364.7	1,367.2	Montana[1]	283.9	290.1	289.5
Alaska	158.6	162.1	NA	Nebraska	605.4	619.5	618.5
Arizona	933.6	986.3	991.6	Nevada	366.5	383.9	382.7
Arkansas	734.9	750.3	749.0	New Hampshire	372.3	387.9	386.9
California	9,536.3	9,827.7	9,892.6	New Jersey	3,015.4	3,058.0	3,065.5
Colorado	1,168.3	1,206.5	1,211.3	New Mexico	456.9	474.1	476.5
Connecticut	1,396.6	1,422.9	1,431.5	New York	7,143.4	7,172.7	7,181.0
Delaware	251.5	248.2	252.1	North Carolina	2,318.9	2,376.1	2,377.6
District of Columbia	591.3	598.8	601.5	North Dakota[1]	238.5	249.3	247.4
Florida	3,259.3	3,353.5	3,399.2	Ohio	4,485.0	4,521.5	4,526.5
Georgia	2,027.0	2,037.5	2,039.6	Oklahoma	1,051.8	1,098.1	1,105.2
Hawaii	396.3	398.1	408.3	Oregon	1,032.7	1,075.3	1,066.3
Idaho[1]	339.0	343.6	340.5	Pennsylvania	4,734.8	4,748.1	4,742.0
Illinois	4,843.9	4,837.9	4,833.8	Rhode Island	408.3	408.5	405.9
Indiana	2,233.7	2,248.7	2,243.4	South Carolina	1,153.2	1,174.4	1,177.0
Iowa	1,124.0	1,148.0	1,144.0	South Dakota[1]	240.5	241.8	240.0
Kansas	934.1	964.2	968.1	Tennessee	1,749.6	1,738.3	1,738.3
Kentucky	1,272.0	1,297.2	1,297.8	Texas	5,407.7	5,621.2	5,638.8
Louisiana	1,442.9	1,469.1	1,472.0	Utah[1]	543.5	573.8	574.2
Maine	410.2	413.1	412.4	Vermont[1]	197.4	199.8	202.8
Maryland	1,633.6	1,635.0	1,643.5	Virginia	2,092.3	2,127.8	2,130.3
Massachusetts	2,568.1	2,614.0	2,625.0	Washington	1,562.1	1,639.5	1,640.8
Michigan	3,646.8	3,581.4	3,602.3	West Virginia	636.9	639.1	635.6
Minnesota	1,725.3	1,795.8	1,790.1	Wisconsin	1,930.1	2,003.1	1,999.1
Mississippi	835.6	836.9	838.0	Wyoming[1]	199.2	213.3	213.8
Missouri	1,952.1	1,965.8	1,967.8				

[1] Revised series; not strictly comparable with previously published data.

10. Employment by industry division and major manufacturing group

[Nonagricultural payroll data, in thousands]

Industry division and group	Annual average		1979												1980
	1977	1978	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.ᵖ	Jan.ᵖ
TOTAL	82,423	86,446	87,128	87,331	88,207	88,820	89,671	90,541	89,618	89,673	90,211	90,676	90,902	91,000	89,176
MINING	813	851	910	915	926	932	944	968	976	986	980	982	984	985	977
CONSTRUCTION	3,851	4,271	3,998	3,957	4,226	4,413	4,662	4,881	4,993	5,048	4,984	4,976	4,879	4,708	4,305
MANUFACTURING	19,682	20,476	20,763	20,775	20,887	20,907	20,988	21,234	20,965	20,996	21,192	21,094	20,966	20,905	20,677
Production workers	14,135	14,714	14,910	14,906	14,993	15,002	15,061	15,240	14,946	14,960	15,172	15,082	14,954	14,900	14,673
Durable goods	11,597	12,246	12,561	12,579	12,664	12,697	12,739	12,877	12,712	12,598	12,805	12,737	12,661	12,645	12,518
Production workers	8,307	8,786	9,016	9,018	9,081	9,105	9,129	9,223	9,031	8,907	9,116	9,058	8,983	8,969	8,822
Lumber and wood products	721.9	752.4	739.0	737.7	745.5	748.8	763.8	783.2	776.8	780.0	776.3	771.3	748.9	730.8	709.8
Furniture and fixtures	464.3	491.1	497.0	495.2	491.8	487.8	483.9	484.2	475.5	483.5	485.3	487.6	488.7	486.6	483.8
Stone, clay, and glass products	668.7	696.0	681.6	680.6	697.2	706.6	718.6	733.1	727.1	726.2	723.6	721.0	712.9	699.7	675.6
Primary metal industries	1,181.6	1,212.7	1,243.8	1,244.8	1,251.1	1,259.0	1,258.6	1,274.3	1,260.7	1,244.5	1,244.3	1,225.1	1,216.7	1,204.5	1,199.5
Fabricated metal products	1,582.8	1,673.4	1,716.0	1,715.6	1,719.8	1,723.7	1,727.8	1,749.0	1,715.7	1,716.1	1,735.3	1,738.3	1,738.2	1,728.7	1,705.8
Machinery, except electrical	2,174.7	2,319.2	2,428.7	2,446.4	2,459.5	2,468.0	2,463.6	2,491.2	2,485.1	2,467.1	2,496.4	2,447.2	2,440.9	2,454.6	2,499.4
Electric and electronic equipment	1,878.0	1,999.5	2,060.9	2,071.0	2,082.6	2,096.1	2,095.2	2,128.2	2,111.7	2,089.5	2,136.1	2,143.7	2,148.3	2,154.7	2,147.8
Transportation equipment	1,871.5	1,991.7	2,076.2	2,082.7	2,083.9	2,082.2	2,091.8	2,077.9	2,027.7	1,933.2	2,051.0	2,040.9	2,009.7	2,038.6	1,963.2
Instruments and related products	615.1	653.5	677.5	680.2	683.2	686.5	686.5	698.8	692.9	695.3	692.7	695.4	695.9	699.2	698.3
Miscellaneous manufacturing	438.4	454.0	441.2	444.8	449.0	448.0	448.9	457.4	438.6	460.6	463.8	466.9	462.8	447.2	434.4
Nondurable goods	8,086	8,230	8,202	8,196	8,223	8,210	8,249	8,357	8,253	8,398	8,387	8,357	8,305	8,260	8,159
Production workers	5,828	5,928	5,894	5,888	5,912	5,897	5,932	6,017	5,915	6,053	6,056	6,024	5,971	5,931	5,851
Food and kindred products	1,711.0	1,721.2	1,678.0	1,658.1	1,666.9	1,657.3	1,689.6	1,716.6	1,737.8	1,810.0	1,814.1	1,766.8	1,725.0	1,699.2	1,645.8
Tobacco manufactures	70.7	69.6	69.8	66.4	64.4	62.5	61.9	62.1	62.1	69.0	72.2	71.9	64.8	66.5	65.0
Textile mill products	910.2	900.2	896.3	895.4	894.4	890.4	892.5	900.4	875.5	890.4	886.9	889.8	893.9	893.7	887.8
Apparel and other textile products	1,316.3	1,332.5	1,313.6	1,320.6	1,326.6	1,323.7	1,327.5	1,333.1	1,278.7	1,308.9	1,309.1	1,317.0	1,306.2	1,293.7	1,276.9
Paper and allied products	691.6	700.9	700.0	703.4	708.8	710.8	712.7	724.6	719.6	723.3	718.5	717.7	715.9	715.1	712.7
Printing and publishing	1,141.4	1,193.1	1,221.0	1,225.7	1,229.5	1,231.0	1,234.7	1,243.4	1,245.8	1,245.4	1,248.1	1,254.5	1,265.6	1,272.8	1,266.9
Chemicals and allied products	1,073.7	1,096.3	1,100.0	1,099.7	1,103.9	1,106.7	1,110.9	1,126.6	1,123.0	1,121.2	1,114.9	1,115.0	1,115.2	1,115.7	1,114.3
Petroleum and coal products	202.3	208.7	205.8	206.4	208.3	210.8	212.9	216.8	218.0	218.3	218.1	218.1	217.2	215.1	211.8
Rubber and miscellaneous plastics products	713.5	751.9	771.0	773.8	774.4	772.0	777.0	779.4	767.4	765.8	762.0	762.6	757.6	746.9	743.4
Leather and leather products	254.8	255.6	246.3	245.1	245.7	245.1	249.2	253.7	224.7	245.8	243.1	243.1	243.2	241.0	234.7
TRANSPORTATION AND PUBLIC UTILITIES	4,713	4,927	5,010	5,028	5,060	4,989	5,125	5,231	5,200	5,210	5,242	5,244	5,256	5,237	5,173
WHOLESALE AND RETAIL TRADE	18,516	19,499	19,785	19,548	19,690	19,957	20,119	20,222	20,118	20,137	20,260	20,314	20,580	20,923	20,175
WHOLESALE TRADE	4,708	4,957	5,086	5,067	5,098	5,112	5,146	5,211	5,208	5,211	5,206	5,235	5,251	5,238	5,207
RETAIL TRADE	13,808	14,542	14,699	14,481	14,592	14,845	14,973	15,011	14,910	14,926	15,054	15,079	15,329	15,685	14,968
FINANCE, INSURANCE, AND REAL ESTATE	4,467	4,727	4,829	4,845	4,870	4,900	4,936	5,003	5,032	5,053	5,002	5,013	5,029	5,039	5,030
SERVICES	15,303	16,220	16,353	16,545	16,749	16,897	17,039	17,239	17,314	17,312	17,225	17,292	17,281	17,273	17,083
GOVERNMENT	15,079	15,476	15,500	15,718	15,799	15,825	15,858	15,763	15,020	14,931	15,326	15,763	15,928	15,930	15,756
Federal	2,727	2,753	2,730	2,738	2,740	2,750	2,773	2,824	2,838	2,844	2,751	2,756	2,760	2,770	2,754
State and local	12,352	12,723	12,770	12,980	13,059	13,075	13,085	12,939	12,182	12,087	12,575	13,007	13,168	13,160	13,002

11. Employment by industry division and major manufacturing group, seasonally adjusted

[Nonagricultural payroll data, in thousands]

Industry division and group	1979												1980
	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.^{p}	Jan.^{p}
TOTAL	88,433	88,700	89,039	89,036	89,398	89,626	89,713	89,762	89,803	89,982	90,100	90,231	90,536
MINING	927	937	940	940	944	949	956	966	973	979	983	992	995
CONSTRUCTION	4,497	4,486	4,614	4,559	4,648	4,662	4,686	4,674	4,671	4,694	4,714	4,760	4,843
MANUFACTURING	20,958	21,025	21,073	21,066	21,059	21,063	21,079	20,957	20,949	20,899	20,836	20,882	20,867
Production workers	15,085	15,128	15,153	15,134	15,112	15,096	15,080	14,956	14,957	14,894	14,829	14,873	14,844
Durable goods	12,640	12,715	12,751	12,752	12,739	12,760	12,786	12,714	12,737	12,650	12,587	12,610	12,594
Production workers	9,085	9,138	9,158	9,146	9,119	9,123	9,124	9,044	9,068	8,972	8,906	8,929	8,867
Lumber and wood products	766	768	769	761	762	757	753	752	758	760	751	741	738
Furniture and fixtures	497	496	493	490	487	485	486	484	480	482	483	482	484
Stone, clay, and glass products	709	712	718	714	715	715	711	710	708	709	704	706	702
Primary metal industries	1,250	1,256	1,259	1,260	1,254	1,257	1,256	1,245	1,236	1,226	1,223	1,208	1,206
Fabricated metal products	1,725	1,733	1,732	1,732	1,730	1,737	1,730	1,714	1,716	1,723	1,726	1,724	1,714
Machinery, except electrical	2,419	2,437	2,450	2,466	2,471	2,484	2,500	2,492	2,496	2,455	2,438	2,442	2,469
Electric and electronic equipment	2,065	2,079	2,093	2,101	2,106	2,124	2,131	2,092	2,117	2,125	2,125	2,142	2,152
Transportation equipment	2,089	2,094	2,094	2,084	2,077	2,057	2,073	2,079	2,086	2,025	1,994	2,014	1,957
Instruments and related products	679	682	685	689	688	693	694	695	692	696	694	698	700
Miscellaneous manufacturing	459	458	458	455	449	451	450	451	448	449	449	453	452
Nondurable goods	8,318	8,310	8,322	8,314	8,320	8,303	8,293	8,243	8,212	8,249	8,249	8,272	8,273
Production workers	6,000	5,990	5,995	5,988	5,993	5,973	5,966	5,912	5,891	5,922	5,921	5,944	5,957
Food and kindred products	1,735	1,729	1,736	1,728	1,725	1,720	1,707	1,696	1,691	1,707	1,710	1,718	1,702
Tobacco manufactures	68	68	69	69	70	69	68	64	65	65	60	62	64
Textile mill products	900	899	897	892	893	892	892	886	884	887	889	893	891
Apparel and other textile products	1,339	1,327	1,324	1,325	1,324	1,312	1,324	1,302	1,294	1,299	1,292	1,299	1,302
Paper and allied products	706	711	716	717	714	715	718	717	714	715	714	714	718
Printing and publishing	1,225	1,229	1,232	1,234	1,236	1,242	1,250	1,247	1,245	1,252	1,262	1,264	1,271
Chemicals and allied products	1,109	1,108	1,108	1,111	1,114	1,119	1,116	1,111	1,110	1,113	1,114	1,119	1,123
Petroleum and coal products	211	212	213	213	213	212	212	213	215	217	217	217	217
Rubber and miscellaneous plastics products	774	779	780	781	784	775	777	764	751	751	749	744	746
Leather and leather products	251	248	247	244	247	247	229	243	243	243	242	242	239
TRANSPORTATION AND PUBLIC UTILITIES	5,071	5,094	5,116	5,024	5,130	5,190	5,169	5,194	5,180	5,218	5,229	5,206	5,236
WHOLESALE AND RETAIL TRADE	19,965	20,016	20,054	20,088	20,129	20,116	20,122	20,126	20,169	20,243	20,308	20,246	20,378
WHOLESALE TRADE	5,102	5,118	5,134	5,138	5,156	5,180	5,182	5,185	5,190	5,209	5,235	5,222	5,244
RETAIL TRADE	14,863	14,898	14,920	14,950	14,973	14,936	14,940	14,941	14,979	15,034	15,073	15,024	15,134
FINANCE, INSURANCE, AND REAL ESTATE	4,868	4,884	4,899	4,915	4,936	4,958	4,972	5,003	4,997	5,018	5,039	5,054	5,071
SERVICES	16,670	16,763	16,833	16,880	16,954	17,051	17,092	17,141	17,191	17,257	17,298	17,360	17,414
GOVERNMENT	15,477	15,495	15,510	15,564	15,598	15,637	15,635	15,699	15,673	15,674	15,693	15,711	15,732
Federal	2,758	2,757	2,757	2,758	2,770	2,788	2,785	2,813	2,762	2,770	2,771	2,771	2,782
State and local	12,719	12,738	12,753	12,806	12,828	12,849	12,850	12,886	12,911	12,904	12,922	12,940	12,950

12. Labor turnover rates in manufacturing, 1976 to date

[Per 100 employees]

Year	Annual average	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
							Total accessions						
1976	3.9	3.9	3.5	4.2	3.9	4.5	4.8	4.2	5.1	4.4	3.5	2.9	2.2
1977	4.0	3.7	3.7	4.0	3.8	4.6	4.9	4.3	5.3	4.6	3.9	3.1	2.4
1978	4.1	3.8	3.2	3.8	4.0	4.7	4.9	4.4	5.4	4.9	4.3	3.3	2.4
1979	...	4.0	3.4	3.8	3.9	4.7	4.8	4.3	4.9	4.4	4.1	2.9	[p]2.2
							New hires						
1976	2.6	2.1	2.1	2.7	2.8	3.1	3.6	2.9	3.8	3.2	2.5	1.9	1.3
1977	2.8	2.2	2.1	2.6	2.7	3.5	3.7	3.0	4.0	3.5	3.0	2.2	1.6
1978	3.1	2.5	2.2	2.7	2.9	3.6	3.9	3.3	4.2	3.9	3.5	2.6	1.7
1979	...	2.8	2.5	2.8	2.9	3.6	3.8	3.1	3.7	3.4	3.1	2.2	[p]1.5
							Recalls						
1976	1.0	1.4	1.0	1.2	1.0	1.0	.9	1.1	1.1	.8	.7	.7	.7
1977	.9	1.2	1.3	1.1	.9	.8	.8	.9	1.0	.8	.6	.6	.6
1978	.7	1.0	.7	.8	.8	.8	.7	.8	.9	.7	.6	.5	.5
1979	...	.9	.7	.7	.7	.8	.7	.9	.9	.8	.7	.5	[p].6
							Total separations						
1976	3.8	3.7	3.0	3.5	3.6	3.4	3.6	4.3	4.9	4.7	4.1	3.4	3.5
1977	3.8	3.9	3.4	3.4	3.4	3.5	3.5	4.3	5.1	4.9	3.8	3.4	3.4
1978	3.9	3.6	3.1	3.5	3.6	3.7	3.8	4.1	5.3	4.8	4.1	3.5	3.4
1979	...	3.8	3.2	3.6	3.6	3.8	3.9	4.3	5.7	4.7	4.2	3.8	[p]3.4
							Quits						
1976	1.7	1.3	1.2	1.6	1.7	1.7	1.8	1.9	2.8	2.5	1.7	1.2	1.0
1977	1.8	1.4	1.3	1.6	1.7	1.9	1.9	1.9	3.1	2.8	1.9	1.5	1.2
1978	2.1	1.5	1.4	1.8	2.0	2.1	2.2	2.1	3.5	3.1	2.3	1.7	1.3
1979	...	1.8	1.6	1.9	2.0	2.1	2.1	2.0	3.3	2.7	2.1	1.6	[p]1.1
							Layoffs						
1976	1.3	1.6	1.0	1.1	1.1	.9	.9	1.6	1.1	1.3	1.5	1.5	1.8
1977	1.1	1.7	1.4	1.0	.9	.8	.8	1.5	1.0	1.1	1.1	1.1	1.5
1978	.9	1.2	.9	.9	.8	.7	.7	1.0	.8	.8	.9	1.0	1.4
1979	...	1.1	.8	.8	.9	.7	.8	1.4	1.3	1.1	1.2	1.5	[p]1.7

13. Labor turnover rates in manufacturing, by major industry group

[Per 100 employees]

Major industry group	Accession rates									Separation rates								
	Total			New hires			Recalls			Total			Quits			Layoffs		
	Dec. 1978	Nov. 1979	Dec. 1979[p]	Dec. 1978	Nov. 1979	Dec. 1979[p]	Dec. 1978	Nov. 1979	Dec. 1979[p]	Dec. 1978	Nov. 1979	Dec. 1979[p]	Dec. 1978	Nov. 1979	Dec. 1979[p]	Dec. 1978	Nov. 1979	Dec. 1979[p]
MANUFACTURING	2.4	2.9	2.2	1.7	2.2	1.5	0.5	0.5	0.6	3.4	3.8	3.4	1.3	1.6	1.1	1.4	1.5	1.7
Seasonally adjusted	4.5	3.9	4.0	3.5	3.0	3.0	...	...	...	4.0	4.1	3.9	2.2	2.0	1.9	.9	1.3	1.2
Durable goods	2.2	2.6	2.0	1.6	1.9	1.3	.4	.4	.5	2.9	3.5	3.1	1.1	1.3	.9	1.1	1.4	1.6
Lumber and wood products	3.2	3.3	2.4	2.6	2.7	1.7	.4	.5	.7	4.9	6.7	5.9	2.3	2.8	1.8	1.7	3.1	3.3
Furniture and fixtures	3.1	3.9	2.6	2.6	3.2	1.8	.3	.6	.7	4.0	4.6	3.5	2.1	2.3	1.6	.9	1.1	1.2
Stone, clay, and glass products	2.2	2.7	2.0	1.6	2.0	1.3	.4	.6	.6	4.7	4.2	4.8	1.3	1.5	1.1	2.6	2.0	3.0
Primary metal industries	1.7	1.9	1.9	1.0	1.1	.7	.5	.6	.9	1.8	3.2	3.2	.6	.7	.5	.6	1.8	1.9
Fabricated metal products	2.4	3.0	2.2	1.8	2.3	1.5	.4	.5	.5	3.2	3.9	3.4	1.4	1.5	1.1	1.1	1.6	1.6
Machinery, except electrical	2.0	2.3	1.9	1.6	1.8	1.3	.2	.2	.4	1.8	2.5	1.9	.8	1.1	.7	.3	.7	.8
Electric and electronic equipment	2.1	2.5	2.0	1.5	1.9	1.5	.2	.3	.3	2.4	2.8	2.1	1.1	1.3	.9	.5	.7	.8
Transportation equipment	1.8	2.4	...	1.1	1.4	...	.4	.7	...	2.8	3.3	...	.7	.9	...	1.4	1.8	...
Instruments and related products	2.0	2.5	1.7	1.6	2.0	1.4	.2	.2	.1	2.1	2.2	1.9	1.0	1.1	.8	.3	.4	.6
Miscellaneous manufacturing	2.7	3.5	2.3	1.8	2.7	1.6	.7	.6	.5	8.0	6.6	6.8	1.8	2.5	1.4	5.1	3.0	4.7
Nondurable goods	2.7	3.4	2.6	1.9	2.5	1.7	.8	.7	.7	4.1	4.3	3.9	1.6	1.9	1.4	1.8	1.6	1.8
Food and kindred products	3.9	4.5	3.4	2.7	3.2	2.2	1.0	1.1	.9	6.5	6.2	6.1	2.3	2.5	1.9	3.5	2.9	3.4
Tobacco manufacturers	2.5	4.1	...	.8	1.4	...	1.2	2.3	...	5.7	5.5	...	.5	.4	...	4.6	4.4	...
Textile mill products	2.4	3.7	2.4	1.9	2.9	1.9	.3	.5	.3	3.5	4.0	3.4	1.8	2.4	1.6	.9	.8	1.1
Apparel and other products	3.0	4.5	3.1	1.8	3.1	1.8	1.0	1.2	1.1	5.4	5.6	5.3	1.9	2.6	1.8	2.8	2.3	2.9
Paper and allied products	1.8	1.9	1.7	1.2	1.4	1.0	.4	.4	.5	2.5	2.7	2.3	.9	1.0	.7	1.0	1.0	1.0
Printing and publishing	2.6	3.2	2.7	2.1	2.6	2.1	.4	.4	.5	3.0	3.0	2.8	1.6	1.9	1.6	.8	.5	.7
Chemicals and allied products	1.1	1.3	1.1	.9	1.0	.9	.1	.2	.2	1.5	1.4	1.4	.5	.6	.5	.4	.4	.4
Petroleum and coal products	1.2	1.5	1.1	.9	1.3	.9	.1	.1	.1	2.1	1.9	1.8	.6	.7	.6	1.1	.7	.8
Rubber and miscellaneous plastics products	2.7	3.5	2.6	2.1	2.6	1.6	.4	.8	.8	3.7	5.2	4.2	1.6	2.2	1.6	1.1	2.1	1.8
Leather and leather products	4.0	5.4	4.3	2.8	4.1	2.6	1.0	1.1	1.5	7.9	6.7	6.2	3.0	3.2	2.3	3.9	2.8	3.1

14. Hours and earnings, by industry division, 1947–78

[Gross averages, production or nonsupervisory workers on nonagricultural payrolls]

Year	Total private			Mining			Construction			Manufacturing		
	Average weekly earnings	Average weekly hours	Average hourly earnings	Average weekly earnings	Average weekly hours	Average hourly earnings	Average weekly earnings	Average weekly hours	Average hourly earnings	Average weekly earnings	Average weekly hours	Average hourly earnings
1947	$45.58	40.3	$1.131	$59.94	40.8	$1.469	$58.87	38.2	$1.541	$49.17	40.4	$1.217
1948	49.00	40.0	1.225	65.56	39.4	1.664	65.27	38.1	1.713	53.12	40.0	1.328
1949	50.24	39.4	1.275	62.33	36.3	1.717	67.56	37.7	1.792	53.88	39.1	1.378
1950	53.13	39.8	1.335	67.16	37.9	1.772	69.68	37.4	1.863	58.32	40.5	1.440
1951	57.86	39.9	1.45	74.11	38.4	1.93	76.96	38.1	2.02	63.34	40.6	1.56
1952	60.65	39.9	1.52	77.59	38.6	2.01	82.86	38.9	2.13	66.75	40.7	1.64
1953	63.76	39.6	1.61	83.03	38.8	2.14	86.41	37.9	2.28	70.47	40.5	1.74
1954	64.52	39.1	1.65	82.60	38.6	2.14	88.91	37.2	2.39	70.49	39.6	1.78
1955	67.72	39.6	1.71	89.54	40.7	2.20	90.90	37.1	2.45	75.30	40.7	1.85
1956	70.74	39.3	1.80	95.06	40.8	2.33	96.38	37.5	2.57	78.78	40.4	1.95
1957	73.33	38.8	1.89	98.25	40.1	2.45	100.27	37.0	2.71	81.19	39.8	2.04
1958	75.08	38.5	1.95	96.08	38.9	2.47	103.78	36.8	2.82	82.32	39.2	2.10
1959[1]	78.78	39.0	2.02	103.68	40.5	2.56	108.41	37.0	2.93	88.26	40.3	2.19
1960	80.67	38.6	2.09	105.04	40.4	2.60	112.67	36.7	3.07	89.72	39.7	2.26
1961	82.60	38.6	2.14	106.92	40.5	2.64	118.08	36.9	3.20	92.34	39.8	2.32
1962	85.91	38.7	2.22	110.70	41.0	2.70	122.47	37.0	3.31	96.56	40.4	2.39
1963	88.46	38.8	2.28	114.40	41.6	2.75	127.19	37.3	3.41	99.23	40.5	2.45
1964	91.33	38.7	2.36	117.74	41.9	2.81	132.06	37.2	3.55	102.97	40.7	2.53
1965	95.45	38.8	2.46	123.52	42.3	2.92	138.38	37.4	3.70	107.53	41.2	2.61
1966	98.82	38.6	2.56	130.24	42.7	3.05	146.26	37.6	3.89	112.19	41.4	2.71
1967	101.84	38.0	2.68	135.89	42.6	3.19	154.95	37.7	4.11	114.49	40.6	2.82
1968	107.73	37.8	2.85	142.71	42.6	3.35	164.49	37.3	4.41	122.51	40.7	3.01
1969	114.61	37.7	3.04	154.80	43.0	3.60	181.54	37.9	4.79	129.51	40.6	3.19
1970	119.83	37.1	3.23	164.40	42.7	3.85	195.45	37.3	5.24	133.33	39.8	3.35
1971	127.31	36.9	3.45	172.14	42.4	4.06	211.67	37.2	5.69	142.44	39.9	3.57
1972	136.90	37.0	3.70	189.14	42.6	4.44	221.19	36.5	6.06	154.71	40.5	3.82
1973	145.39	36.9	3.94	201.40	42.4	4.75	235.89	36.8	6.41	166.46	40.7	4.09
1974	154.76	36.5	4.24	219.14	41.9	5.23	249.25	36.6	6.81	176.80	40.0	4.42
1975	163.53	36.1	4.53	249.31	41.9	5.95	266.08	36.4	7.31	190.79	39.5	4.83
1976	175.45	36.1	4.86	273.90	42.4	6.46	283.73	36.8	7.71	209.32	40.1	5.22
1977	189.00	36.0	5.25	301.20	43.4	6.94	295.65	36.5	8.10	228.90	40.3	5.68
1978	203.70	35.8	5.69	332.11	43.3	7.67	318.32	36.8	8.65	249.27	40.4	6.17

Year	Transportation and public utilities			Wholesale and retail trade			Finance, insurance, and real estate			Services		
	Average weekly earnings	Average weekly hours	Average hourly earnings	Average weekly earnings	Average weekly hours	Average hourly earnings	Average weekly earnings	Average weekly hours	Average hourly earnings	Average weekly earnings	Average weekly hours	Average hourly earnings
1947	....	....	....	$38.07	40.5	$0.940	$43.21	37.9	$1.140	....	....	....
1948	....	....	....	40.80	40.4	1.010	45.48	37.9	1.200	....	....	....
1949	....	....	....	42.93	40.5	1.060	47.63	37.8	1.260	....	....	....
1950	....	....	....	44.55	40.5	1.100	50.52	37.7	1.340	....	....	....
1951	....	....	....	47.79	40.5	1.18	54.67	37.7	1.45	....	....	....
1952	....	....	....	49.20	40.0	1.23	57.08	37.8	1.51	....	....	....
1953	....	....	....	51.35	39.5	1.30	59.57	37.7	1.58	....	....	....
1954	....	....	....	53.33	39.5	1.35	62.04	37.6	1.65	....	....	....
1955	....	....	....	55.16	39.4	1.40	63.92	37.6	1.70	....	....	....
1956	....	....	....	57.48	39.1	1.47	65.68	36.9	1.78	....	....	....
1957	....	....	....	59.60	38.7	1.54	67.53	36.7	1.84	....	....	....
1958	....	....	....	61.76	38.6	1.60	70.12	37.1	1.89	....	....	....
1959[1]	....	....	....	64.41	38.8	1.66	72.74	37.3	1.95	....	....	....
1960	....	....	....	66.01	38.6	1.71	75.14	37.2	2.02	....	....	....
1961	....	....	....	67.41	38.3	1.76	77.12	36.9	2.09	....	....	....
1962	....	....	....	69.91	38.2	1.83	80.94	37.3	2.17	....	....	....
1963	....	....	....	72.01	38.1	1.89	84.38	37.5	2.25	....	....	....
1964	$118.78	41.1	$2.89	74.66	37.9	1.97	85.79	37.3	2.30	$70.03	36.1	$1.94
1965	125.14	41.3	3.03	76.91	37.7	2.04	88.91	37.2	2.39	73.60	35.9	2.05
1966	128.13	41.2	3.11	79.39	37.1	2.14	92.13	37.3	2.47	77.04	35.5	2.17
1967	130.82	40.5	3.23	82.35	36.6	2.25	95.72	37.1	2.58	80.38	35.1	2.29
1968	138.85	40.6	3.42	87.00	36.1	2.41	101.75	37.0	2.75	83.97	34.7	2.42
1969	147.74	40.7	3.63	91.39	35.7	2.56	108.70	37.1	2.93	90.57	34.7	2.61
1970	155.93	40.5	3.85	96.02	35.3	2.72	112.67	36.7	3.07	96.66	34.4	2.81
1971	168.82	40.1	4.21	101.09	35.1	2.88	117.85	36.6	3.22	103.06	33.9	3.04
1972	187.86	40.4	4.65	106.45	34.9	3.05	122.98	36.6	3.36	110.85	33.9	3.27
1973	203.31	40.5	5.02	111.76	34.6	3.23	129.20	36.6	3.53	117.29	33.8	3.47
1974	217.48	40.2	5.41	119.02	34.2	3.48	137.61	36.5	3.77	126.00	33.6	3.75
1975	233.44	39.7	5.88	126.45	33.9	3.73	148.19	36.5	4.06	134.67	33.5	4.02
1976	256.71	39.8	6.45	133.79	33.7	3.97	155.43	36.4	4.27	143.52	33.3	4.31
1977	278.90	39.9	6.99	142.52	33.3	4.28	165.26	36.4	4.54	153.45	33.0	4.65
1978	302.80	40.0	7.57	153.64	32.9	4.67	178.36	36.4	4.90	163.67	32.8	4.99

[1] Data include Alaska and Hawaii beginning in 1959.

15. Weekly hours, by industry division and major manufacturing group

[Gross averages, production or nonsupervisory workers on private nonagricultural payrolls]

Industry division and group	Annual Average		1979												1980
	1977	1978	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.ᵖ	Jan.ᵖ
TOTAL PRIVATE	36.0	35.8	35.2	35.4	35.7	35.1	35.5	35.9	36.0	36.0	35.8	35.7	35.6	36.0	35.1
MINING	43.4	43.3	42.4	42.6	42.9	42.6	42.8	43.3	41.7	43.1	43.5	43.7	43.7	43.9	43.6
CONSTRUCTION	36.5	36.8	34.6	35.4	37.0	35.5	37.2	37.9	37.7	38.0	37.9	37.6	36.5	37.1	35.1
MANUFACTURING	40.3	40.4	40.1	40.2	40.6	38.9	40.1	40.4	39.9	40.0	40.3	40.3	40.4	41.0	39.9
Overtime hours	3.5	3.6	3.5	3.5	3.6	2.5	3.3	3.4	3.2	3.3	3.6	3.4	3.4	3.4	3.1
Durable goods	41.0	41.1	40.9	41.1	41.4	39.3	40.8	41.0	40.4	40.4	40.8	40.8	40.8	41.7	40.4
Overtime hours	3.7	3.8	3.8	3.9	3.9	2.6	3.6	3.6	3.4	3.4	3.6	3.5	3.5	3.5	3.1
Lumber and wood products	39.8	39.8	38.5	39.0	39.7	39.1	39.6	40.2	39.4	39.9	40.1	39.8	38.8	39.4	38.1
Furniture and fixtures	39.0	39.3	38.3	38.1	39.0	37.5	38.2	38.8	38.0	38.6	39.0	39.3	38.2	38.9	38.4
Stone, clay, and glass products	41.3	41.6	40.5	40.6	41.8	41.1	41.9	42.1	41.5	41.7	41.7	41.7	41.7	41.9	40.7
Primary metal industries	41.3	41.8	42.2	42.1	41.9	41.7	41.4	41.6	41.3	40.8	41.3	40.9	40.7	40.9	40.3
Fabricated metal products	41.0	41.0	40.8	40.9	41.3	38.8	40.7	41.0	40.3	40.5	40.8	41.0	41.0	42.0	40.6
Machinery except electrical	41.5	42.0	42.1	42.5	42.6	40.3	41.7	42.0	41.2	41.3	41.9	41.6	41.9	42.9	41.6
Electric and electronic equipment	40.4	40.3	40.3	40.5	40.7	38.8	40.2	40.5	39.6	39.7	40.5	40.3	40.9	41.4	40.3
Transportation equipment	42.5	42.2	41.9	42.1	42.3	37.9	41.6	41.3	40.9	40.5	40.7	41.3	40.8	42.6	40.5
Instruments and related products	40.6	40.9	40.6	41.0	41.3	40.0	40.8	40.7	40.3	40.3	40.7	40.8	41.4	41.7	40.1
Miscellaneous manufacturing	38.8	38.8	38.6	38.6	39.2	37.6	38.5	39.0	38.7	38.9	39.3	39.3	39.6	39.6	39.2
Nondurable goods	39.4	39.4	38.9	38.9	39.3	38.2	39.1	39.4	39.2	39.4	39.6	39.4	39.6	40.0	39.2
Overtime hours	3.2	3.2	3.0	3.0	3.1	2.5	2.9	3.0	3.0	3.2	3.5	3.2	3.3	3.2	3.0
Food and kindred products	40.0	39.7	39.5	39.2	39.6	39.0	39.6	39.8	40.1	40.3	40.6	40.0	40.2	40.4	39.6
Tobacco manufactures	37.8	38.1	38.1	36.2	38.1	37.6	38.9	39.0	36.1	37.6	39.1	38.8	39.0	39.9	38.0
Textile mill products	40.4	40.4	39.9	39.9	40.4	38.6	40.1	40.6	39.9	40.3	40.8	40.8	41.3	41.6	41.1
Apparel and other textile products	35.6	35.6	34.6	34.9	35.4	33.9	35.1	35.6	35.4	35.6	36.4	35.5	35.6	36.0	34.9
Paper and allied products	42.9	42.9	42.6	42.2	42.6	41.6	42.4	42.8	42.5	42.6	42.7	42.6	42.9	43.6	42.8
Printing and publishing	37.7	37.6	37.1	37.3	37.7	36.8	37.3	37.4	37.4	37.9	37.9	37.5	37.9	38.1	37.5
Chemicals and allied products	41.7	41.9	41.7	41.7	41.9	41.9	41.8	41.8	41.7	41.8	41.8	41.7	42.1	42.3	41.5
Petroleum and coal products	42.7	43.6	42.8	42.7	43.8	43.9	43.7	43.4	44.1	43.6	44.7	44.1	44.8	44.2	43.1
Rubber and miscellaneous plastics products	41.0	40.9	41.1	41.2	41.4	39.4	40.5	40.7	40.2	40.0	40.5	40.5	40.3	40.7	40.0
Leather and leather products	36.9	37.1	36.3	35.9	35.9	35.3	36.4	37.1	36.9	36.6	36.8	36.5	36.8	37.2	36.7
TRANSPORTATION AND PUBLIC UTILITIES	39.9	40.0	39.6	39.9	39.8	39.0	39.6	40.0	40.0	40.3	39.9	39.9	40.2	40.2	39.6
WHOLESALE AND RETAIL TRADE	33.3	32.9	32.0	32.1	32.4	32.5	32.4	32.9	33.3	33.2	32.7	32.5	32.4	32.9	31.8
WHOLESALE TRADE	38.8	38.8	38.4	38.4	38.9	38.6	38.9	39.0	39.0	38.9	38.8	38.9	38.9	39.1	38.3
RETAIL TRADE	31.6	31.0	29.9	30.1	30.3	30.6	30.4	31.0	31.5	31.4	30.7	30.4	30.4	31.0	29.7
FINANCE, INSURANCE, AND REAL ESTATE	36.4	36.4	36.4	36.4	36.3	36.4	36.1	36.2	36.4	36.2	36.3	36.3	36.4	36.4	36.4
SERVICES	33.0	32.8	32.4	32.4	32.6	32.5	32.5	32.9	33.3	33.2	32.7	32.6	32.6	32.8	32.4

16. Weekly hours, by industry division and major manufacturing group, seasonally adjusted

[Gross averages, production or nonsupervisory workers on private nonagricultural payrolls]

Industry division and group	1979 Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.ᵖ	1980 Jan.ᵖ
TOTAL PRIVATE	35.8	35.7	35.9	35.3	35.7	35.6	35.6	35.6	35.7	35.6	35.7	35.7	35.7
MINING	43.4	43.1	43.1	42.9	42.8	43.0	41.6	43.2	43.1	43.1	43.2	43.9	44.8
CONSTRUCTION	37.1	36.6	37.1	35.5	37.1	37.2	36.8	37.2	37.5	36.6	36.6	37.1	37.6
MANUFACTURING	40.6	40.6	40.6	39.1	40.2	40.1	40.2	40.1	40.2	40.2	40.1	40.3	40.4
Overtime hours	3.7	3.7	3.7	2.7	3.5	3.4	3.3	3.2	3.2	3.2	3.3	3.2	3.3
Durable goods	41.4	41.4	41.4	39.5	40.9	40.7	40.7	40.7	40.7	40.8	40.6	40.8	40.8
Overtime hours	4.1	4.1	4.0	2.7	3.8	3.6	3.5	3.3	3.3	3.3	3.4	3.3	3.3
Lumber and wood products	39.9	39.6	40.0	39.1	39.4	39.4	39.3	39.5	39.7	39.4	38.9	39.2	39.5
Furniture and fixtures	38.9	38.8	39.1	38.1	38.5	38.5	38.4	38.3	38.6	38.8	38.9	39.0	39.0
Stone, clay, and glass products	41.8	41.6	42.0	41.2	41.7	41.6	41.4	41.3	41.5	41.3	41.5	41.7	42.0
Primary metal industries	42.3	42.2	42.0	41.8	41.4	41.2	41.3	41.0	41.0	41.1	40.7	40.6	40.4
Fabricated metal products	41.1	41.3	41.3	39.1	40.7	40.7	40.8	40.6	40.7	40.9	40.7	41.1	40.9
Machinery, except electrical	42.3	42.5	42.4	40.5	42.0	42.0	41.9	41.6	41.9	41.6	41.6	41.7	41.8
Electric and electronic equipment	40.5	40.7	40.7	39.0	40.4	40.3	40.2	39.8	40.3	40.3	40.6	40.6	40.5
Transportation equipment	42.8	42.7	42.3	37.9	41.5	40.8	40.9	41.7	40.6	41.3	40.6	41.0	41.4
Instruments and related products	41.1	41.2	41.2	40.3	40.8	40.6	40.7	40.5	40.6	40.7	41.0	40.9	40.6
Miscellaneous manufacturing	39.0	39.0	39.0	37.6	38.6	38.9	39.3	39.1	39.1	39.1	39.1	39.1	39.6
Nondurable goods	39.5	39.3	39.4	38.6	39.2	39.2	39.2	39.2	39.3	39.3	39.4	39.5	39.7
Overtime hours	3.2	3.2	3.3	2.7	3.0	3.0	3.0	3.0	3.1	3.0	3.2	3.1	3.2
Food and kindred products	40.0	39.8	40.0	39.6	39.8	39.8	39.8	39.7	40.0	39.9	40.0	40.0	40.1
Tobacco manufactures	37.2	36.9	38.0	37.6	38.9	37.6	38.5	38.0	38.6	38.3	37.8	39.2	39.1
Textile mill products	40.7	40.1	40.3	38.8	40.0	40.1	40.1	40.1	40.6	40.8	41.1	41.1	41.9
Apparel and other textile products	35.3	35.4	35.4	34.2	35.2	35.2	35.5	35.3	35.3	35.3	35.3	35.7	35.6
Paper and allied products	42.8	42.7	42.8	41.8	42.6	42.5	42.5	42.6	42.4	42.6	42.7	43.0	43.0
Printing and publishing	37.7	37.7	37.7	37.1	37.4	37.4	37.5	37.7	37.5	37.4	37.6	37.4	38.1
Chemicals and allied products	42.0	42.0	41.9	41.7	41.9	41.7	41.9	42.0	41.7	41.7	41.9	41.8	41.8
Petroleum and coal products	43.5	43.6	44.0	43.9	43.7	43.3	43.6	43.7	44.1	43.7	44.4	44.3	43.8
Rubber and miscellaneous plastics products	41.4	41.2	41.3	39.7	40.9	40.7	40.6	40.2	40.3	40.3	40.0	39.9	40.3
Leather and leather products	36.8	36.4	36.3	35.6	36.1	36.4	36.6	36.5	37.0	36.5	36.7	36.8	37.2
TRANSPORTATION AND PUBLIC UTILITIES	40.0	40.0	40.0	39.2	39.8	39.8	39.7	39.9	39.9	39.9	40.2	40.0	40.0
WHOLESALE AND RETAIL TRADE	32.5	32.5	32.7	32.8	32.6	32.6	32.6	32.5	32.6	32.6	32.7	32.6	32.4
WHOLESALE TRADE	38.7	38.7	39.0	38.7	39.0	38.8	38.8	38.7	38.7	38.8	38.9	38.9	38.6
RETAIL TRADE	30.6	30.6	30.7	30.9	30.6	30.6	30.8	30.5	30.7	30.8	30.7	30.6	30.4
FINANCE, INSURANCE, AND REAL ESTATE	36.3	36.4	36.4	36.5	36.1	36.2	36.3	36.1	36.4	36.2	36.5	36.4	36.3
SERVICES	32.6	32.6	32.8	32.7	32.7	32.7	32.8	32.7	32.7	32.6	32.7	32.9	32.8

17. Hourly earnings, by industry division and major manufacturing group

[Gross averages, production or nonsupervisory workers on private nonagricultural payrolls]

Industry division and group	Annual average		1979												1980
	1977	1978	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.[p]	Jan.[p]
TOTAL PRIVATE	$5.25	$5.69	$5.97	$6.00	$6.02	$6.03	$6.09	$6.12	$6.16	$6.19	$6.31	$6.32	$6.35	$6.38	$6.41
MINING	6.94	7.67	8.20	8.21	8.27	8.54	8.45	8.49	8.52	8.48	8.57	8.57	8.70	8.72	8.70
CONSTRUCTION	8.10	8.65	8.98	9.02	8.97	9.02	9.14	9.13	9.24	9.32	9.51	9.49	9.50	9.56	9.53
MANUFACTURING	5.68	6.17	6.49	6.52	6.56	6.54	6.63	6.66	6.71	6.69	6.80	6.82	6.86	6.96	6.95
Durable goods	6.06	6.58	6.92	6.96	6.99	6.95	7.07	7.11	7.15	7.12	7.24	7.25	7.29	7.41	7.37
Lumber and wood products	5.10	5.60	5.79	5.83	5.84	5.90	5.97	6.16	6.23	6.23	6.32	6.24	6.23	6.23	6.22
Furniture and fixtures	4.34	4.68	4.87	4.93	4.95	4.94	4.97	5.05	5.04	5.10	5.18	5.20	5.23	5.28	5.30
Stone, clay, and glass products	5.81	6.32	6.57	6.58	6.64	6.73	6.78	6.85	6.89	6.90	6.98	7.00	7.07	7.10	7.07
Primary metal industries	7.40	8.20	8.62	8.75	8.75	8.92	8.83	8.91	9.04	9.10	9.16	9.10	9.26	9.30	9.26
Fabricated metal products	5.91	6.34	6.60	6.65	6.72	6.62	6.77	6.81	6.80	6.83	6.93	6.96	6.99	7.11	7.04
Machinery, except electrical	6.26	6.77	7.10	7.16	7.19	7.10	7.25	7.34	7.35	7.35	7.48	7.45	7.51	7.63	7.63
Electric and electronic equipment	5.39	5.82	6.11	6.13	6.16	6.11	6.21	6.25	6.27	6.36	6.46	6.48	6.51	6.62	6.61
Transportation equipment	7.28	7.91	8.34	8.35	8.42	8.26	8.56	8.53	8.55	8.44	8.59	8.67	8.68	8.90	8.80
Instruments and related products	5.29	5.71	5.99	6.02	6.04	6.03	6.11	6.11	6.16	6.14	6.21	6.32	6.39	6.49	6.44
Miscellaneous manufacturing	4.36	4.69	4.93	4.95	4.95	4.96	5.00	4.99	5.03	5.04	5.07	5.12	5.15	5.22	5.32
Nondurable goods	5.11	5.53	5.81	5.82	5.85	5.90	5.91	5.94	6.03	6.04	6.11	6.14	6.21	6.26	6.31
Food and kindred products	5.37	5.80	6.09	6.10	6.12	6.19	6.22	6.22	6.28	6.28	6.33	6.36	6.51	6.55	6.61
Tobacco manufactures	5.54	6.13	6.36	6.53	6.64	6.80	6.83	6.82	6.83	6.59	6.54	6.43	7.01	7.04	7.10
Textile mill products	3.99	4.30	4.52	4.51	4.52	4.48	4.52	4.54	4.65	4.77	4.82	4.83	4.86	4.88	4.89
Apparel and other textile products	3.62	3.94	4.17	4.17	4.19	4.19	4.20	4.21	4.23	4.21	4.28	4.32	4.32	4.39	4.41
Paper and allied products	5.96	6.52	6.80	6.83	6.88	6.92	6.96	7.05	7.17	7.22	7.32	7.34	7.42	7.49	7.52
Printing and publishing	6.12	6.50	6.72	6.73	6.77	6.72	6.83	6.88	6.90	6.94	7.04	7.06	7.09	7.15	7.21
Chemicals and allied products	6.43	7.01	7.32	7.32	7.36	7.50	7.47	7.53	7.60	7.65	7.73	7.82	7.87	7.89	7.95
Petroleum and coal products	7.83	8.63	9.01	9.10	9.31	9.44	9.39	9.32	9.39	9.35	9.51	9.49	9.57	9.44	9.77
Rubber and miscellaneous plastics products	5.17	5.52	5.82	5.84	5.86	5.82	5.90	5.91	5.95	5.94	6.03	6.12	6.14	6.22	6.24
Leather and leather products	3.61	3.89	4.13	4.14	4.17	4.18	4.18	4.19	4.19	4.22	4.29	4.31	4.34	4.40	4.53
TRANSPORTATION AND PUBLIC UTILITIES	6.99	7.57	7.90	7.92	7.90	7.88	7.94	8.03	8.23	8.32	8.45	8.45	8.52	8.55	8.55
WHOLESALE AND RETAIL TRADE	4.28	4.67	4.96	4.97	4.98	5.00	5.00	5.02	5.05	5.06	5.13	5.15	5.18	5.17	5.30
WHOLESALE TRADE	5.39	5.88	6.18	6.21	6.23	6.30	6.29	6.34	6.39	6.41	6.51	6.51	6.57	6.66	6.68
RETAIL TRADE	3.85	4.20	4.47	4.47	4.47	4.49	4.49	4.50	4.51	4.52	4.56	4.59	4.62	4.60	4.74
FINANCE, INSURANCE, AND REAL ESTATE	4.54	4.90	5.13	5.19	5.16	5.23	5.22	5.22	5.29	5.29	5.38	5.37	5.42	5.48	5.52
SERVICES	4.65	4.99	5.23	5.27	5.26	5.29	5.27	5.27	5.29	5.30	5.45	5.48	5.54	5.60	5.65

18. Hourly Earnings Index for production or nonsupervisory workers on private nonagricultural payrolls, by industry division

[Seasonally adjusted data: 1967 = 100]

Industry	1979												1980	Percent change	
	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.[p]	Jan.[p]	Dec. 1979 to Jan. 1980	Jan. 1979 to Jan. 1980
TOTAL PRIVATE (in current dollars)	222.6	224.0	225.2	226.8	227.5	229.0	230.9	232.2	234.3	234.9	237.3	239.3	239.8	0.2	7.7
Mining	252.1	253.7	256.1	264.1	262.7	264.9	266.9	265.6	266.1	268.0	271.6	272.8	270.6	−.8	7.3
Construction	213.8	216.7	216.5	218.1	220.4	220.4	222.1	223.1	224.4	224.0	225.8	227.4	226.2	−.5	5.8
Manufacturing	225.4	227.2	228.7	231.0	232.3	233.9	235.4	236.9	238.7	240.0	242.1	244.1	244.7	.2	8.5
Transportation and public utilities	240.8	241.7	243.1	241.7	243.7	246.4	251.3	252.6	255.6	255.8	258.9	260.5	261.0	.2	8.4
Wholesale and retail trade	217.7	218.1	219.4	220.9	221.0	222.6	223.8	225.4	227.0	227.4	229.5	230.9	233.2	1.0	7.1
Finance, insurance, and real estate	202.4	204.2	204.8	207.5	207.0	208.0	210.8	211.5	214.4	213.1	216.2	218.4	217.5	−.4	7.5
Services	220.8	222.2	223.3	225.0	224.3	225.7	227.0	228.4	231.5	232.3	234.7	237.8	237.6	−.1	7.8
TOTAL PRIVATE (in constant dollars)	108.5	107.8	107.3	106.9	106.1	105.7	105.6	105.1	104.9	104.2	104.2	103.9	(1)	(1)	(1)

[1] Not available.

19. Weekly earnings, by industry division and major manufacturing group

[Gross averages, production or nonsupervisory workers on private nonagricultural payrolls]

Industry division and group	Annual average		1979												1980
	1977	1978	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.p	Jan.p
TOTAL PRIVATE	$189.00	$203.70	$210.14	$212.40	$214.91	$211.65	$216.20	$219.71	$221.76	$222.84	$225.90	$225.62	$226.06	$229.68	$224.89
MINING	301.20	332.11	347.68	349.75	354.78	363.80	361.66	367.62	355.28	365.49	372.80	374.51	380.19	382.81	379.32
CONSTRUCTION	295.65	318.32	310.71	319.31	331.89	320.21	340.01	346.03	348.35	354.16	360.43	356.82	348.75	354.69	334.50
MANUFACTURING	228.90	249.27	260.25	262.10	266.34	254.41	265.86	269.06	267.73	267.60	274.04	274.85	277.14	285.36	277.31
Durable goods	248.46	270.44	283.03	286.06	289.39	273.14	286.46	291.51	288.86	287.65	295.39	295.80	297.43	309.00	297.75
Lumber and wood products	202.98	222.88	222.92	227.37	231.85	230.69	236.41	247.63	245.46	248.58	253.43	248.35	241.72	245.46	236.98
Furniture and fixtures	169.26	183.92	186.52	187.63	193.05	185.25	189.65	195.94	191.52	198.86	202.02	204.36	205.02	210.67	203.52
Stone, clay, and glass products	239.95	262.91	266.09	267.15	277.55	276.60	284.08	288.39	285.94	287.73	291.07	291.90	294.82	297.49	287.75
Primary metal industries	305.62	342.76	363.76	368.38	366.63	371.96	365.56	370.66	373.35	371.28	378.31	372.19	376.88	380.37	373.18
Fabricated metal products	242.31	259.94	269.28	271.99	277.54	258.86	275.54	279.21	274.04	276.62	282.74	285.36	286.59	298.62	285.82
Machinery except electrical	259.79	284.34	298.91	304.30	306.29	296.13	302.33	306.26	302.82	303.56	313.41	309.92	314.67	327.33	317.41
Electric and electronic equipment	217.76	234.55	246.23	248.27	250.71	237.07	249.84	253.13	248.29	252.49	261.63	261.14	266.28	274.07	268.36
Transportation equipment	309.40	333.80	349.45	351.54	356.17	313.05	356.10	352.29	349.70	341.82	349.61	358.07	364.14	379.14	366.40
Instruments and related products	214.77	233.54	243.19	246.82	249.45	241.20	249.29	246.66	248.25	247.44	252.75	257.86	264.55	270.63	258.24
Miscellaneous manufacturing	169.17	181.97	190.30	191.07	194.04	186.50	192.50	194.81	194.66	196.06	199.25	201.22	203.94	206.71	208.54
Nondurable goods	201.33	217.88	226.01	226.40	229.91	225.36	231.08	234.04	236.38	237.90	241.96	241.92	245.92	250.40	247.35
Food and kindred products	214.80	230.26	240.56	239.12	242.35	241.41	246.31	247.56	251.[illegible]	253.08	257.00	254.40	261.70	264.82	261.78
Tobacco manufactures	209.41	233.55	229.60	236.39	252.98	255.66	265.69	265.98	246.56	247.78	255.71	249.48	273.39	280.90	269.80
Textile mill products	161.20	173.72	180.35	179.50	182.61	172.93	181.25	184.32	185.54	192.23	196.66	197.06	200.72	203.01	200.98
Apparel and other textile products	128.87	140.26	144.26	145.53	148.33	142.04	147.42	149.86	149.74	149.88	151.51	153.36	153.79	158.04	153.91
Paper and allied products	255.66	279.71	289.68	288.23	293.09	287.87	295.10	302.74	304.73	307.57	312.56	312.68	318.32	326.56	321.86
Printing and publishing	230.72	244.40	249.31	251.03	255.23	247.30	254.76	257.31	258.06	263.03	266.82	264.75	268.71	272.42	270.38
Chemicals and allied products	268.13	293.72	305.24	306.24	308.38	314.25	312.25	314.75	316.92	319.77	323.11	326.09	331.33	333.75	329.93
Petroleum and coal products	334.34	376.27	385.63	388.57	407.78	414.42	410.34	404.49	414.10	407.66	425.10	418.51	428.74	417.25	421.08
Rubber and miscellaneous plastics products	211.97	225.77	239.20	240.61	242.60	229.31	238.95	240.54	239.19	237.80	244.22	247.86	247.44	253.15	249.60
Leather and leather products	133.21	144.32	149.92	148.63	149.70	147.55	152.15	155.45	154.61	154.45	157.87	157.32	159.71	163.68	166.25
TRANSPORTATION AND PUBLIC UTILITIES	278.90	302.80	312.84	316.01	314.42	307.32	314.42	321.20	329.20	336.30	337.16	337.16	342.50	343.71	336.58
WHOLESALE AND RETAIL TRADE	142.52	153.64	158.72	159.54	161.35	162.50	162.60	165.16	168.17	167.99	167.75	167.38	167.83	170.09	168.54
WHOLESALE TRADE	209.13	228.14	237.31	238.46	242.35	243.18	244.68	247.26	249.21	249.35	252.59	253.24	255.57	260.41	255.84
RETAIL TRADE	121.66	130.20	133.65	134.55	135.44	137.39	136.50	139.50	142.07	141.93	140.61	139.54	140.45	142.80	140.78
FINANCE, INSURANCE, AND REAL ESTATE	165.26	178.36	186.73	188.92	187.31	190.37	188.44	188.96	192.56	191.50	195.29	194.93	197.29	199.47	200.93
SERVICES	153.45	163.67	169.45	170.75	171.48	171.93	171.28	173.36	176.16	175.96	178.22	178.65	180.60	183.66	183.06

20. Gross and spendable weekly earnings, in current and 1967 dollars, 1960 to date

[Averages for production or nonsupervisory workers on private nonagricultural payrolls]

Year and month	Private nonagricultural workers						Manufacturing workers					
	Gross average weekly earnings		Spendable average weekly earnings				Gross average weekly earnings		Spendable average weekly earnings			
			Worker with no dependents		Married worker with 3 dependents				Worker with no dependents		Married worker with 3 dependents	
	Current dollars	1967 dollars	Current dollars	1967 dollars	Current dollars	1967 dollars	Current dollars	1967 dollars	Current dollars	1967 dollars	Current dollars	1967 dollars
1960	$80.67	$90.95	$65.59	$73.95	$72.96	$82.25	$89.72	$101.15	$72.57	$81.82	$80.11	$90.32
1961	82.60	92.19	67.08	74.87	74.48	83.13	92.34	103.06	74.60	83.26	82.18	91.72
1962	85.91	94.82	69.56	76.78	76.99	84.98	96.56	106.58	77.86	85.94	85.53	94.40
1963	88.46	96.47	71.05	77.48	78.56	85.67	99.23	108.21	79.51	86.71	87.25	95.15
1964	91.33	98.31	75.04	80.78	82.57	88.88	102.97	110.84	84.40	90.85	92.18	99.22
1965	95.45	101.01	79.32	83.94	86.63	91.67	107.53	113.79	89.08	94.26	96.78	102.41
1966	98.82	101.67	81.29	83.63	88.66	91.21	112.19	115.42	91.45	94.08	99.33	102.19
1967	101.84	101.84	83.38	83.38	90.86	90.86	114.49	114.49	92.97	92.97	100.93	100.93
1968	107.73	103.39	86.71	83.21	95.28	91.44	122.51	117.57	97.70	93.76	106.75	102.45
1969	114.61	104.38	90.96	82.84	99.99	91.07	129.51	117.95	101.90	92.81	111.44	101.49
1970	119.83	103.04	96.21	82.73	104.90	90.20	133.33	114.64	106.32	91.42	115.58	99.38
1971	127.31	104.95	103.80	85.57	112.43	92.69	142.44	117.43	114.97	94.78	124.24	102.42
1972	136.90	109.26	112.19	89.54	121.68	97.11	154.71	123.47	125.34	100.03	135.57	108.20
1973	145.39	109.23	117.51	88.29	127.38	95.70	166.46	125.06	132.57	99.60	143.50	107.81
1974	154.76	104.78	124.37	84.20	134.61	91.14	176.80	119.70	140.19	94.92	151.56	102.61
1975	163.53	101.45	132.49	82.19	145.65	90.35	190.79	118.36	151.61	94.05	166.29	103.16
1976	175.45	102.90	143.30	84.05	155.87	91.42	209.32	122.77	167.83	98.43	181.32	106.35
1977	189.00	104.13	155.19	85.50	169.93	93.63	228.90	126.12	183.80	101.27	200.06	110.23
1978	203.70	104.30	165.39	84.69	180.71	92.53	249.27	127.63	197.40	101.06	214.87	110.02
1979: January	210.14	102.66	170.88	83.48	187.22	91.46	260.25	127.14	206.40	100.83	225.48	110.15
February	212.40	102.56	172.53	83.31	188.96	91.25	262.10	126.56	207.69	100.28	226.89	109.56
March	214.91	102.68	174.35	83.30	190.93	91.22	266.34	127.25	210.65	100.65	230.10	109.94
April	211.65	99.93	171.98	81.20	188.39	88.95	254.41	120.12	202.32	95.52	221.05	104.37
May	216.20	100.89	175.29	81.80	191.93	89.56	265.86	124.06	210.32	98.14	229.74	107.20
June	219.71	101.30	177.85	82.00	194.67	89.75	269.06	124.05	212.51	97.98	232.17	107.04
July	221.76	101.08	179.35	81.75	196.26	89.45	267.73	122.03	211.61	96.45	231.16	105.36
August	222.84	100.60	180.13	81.32	197.11	88.99	267.60	120.81	211.52	95.49	231.06	104.32
September	225.90	100.98	182.38	81.52	199.42	89.15	274.04	122.50	215.89	96.51	235.94	105.47
October	225.62	100.01	182.16	80.74	199.21	88.30	274.85	121.83	216.44	95.94	236.56	104.86
November	226.06	99.32	182.48	80.18	199.54	87.67	277.14	121.77	217.99	95.78	238.30	104.70
December[p]	229.68	99.86	185.04	80.45	202.29	87.95	285.36	124.07	223.57	97.20	244.53	106.32
1980: January[p]	224.99	(1)	181.70	(1)	198.73	(1)	277.31	(1)	218.11	(1)	236.43	(1)

[1] Not available.

NOTE: The earnings expressed in 1967 dollars have been adjusted for changes in price level as measured by the Bureau's Consumer Price Index for Urban Wage Earners and Clerical Workers (revised). These series are described in "The Spendable Earnings Series: A Technical Note on its Calculation", Employment and Earnings and Monthly Report on the Labor Force, February 1969, pp. 6 – 13, See also "Spendable Earnings Formulas, 1977 – 79" Employment and Earnings, September 1979, pp. 6 – 8.

UNEMPLOYMENT INSURANCE DATA

UNEMPLOYMENT INSURANCE DATA are compiled monthly by the Employment and Training Administration of the U.S. Department of Labor from records of State and Federal unemployment insurance claims filed and benefits paid. Railroad unemployment insurance data are prepared by the U.S. Railroad Retirement Board.

Definitions

Data for **all programs** represent an unduplicated count of insured unemployment under the State, Ex-Servicemen, and UCFE programs, and the Railroad Insurance Act.

Under both State and Federal unemployment insurance programs for civilian employees, insured workers must report the completion of at least 1 week of unemployment before they are defined as unemployed. Persons not covered by unemployment insurance (about one-third of the labor force) and those who have exhausted or not yet earned benefit rights are excluded from the scope of the survey. **Initial claims** are notices filed by persons in unemployment insurance programs to indicate they are out of work and wish to begin receiving compensation. A claimant who continued to be unemployed a full week is then counted in the insured unemployment figure. The **rate of insured unemployment** expresses the number of insured unemployed as a percent of the average insured employment in a 12-month period.

An **application** for benefits is filed by a railroad worker at the beginning of his first period of unemployment in a benefit year; no application is required for subsequent periods in the same year. **Number of payments** are payments made in 14-day registration periods. The **average amount of benefit payment** is an average for all compensable periods, not adjusted for recovery of overpayments or settlement of underpayments. However, **total benefits paid** have been adjusted.

21. Unemployment insurance and employment service operations

[All items except average benefits amounts are in thousands]

Item	1978	1979											
	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
All programs:													
Insured unemployment	2,567	3,198	3,209	2,921	2,610	2,230	2,119	2,429	2,377	2,164	2,236	2,559	3,047
State unemployment insurance program:[1]													
Initial claims[2]	1,882	2,421	1,576	1,396	1,589	1,309	1,400	1,976	1,545	1,219	1,641	1,837	......
Insured unemployment (average weekly volume)	2,421	3,037	3,053	2,750	2,440	2,078	1,991	2,300	2,245	2,024	2,057	2,384	2,884
Rate of insured unemployment	3.2	3.9	4.0	3.6	3.1	2.6	2.5	2.8	2.7	2.4	2.4	2.8	3.4
Weeks of unemployment compensated	7,907	11,371	10,762	11,105	8,956	8,442	7,197	7,889	8,830	6,993	7,638	8,151	......
Average weekly benefit amount for total unemployment	$85.34	$88.28	$90.31	$90.28	$89.25	$88.37	$87.25	$88.40	$88.56	$89.07	$90.59	$92.23	......
Total benefits paid	$845,084	$972,820	$915,146	$975,641	$777,899	$725,229	$610,269	$665,687	$767,025	$606,095	$673,965	$731,273	......
Unemployment compensation for ex-servicemen:[3]													
Initial claims[1]	24	24	21	21	20	20	24	26	26	23	26	24	......
Insured unemployment (average weekly volume)	50	54	53	52	48	45	45	51	52	52	52	54	56
Weeks of unemployment compensated	226	262	219	241	207	214	193	216	234	211	236	232	......
Total benefits paid	$21,040	$24,425	$20,489	$22,794	$19,617	$20,440	$18,823	$20,965	$22,550	$19,834	$23,325	$23,143	......
Unemployment compensation for Federal civilian employees:[4]													
Initial claims	18	21	13	12	12	12	13	16	13	13	16	15	......
Insured unemployment (average weekly volume)	34	37	35	33	27	24	23	2.5	25	25	28	29	31
Weeks of unemployment compensated	136	158	133	143	112	106	91	96	107	91	109	118	......
Total benefits paid	$12,174	$14,222	$12,256	$13,168	$10,345	$9,330	$8,341	$8,802	$9,829	$9,456	$10,093	$11,088	......
Railroad unemployment insurance:													
Applications	10	8	6	5	3	3	9	15	8	13	11	10	11
Insured unemployment (average weekly volume)	17	26	24	23	18	10	8	11	12	21	18	20	19
Number of payments	30	50	50	23	40	29	19	20	26	32	51	36	41
Average amount of benefit payment	$189.56	$200.80	$209.54	$204.72	$195.55	$177.39	$183.13	$190.10	$195.61	$189.08	$189.61	$183.38	$197.22
Total benefits paid	$5,678	$9,634	$9,871	$10,536	$7,276	$5,881	$3,314	$3,899	$3,767	$5,747	$8,003	$6,462	$8,085
Employment service:[5]													
New applications and renewals	414	5,630	.....	8,059	9,180	10,452	11,807	13,186	14,479	......	.....	......	......
Nonfarm placements	1,120	1,414	.....	1,891	2,201	2,616	3,051	3,482	3,835	......	.....	......	......

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[1] Initial claims and State insured unemployment include data under the program for Puerto Rican sugarcane workers.

[2] Includes interstate claims for the Virgin Islands. Excludes transition claims under State programs.

[3] Excludes data on claims and payments made jointly with other programs.

[4] Includes the Virgin Islands. Excludes data on claims and payments made jointly with State programs.

[5] Cumulative total for fiscal year (October 1 – September 30).

NOTE: Data for Puerto Rico included. Dashes indicate data not available.

PRICE DATA

PRICE DATA are gathered by the Bureau of Labor Statistics from retail and primary markets in the United States. Price indexes are given in relation to a base period (1967 = 100, unless otherwise noted).

Definitions

The Consumer Price Index is a monthly statistical measure of the average change in prices in a fixed market basket of goods and services. Effective with the January 1978 index, the Bureau of Labor Statistics began publishing CPI's for two groups of the population. One index, a new CPI for All Urban Consumers, covers 80 percent of the total noninstitutional population; and the other index, a revised CPI for Urban Wage Earners and Clerical Workers, covers about half the new index population. The All Urban Consumers index includes, in addition to wage earners and clerical workers, professional, managerial, and technical workers, the self-employed, short-term workers, the unemployed, retirees, and others not in the labor force.

The CPI is based on prices of food, clothing, shelter, fuel, drugs, transportation fares, doctor's and dentist's fees, and other goods and services that people buy for day-to-day living. The quantity and quality of these items is kept essentially unchanged between major revisions so that only price changes will be measured. Prices are collected from over 18,000 tenants, 24,000 retail establishments, and 18,000 housing units for property taxes in 85 urban areas across the country. All taxes directly associated with the purchase and use of items are included in the index. Because the CPI's are based on the expenditures of two population groups in 1972–73, they may not accurately reflect the experience of individual families and single persons with different buying habits.

Though the CPI is often called the "Cost-of-Living Index," it measures only price change, which is just one of several important factors affecting living costs. Area indexes do not measure differences in the level of prices among cities. They only measure the average change in prices for each area since the base period.

Producer Price Indexes measure average changes in prices received in primary markets of the United States by producers of commodities in all stages of processing. The sample used for calculating these indexes contains about 2,800 commodities and about 10,000 quotations per month selected to represent the movement of prices of all commodities produced in the manufacturing, agriculture, forestry, fishing, mining, gas and electricity, and public utilities sectors. The universe includes all commodities produced or imported for sale in commercial transactions in primary markets in the United States.

Producer Price Indexes can be organized by stage of processing or by commodity. The stage of processing structure organizes products by degree of fabrication (that is, finished goods, intermediate or semifinished goods, and crude materials). The commodity structure organizes products by similarity of end-use or material composition.

To the extent possible, prices used in calculating Producer Price Indexes apply to the first significant commercial transaction in the United States, from the production or central marketing point. Price data are generally collected monthly, primarily by mail questionnaire. Most prices are obtained directly from producing companies on a voluntary and confidential basis. Prices generally are reported for the Tuesday of the week containing the 13th day of the month.

In calculating Producer Price Indexes, price changes for the various commodities are averaged together with implicit quantity weights representing their importance in the total net selling value of all commodities as of 1972. The detailed data are aggregated to obtain indexes for stage of processing groupings, commodity groupings, durability of product groupings, and a number of special composite groupings.

Price indexes for the output of selected SIC industries measure average price changes in commodities produced by particular industries, as defined in the *Standard Industrial Classification Manual 1972* (Washington, U.S. Office of Management and Budget, 1972). These indexes are derived from several price series, combined to match the economic activity of the specified industry and weighted by the value of shipments in the industry. They use data from comprehensive industrial censuses conducted by the U.S. Bureau of the Census and the U.S. Department of Agriculture.

Notes on the data

Beginning with the May 1978 issue of the *Review*, regional CPI's cross classified by population size, were introduced. These indexes will enable users in local areas for which an index is not published to get a better approximation of the CPI for their area by using the appropriate population size class measure for their region. The cross-classified indexes will be published bimonthly. (See table 24.)

For further details about the new and the revised indexes and a comparison of various aspects of these indexes with the old unrevised CPI, see *Facts About the Revised Consumer Price Index*, a pamphlet in the Consumer Price Index Revision 1978 series. See also *The Consumer Price Index: Concepts and Content Over the Years*. Report 517, revised edition (Bureau of Labor Statistics, May 1978).

For interarea comparisons of living costs at three hypothetical standards of living, see the family budget data published in the *Handbook of Labor Statistics, 1977*, Bulletin 1966 (Bureau of Labor Statistics, 1977), tables 122–133. Additional data and analysis on price changes are provided in the *CPI Detailed Report* and *Producer Prices and Price Indexes*, both monthly publications of the Bureau.

As of January 1976, the Wholesale Price Index (as it was then called) incorporated a revised weighting structure reflecting 1972 values of shipments. From January 1967 through December 1975, 1963 values of shipments were used as weights.

For a discussion of the general method of computing consumer, producer, and industry price indexes, see *BLS Handbook of Methods for Surveys and Studies*, Bulletin 1910 (Bureau of Labor Statistics, 1976), chapters 13–15. See also John F. Early, "Improving the measurement of producer price change," *Monthly Labor Review*, April 1978, pp. 7–15. For industry prices, see also Bennett R. Moss, "Industry and Sector Price Indexes," *Monthly Labor Review*, August 1965, pp. 974–82.

22. Consumer Price Index for Urban Wage Earners and Clerical Workers, annual averages and changes, 1967–78

[1967 = 100]

Year	All items		Food and beverages		Housing		Apparel and upkeep		Transportation		Medical care		Entertainment		Other goods and services	
	Index	Percent change	Index	Percent change	Index	Percent change	Index	Percent change	Index	Percent change	Index	Percent change	Index	Percent change	Index	Percent change
1967	100.0	...	100.0	...	100.0	...	100.0	...	100.0	...	100.0	...	100.0	...	100.0	...
1968	104.2	4.2	103.6	3.6	104.0	4.0	105.4	5.4	103.2	3.2	106.1	6.1	105.7	5.7	105.2	5.2
1969	109.8	5.4	108.8	5.0	110.4	6.2	111.5	5.8	107.2	3.9	113.4	6.9	111.0	5.0	110.4	4.9
1970	116.3	5.9	114.7	5.4	118.2	7.1	116.1	4.1	112.7	5.1	120.6	6.3	116.7	5.1	116.8	5.8
1971	121.3	4.3	118.3	3.1	123.4	4.4	119.8	3.2	118.6	5.2	128.4	6.5	122.9	5.3	122.4	4.8
1972	125.3	3.3	123.2	4.1	128.1	3.8	122.3	2.1	119.9	1.1	132.5	3.2	126.5	2.9	127.5	4.2
1973	133.1	6.2	139.5	13.2	133.7	4.4	126.8	3.7	123.8	3.3	137.7	3.9	130.0	2.8	132.5	3.9
1974	147.7	11.0	158.7	13.8	148.8	11.3	136.2	7.4	137.7	11.2	150.5	9.3	139.8	7.5	142.0	7.2
1975	161.2	9.1	172.1	8.4	164.5	10.6	142.3	4.5	150.6	9.4	168.6	12.0	152.2	8.9	153.9	8.4
1976	170.5	5.8	177.4	3.1	174.6	6.1	147.6	3.7	165.5	9.9	184.7	9.5	159.8	5.0	162.7	5.7
1977	181.5	6.5	188.0	6.0	186.5	6.8	154.2	4.5	177.2	7.1	202.4	9.6	167.7	4.9	172.2	5.8
1978	195.3	7.6	206.2	9.7	202.6	8.6	159.5	3.4	185.8	4.9	219.4	8.4	176.2	5.1	183.2	6.4
1979	217.7	11.5	228.7	10.9	227.5	12.3	166.4	4.3	212.8	14.5	240.1	9.4	187.6	6.5	196.3	7.2

23. Consumer Price Index for All Urban Consumers and revised CPI for Urban Wage Earners and Clerical Workers, U.S. city average—general summary and groups, subgroups, and selected items

[1967 = 100 unless otherwise specified]

General summary	All Urban Consumers							Urban Wage Earners and Clerical Workers (revised)						
	1978	1979						1978	1979					
	Dec.	July	Aug.	Sept.	Oct.	Nov.	Dec.	Dec.	July	Aug.	Sept.	Oct.	Nov.	Dec.
All items	202.9	218.9	221.1	223.4	225.4	227.5	229.9	202.9	219.4	221.5	223.7	225.6	227.6	230.0
Food and beverages	214.1	230.7	230.2	231.0	232.1	233.1	235.5	214.0	230.9	230.4	231.2	232.3	233.1	235.7
Housing	211.5	228.4	231.5	234.6	237.7	240.8	243.6	211.2	228.4	231.5	234.5	237.7	240.7	243.6
Apparel and upkeep	163.2	164.3	166.3	169.6	171.0	171.7	172.2	163.3	164.5	166.2	169.3	170.8	171.3	171.4
Transportation	192.6	216.6	219.6	221.4	222.7	224.9	227.7	193.1	217.8	220.7	222.4	223.4	225.7	228.3
Medical care	227.8	239.9	241.8	243.7	245.9	248.0	250.7	228.0	240.5	242.6	244.7	247.2	249.1	251.7
Entertainment	180.9	189.1	190.2	191.1	192.0	192.8	193.4	181.0	186.6	186.9	190.2	191.4	192.0	191.5
Other goods and services	189.1	195.2	197.0	201.7	202.3	202.9	204.0	188.4	195.1	197.2	200.6	201.4	202.0	203.0
Commodities	194.2	210.5	212.2	214.1	215.6	217.4	219.4	194.1	211.0	212.6	214.4	215.8	217.4	219.4
Commodities less food and beverages	182.4	198.4	200.9	203.3	204.9	206.9	208.8	182.3	198.8	201.3	203.5	205.0	206.9	208.7
Nondurables less food and beverages	182.0	204.2	208.8	213.2	214.9	216.6	219.0	182.3	205.6	210.5	214.8	216.6	218.1	220.5
Durables	181.2	192.6	193.6	194.5	196.0	198.4	199.8	180.9	192.2	192.9	193.5	194.8	196.9	198.2
Services	219.2	234.7	237.6	240.7	243.6	246.2	249.3	219.1	235.1	237.9	241.0	244.0	246.7	249.6
Rent, residential	169.5	175.9	177.5	179.0	181.4	182.1	182.9	169.4	175.8	177.3	178.9	181.2	181.9	182.7
Household services less rent	245.0	268.6	272.8	276.7	280.7	284.6	289.2	245.1	269.6	274.1	278.2	282.3	286.3	291.1
Transportation services	203.3	212.6	214.9	216.6	218.5	221.5	224.2	203.7	213.3	215.3	216.8	218.6	221.5	224.0
Medical care services	244.8	258.5	260.6	262.8	265.3	267.6	270.7	244.8	258.8	261.2	263.8	266.8	268.8	271.8
Other services	191.5	199.3	200.5	204.7	205.7	206.5	207.1	191.6	200.1	201.2	204.9	206.4	207.3	208.7
Special indexes:														
All items less food	198.6	214.2	216.9	219.6	221.8	224.1	226.4	196.4	214.6	217.3	219.8	222.0	224.2	226.4
All items less mortgage interest costs	198.7	213.0	214.7	216.7	218.3	219.6	221.7	198.7	213.7	215.3	217.2	218.7	220.1	222.0
Commodities less food	181.3	197.0	199.5	201.8	203.4	205.4	207.2	181.2	197.4	199.9	202.0	203.5	205.4	207.1
Nondurables less food	180.0	201.1	205.4	209.6	211.3	212.9	215.2	180.3	202.5	207.0	211.0	212.9	214.4	216.7
Nondurables less food and apparel	191.7	222.8	228.3	232.7	234.8	236.8	240.1	192.0	223.9	229.7	234.2	236.3	238.2	241.5
Nondurables	196.8	218.3	220.4	223.1	224.5	225.8	229.2	199.0	219.2	221.3	223.9	225.3	226.5	229.0
Services less rent	229.2	245.6	248.8	252.1	255.1	258.2	261.6	229.1	246.1	249.2	252.6	255.7	258.8	262.1
Services less medical care	215.0	230.6	233.6	236.7	239.6	242.3	245.3	214.9	231.0	233.9	236.9	239.9	242.6	245.5
Domestically produced farm foods	207.7	225.9	223.5	223.7	224.1	224.5	230.8	207.6	225.8	223.4	223.6	224.0	224.4	227.5
Selected beef cuts	216.6	267.8	253.0	255.3	257.3	256.5	263.2	217.8	270.1	255.5	258.0	258.1	259.2	265.2
Energy	228.3	287.1	296.3	304.3	307.5	307.8	313.7	226.5	289.2	298.6	307.0	310.2	310.7	317.0
All items less energy	201.3	213.6	215.4	217.3	219.2	221.4	223.6	201.2	213.9	215.3	217.0	218.8	221.0	223.0
All items less food and energy	196.0	207.3	209.4	211.5	213.6	216.1	218.1	195.8	207.2	209.0	211.0	213.0	215.4	217.3
Commodities less food and energy	177.0	185.6	186.8	188.2	189.6	191.4	192.6	176.8	185.4	186.4	187.5	188.7	190.4	191.4
Energy commodities	223.3	300.8	314.5	325.3	329.0	332.5	340.0	223.6	301.9	315.8	326.5	330.2	333.8	341.5
Services less energy	217.9	232.4	235.4	238.4	241.3	244.6	247.6	217.8	232.7	235.7	238.7	241.7	245.1	248.0
Purchasing power of the consumer dollar, 1967 = $1	$0.493	$0.457	$0.452	$0.448	$0.444	$0.440	$0.435	$0.493	$0.456	$0.451	$0.447	$0.443	$0.439	$0.435

23. Continued—Consumer Price Index—U.S. city average

[1967 = 100 unless otherwise specified]

General summary	All Urban Consumers							Urban Wage Earners and Clerical Workers (revised)						
	1978	1979						1978	1979					
	Dec.	July	Aug.	Sept.	Oct.	Nov.	Dec.	Dec.	July	Aug.	Sept.	Oct.	Nov.	Dec.
FOOD AND BEVERAGES	214.1	230.7	230.2	231.0	232.1	233.1	235.5	214.0	230.9	230.4	231.2	232.3	233.1	235.7
Food	219.4	236.9	236.3	237.1	238.2	239.1	241.7	219.3	237.1	236.5	237.3	238.3	239.1	241.8
Food at home	217.9	236.5	233.9	234.7	235.4	236.0	238.7	217.6	235.0	233.5	234.2	234.8	235.4	238.3
Cereals and bakery products	207.9	220.1	223.7	225.8	227.0	228.7	231.6	208.8	221.1	224.1	226.6	227.9	229.7	232.3
Cereals and cereal products (12/77 = 100)	111.2	116.6	118.5	120.0	120.8	121.1	122.9	111.4	117.0	119.0	120.6	121.4	122.1	123.8
Flour and prepared flour mixes (12/77 = 100)	111.1	119.4	122.5	123.4	124.0	122.8	123.8	112.4	120.3	123.3	125.1	125.0	124.6	125.1
Cereal (12/77 = 100)	110.5	117.0	118.0	118.8	119.2	119.7	122.8	110.4	117.4	118.5	118.7	119.3	119.9	122.9
Rice, pasta, and cornmeal (12/77 = 100)	112.2	113.6	115.7	118.6	120.4	121.6	122.2	111.8	113.4	115.8	119.1	120.8	122.7	123.9
Bakery products (12/77 = 100)	109.6	116.4	118.3	119.2	119.9	121.0	122.4	110.2	117.0	118.5	119.7	120.3	121.3	122.7
White bread	183.0	194.2	198.4	200.7	202.5	204.5	207.4	183.4	194.3	198.0	200.5	202.3	203.9	208.6
Other breads (12/77 = 100)	110.4	116.2	118.6	119.6	120.5	121.3	123.3	112.1	118.5	120.8	122.5	123.8	124.2	126.0
Fresh biscuits, rolls, and muffins (12/77 = 100)	109.4	116.1	118.1	119.0	119.4	121.2	123.1	109.5	115.8	117.7	118.6	118.7	120.8	122.3
Fresh cakes and cupcakes (12/77 = 100)	107.9	114.8	116.6	116.7	117.6	119.4	120.3	108.7	115.9	116.3	116.8	118.1	119.1	120.1
Cookies (12/77 = 100)	108.5	114.8	115.6	115.9	116.6	117.1	117.8	109.5	117.2	117.2	117.8	118.3	118.4	119.6
Crackers and bread and cracker products (12/77 = 100)	107.4	112.7	114.7	114.8	115.0	114.5	116.2	107.8	112.9	114.9	114.9	115.0	116.1	116.3
Fresh sweetrolls, coffeecake, and donuts (12/77 = 100)	108.0	116.0	117.5	118.8	118.9	119.9	121.5	109.4	117.8	119.3	121.6	120.7	121.9	123.4
Frozen and refrigerated bakery products and fresh pies, tarts, and turnovers (12/77 = 100)	111.2	119.8	120.8	121.7	122.5	123.7	124.8	110.6	116.5	117.1	118.6	118.8	120.8	121.4
Meats, poultry, fish, and eggs	216.5	239.0	230.2	231.0	230.3	230.2	235.5	216.2	238.3	229.6	230.5	229.7	230.0	236.1
Meats, poultry, and fish	219.8	245.0	235.8	236.0	235.9	235.2	239.8	219.4	244.2	235.3	235.4	235.3	235.0	239.2
Meats	219.4	248.0	237.8	238.1	238.6	237.4	242.3	219.0	247.4	237.6	237.7	238.1	237.3	241.8
Beef and veal	215.4	268.4	251.9	254.2	256.2	255.5	262.2	216.5	268.4	254.1	256.4	257.5	257.7	263.7
Ground beef other than canned	217.1	274.5	260.3	261.4	263.4	264.2	271.2	217.8	274.7	261.9	263.5	265.8	266.0	273.0
Chuck roast	218.5	280.5	257.5	261.0	263.3	263.1	268.1	224.7	288.7	264.0	267.9	268.3	273.1	274.2
Round roast	196.7	239.1	222.2	229.2	230.3	229.1	238.1	197.1	242.7	225.9	231.0	233.0	232.7	240.5
Round steak	202.6	248.1	238.1	239.2	242.2	241.9	247.5	200.9	246.4	235.4	235.7	239.4	239.7	246.2
Sirloin steak	214.3	260.7	247.5	251.0	250.4	247.0	250.8	213.7	260.7	247.3	253.9	249.6	247.4	253.5
Other beef and veal (12/77 = 100)	125.3	151.8	145.0	145.6	147.1	148.3	150.2	125.7	152.8	146.0	146.6	147.0	148.6	149.9
Pork	223.4	215.1	207.4	206.5	204.3	201.0	205.0	222.6	214.9	207.6	206.1	204.7	201.5	205.6
Bacon	221.8	200.0	192.5	194.0	190.5	188.3	193.6	223.1	201.6	195.0	195.6	194.4	188.7	195.8
Pork chops	207.1	207.7	195.3	198.1	195.1	188.8	187.8	205.3	209.2	196.2	196.1	194.9	188.1	189.1
Ham other than canned (12/77 = 100)	111.9	97.2	96.4	95.2	94.8	95.9	102.5	111.1	96.1	94.9	94.3	94.0	95.4	100.9
Sausage	271.7	270.4	263.8	258.4	257.6	254.5	256.5	269.5	269.5	263.2	258.4	258.1	255.8	258.3
Canned ham	231.2	224.4	221.1	216.6	218.2	214.8	218.9	231.7	222.3	218.9	215.3	215.8	214.6	219.1
Other pork (12/77 = 100)	120.3	124.2	118.3	117.4	115.2	112.9	112.6	119.7	123.2	118.4	117.5	115.1	112.7	112.7
Other meats	219.8	245.1	243.5	240.2	240.7	242.0	243.0	217.3	241.0	239.9	236.6	238.0	238.5	239.5
Frankfurters	212.5	243.2	241.9	235.9	236.8	238.9	239.3	212.2	243.0	242.6	236.1	237.7	237.2	238.7
Bologna, liverwurst, and salami (12/77 = 100)	122.2	135.4	134.3	133.2	134.2	133.4	134.4	120.1	132.3	129.7	129.5	130.7	130.4	130.8
Other lunchmeats (12/77 = 100)	115.6	122.0	122.7	121.6	120.3	121.6	121.5	113.4	119.4	120.8	119.0	118.8	119.5	119.4
Lamb and organ meats (12/77 = 100)	118.4	141.0	137.6	135.6	137.7	138.3	140.0	118.4	141.1	137.9	136.9	138.8	139.8	141.7
Poultry	177.6	186.2	177.1	174.8	170.3	171.6	176.2	175.9	184.0	174.3	172.8	168.3	170.1	173.9
Fresh whole chicken	176.7	184.1	171.3	169.9	159.7	166.7	175.2	173.4	179.6	166.7	165.8	157.7	163.3	169.8
Fresh and frozen chicken parts (12/77 = 100)	112.5	119.4	112.1	111.8	110.1	110.8	112.3	112.7	119.1	111.1	110.9	108.4	110.7	111.8
Other poultry (12/77 = 100)	118.7	123.6	123.0	119.2	120.3	115.9	116.9	117.5	123.2	122.1	119.8	119.8	116.0	117.4
Fish and seafood	286.5	304.3	306.5	309.7	311.5	312.2	312.6	284.4	298.3	301.4	304.4	306.5	307.5	309.1
Canned fish and seafood (12/77 = 100)	107.9	111.4	112.7	113.9	115.2	116.8	117.1	106.9	110.2	111.5	113.5	114.5	116.0	116.5
Fresh and frozen fish and seafood (12/77 = 100)	109.8	118.6	119.2	120.4	120.7	120.1	120.2	109.2	115.7	116.9	117.5	118.1	117.8	118.5
Eggs	179.5	165.8	161.8	170.7	161.3	170.1	185.9	180.6	165.4	160.5	170.5	160.3	169.6	186.6
Dairy Products	196.4	206.3	208.6	211.3	213.3	216.0	216.9	196.7	206.7	208.9	212.0	214.0	216.3	217.4
Fresh milk and cream (12/77 = 100)	110.6	116.1	117.7	119.0	120.3	121.9	122.7	110.7	116.3	117.9	119.5	120.4	121.8	122.6
Fresh whole milk	181.2	190.0	192.8	195.4	197.6	200.4	201.2	181.4	190.3	193.0	195.6	197.4	199.7	200.9
Other fresh milk and cream (12/77 = 100)	110.4	116.3	117.4	118.1	119.2	120.6	122.0	110.3	116.5	117.7	119.3	119.8	121.1	122.2
Processed dairy products (12/77 = 100)	111.5	117.3	118.2	120.1	120.9	122.3	122.5	111.9	117.6	118.4	120.5	121.7	123.0	123.3
Butter	195.4	200.6	203.0	209.9	213.3	214.4	214.0	196.7	202.6	205.7	212.3	216.6	217.1	216.6
Cheese (12/77 = 100)	111.7	117.7	118.4	120.1	121.0	122.7	122.6	111.4	117.4	118.4	120.2	121.1	122.5	122.7
Ice cream and related products (12/77 = 100)	109.9	117.0	117.8	120.1	120.4	121.4	122.6	111.5	118.4	118.1	120.7	121.9	123.4	124.3
Other dairy products (12/77 = 100)	109.3	114.5	115.4	115.5	116.4	117.8	117.9	109.7	114.3	115.4	115.6	116.9	118.2	118.3
Fruits and vegetables	209.7	238.1	237.8	231.8	232.0	229.5	230.2	207.7	236.6	237.0	229.6	230.2	226.7	228.3
Fresh fruits and vegetables	203.2	249.4	247.5	234.7	235.5	230.1	230.1	201.2	248.1	247.9	232.9	233.6	226.7	228.5
Fresh fruits	202.5	278.2	286.9	271.6	260.4	242.7	234.9	199.4	278.2	288.9	271.2	260.6	238.3	233.3
Apples	200.7	250.2	275.2	244.7	212.7	207.2	221.8	197.3	248.4	275.9	243.1	212.9	207.7	220.2
Bananas	184.8	221.0	202.3	210.3	206.6	209.0	225.2	185.1	218.5	202.5	208.4	199.7	206.5	222.0
Oranges	233.5	313.5	316.2	312.3	306.7	293.9	256.7	224.5	306.1	298.6	291.8	290.3	283.3	249.5
Other fresh fruits (12/77 = 100)	100.8	151.3	157.5	147.1	143.9	127.5	121.1	99.8	154.2	163.5	152.3	149.7	125.7	121.6
Fresh vegetables	203.8	222.4	210.7	200.3	212.2	218.4	225.7	202.9	221.0	211.0	198.4	209.4	216.4	224.2
Potatoes	190.0	225.7	211.4	199.3	191.1	195.7	207.0	193.9	227.9	212.1	193.4	183.8	191.7	199.6
Lettuce	240.0	200.0	235.7	218.6	262.9	244.2	227.5	233.2	195.9	240.3	222.9	264.2	239.0	231.3
Tomatoes	189.8	185.8	187.0	178.5	194.4	225.3	227.9	188.0	189.4	185.6	179.2	194.1	225.4	224.8
Other fresh vegetables (12/77 = 100)	109.8	132.1	113.8	109.5	114.0	119.1	128.0	109.5	130.2	113.3	108.0	112.5	118.9	128.1
Processed fruits and vegetables	218.9	227.8	229.2	230.6	230.1	231.0	232.3	218.8	225.8	226.9	227.9	228.3	228.6	230.0
Processed fruits (12/77 = 100)	113.3	118.5	119.7	120.6	120.4	121.2	121.8	112.7	118.1	119.0	119.8	120.3	121.1	121.3
Frozen fruit and fruit juices (12/77 = 100)	112.4	114.3	115.5	116.3	116.3	116.6	116.8	111.9	113.6	114.4	114.9	115.2	115.7	115.9
Fruit juices and other than frozen (12/77 = 100)	110.6	117.0	117.9	118.3	119.8	122.1	123.6	110.7	117.4	118.2	119.7	120.7	122.4	123.4
Canned and dried fruits (12/77 = 100)	116.9	123.8	125.0	125.5	124.6	124.2	124.2	115.6	122.7	123.8	123.9	124.0	124.0	123.5
Processed vegetables (12/77 = 100)	106.7	110.4	110.7	111.2	110.9	110.9	111.7	105.6	109.3	109.5	108.9	109.8	109.4	110.5
Frozen vegetables (12/77 = 100)	106.1	109.6	109.7	109.8	110.2	110.2	110.6	105.6	109.7	109.9	109.4	110.2	109.6	110.8

23. Continued—Consumer Price Index—U.S. city average

[1967 = 100 unless otherwise specified]

General summary	All Urban Consumers							Urban Wage Earners and Clerical Workers (revised)						
	1978	1979						1978	1979					
	Dec.	July	Aug.	Sept.	Oct.	Nov.	Dec.	Dec.	July	Aug.	Sept.	Oct.	Nov.	Dec.
FOOD AND BEVERAGES—Continued														
Food—Continued														
Food at home—Continued														
Fruits and vegetables—Continued														
Cut corn and canned beans except lima (12/77=100)	110.3	114.3	113.9	114.7	113.6	113.4	114.4	106.8	112.4	112.0	112.6	111.9	111.8	113.0
Other canned and dried vegetables (12/77=100)	105.2	108.8	109.7	110.1	109.9	110.0	110.9	103.6	107.5	108.1	108.7	108.5	108.1	109.1
Other foods at home	257.4	269.5	272.8	276.0	278.0	279.6	281.1	256.7	268.7	271.8	274.7	276.5	278.3	279.9
Sugar and sweets	264.9	279.4	281.0	282.0	283.1	283.2	284.6	264.4	278.3	279.9	281.2	282.2	281.9	284.1
Candy and chewing gum (12/77=100)	111.6	118.5	119.4	119.7	119.9	120.1	120.1	111.4	118.1	[c] 119.0	119.3	119.6	119.8	119.9
Sugar and artificial sweeteners (12/77=100)	110.6	115.4	115.6	115.9	119.0	116.2	117.2	111.1	115.4	115.5	116.4	116.9	116.2	117.6
Other sweets (12/77=100)	108.2	113.8	114.6	115.3	115.9	116.4	117.5	107.1	112.6	113.6	114.0	114.8	114.6	116.6
Fats and oils (12/77=100)	217.6	227.4	228.9	231.5	231.9	232.3	233.0	218.4	227.6	228.9	230.7	231.9	232.8	233.7
Margarine	233.2	240.2	240.3	245.5	244.4	246.2	247.7	233.3	239.7	239.8	242.8	244.9	246.7	247.8
Nondairy substitutes and peanut butter (12/77=100)	108.2	113.7	114.0	114.6	115.1	115.1	115.7	108.2	113.6	114.0	114.5	114.6	115.0	115.8
Other fats, oils, and salad dressings (12/77=100)	112.6	118.3	119.7	120.6	121.1	121.0	121.1	113.2	118.5	119.6	120.4	121.0	121.3	121.5
Nonalcoholic beverages	341.7	354.6	361.8	367.7	372.1	374.3	375.4	340.6	353.6	360.0	365.0	368.2	370.7	372.3
Cola drinks, excluding diet cola	225.4	238.3	239.2	242.7	246.4	247.5	247.2	223.9	236.5	236.9	240.1	242.0	243.6	243.4
Carbonated drinks, including diet cola (12/77=100)	110.0	115.6	116.2	117.9	118.5	118.4	118.7	107.6	113.0	114.2	115.7	116.1	115.6	116.4
Roasted coffee	368.6	378.5	411.7	425.9	432.4	438.1	440.7	366.7	375.1	406.1	418.2	424.4	430.8	435.3
Freeze dried and instant coffee	343.2	335.6	349.5	359.9	366.5	370.2	374.3	343.0	336.2	349.4	358.9	365.3	369.3	372.9
Other noncarbonated drinks (12/77=100)	109.3	113.1	114.2	114.0	114.8	115.7	116.3	108.9	112.2	113.0	112.7	113.5	114.8	115.5
Other prepared foods	197.8	209.1	210.5	212.6	213.4	215.3	217.4	197.6	208.8	210.4	212.4	213.4	215.7	217.2
Canned and packaged soup (12/77=100)	106.5	113.2	113.2	113.1	113.4	114.3	115.9	106.9	113.1	113.3	113.3	113.3	114.8	116.3
Frozen prepared foods (12/77=100)	111.4	121.4	120.7	123.1	123.1	124.5	125.6	110.4	119.5	118.7	121.1	122.0	122.9	123.9
Snacks (12/77=100)	107.1	114.0	115.7	118.4	119.6	120.4	121.3	107.7	114.8	116.4	119.0	120.6	121.7	122.2
Seasonings, olives, pickles, and relish (12/77=100)	111.3	115.0	115.9	117.4	118.8	118.9	120.1	111.2	114.2	115.4	116.3	117.6	118.2	119.0
Other condiments (12/77=100)	108.5	114.3	115.2	115.9	115.8	116.8	119.5	108.2	115.2	116.2	117.5	117.0	118.5	120.2
Miscellaneous prepared foods (12/77=100)	110.3	115.3	116.3	116.8	117.2	119.0	118.9	110.5	115.2	116.3	116.3	116.7	118.6	118.7
Other canned and packaged prepared foods (12/77=100)	111.0	115.8	116.8	116.7	116.7	117.7	118.6	110.2	115.3	116.7	116.7	116.9	118.0	118.6
Food away from home	227.4	244.9	246.5	247.6	249.6	251.3	253.4	227.6	246.5	248.3	249.3	251.3	252.7	255.1
Lunch (12/77=100)	110.9	119.6	120.3	120.7	121.3	122.3	123.3	110.9	120.4	121.3	121.7	122.2	123.2	124.0
Dinner (12/77=100)	110.1	118.9	119.8	120.3	121.6	122.4	123.4	110.3	119.7	120.5	120.9	122.4	123.0	124.2
Other meals and snacks (12/77=100)	109.8	117.3	117.8	118.6	119.5	120.2	121.4	109.7	118.2	119.1	119.9	120.5	120.9	122.5
Alcoholic beverages	164.8	172.7	173.3	174.2	176.0	177.4	178.0	165.1	173.3	173.6	174.9	176.9	178.0	178.7
Alcoholic beverages at home (12/77=100)	107.0	112.2	112.7	113.3	114.6	115.6	116.0	107.8	113.3	113.4	114.3	115.7	116.5	117.0
Beer and ale	159.6	170.3	170.6	172.3	175.1	176.9	177.8	160.5	170.5	170.3	171.8	175.2	176.9	177.6
Whiskey	124.1	127.4	128.4	129.0	129.4	130.7	130.8	124.5	129.2	129.9	130.4	131.0	131.9	132.0
Wine	183.9	194.1	196.0	195.2	198.0	198.1	199.1	189.2	197.8	199.4	202.7	202.5	201.5	204.0
Other alcoholic beverages (12/77=100)	103.9	105.2	105.4	105.5	105.9	107.0	106.9	103.1	105.0	105.1	105.3	105.9	106.2	106.4
Alcoholic beverages away from home (12/77=100)	109.7	114.5	114.6	115.1	115.9	116.4	116.8	107.4	112.3	112.8	113.4	114.2	114.9	115.2
HOUSING	211.5	228.4	231.5	234.6	237.7	240.8	243.6	211.2	228.4	231.5	234.5	237.7	240.7	243.6
Shelter	221.0	240.1	243.9	247.4	251.5	255.9	259.4	221.0	240.7	244.5	248.2	252.4	256.9	260.4
Rent, residential	169.5	175.9	177.5	179.0	181.4	182.1	182.9	169.4	175.8	177.3	178.9	181.2	181.9	182.7
Other rental costs	216.6	236.0	238.2	239.3	241.6	243.1	244.9	216.4	235.2	237.6	238.6	241.3	242.6	244.4
Lodging while out of town	223.3	248.8	251.2	251.8	254.2	256.2	258.4	222.7	246.7	249.5	249.9	253.0	254.6	256.9
Tenants' insurance (12/77=100)	104.5	110.9	112.0	113.7	114.1	114.6	115.1	104.5	111.5	112.6	114.1	114.7	115.0	115.5
Homeownership	239.5	263.0	267.6	271.9	276.7	282.4	286.9	239.7	264.2	268.9	273.3	278.3	284.1	288.7
Home purchase	207.1	224.0	226.9	229.8	233.4	237.3	239.9	206.8	224.0	227.0	230.0	233.6	237.7	240.2
Financing, taxes, and insurance	273.1	308.6	316.4	323.0	330.5	340.1	348.3	274.3	310.6	318.7	325.8	333.5	343.5	351.6
Property insurance	290.3	312.6	314.6	316.7	319.9	320.8	323.1	289.8	312.1	314.2	318.5	321.9	322.6	324.5
Property taxes	179.3	181.8	183.1	184.7	185.1	185.1	186.0	180.7	183.3	184.6	186.1	186.5	186.6	187.4
Contracted mortgage interest cost	323.1	375.6	387.2	396.7	408.1	423.1	435.3	322.9	375.8	387.4	397.1	408.8	424.2	436.1
Mortgage interest rates	153.6	164.9	167.7	169.7	172.0	175.4	178.3	153.6	164.9	167.8	169.7	172.0	175.6	178.4
Maintenance and repairs	243.3	257.9	259.7	262.5	264.7	266.4	268.3	242.0	250.1	260.8	263.4	265.3	266.5	268.9
Maintenance and repair services	262.6	280.0	281.8	284.4	287.0	288.8	290.4	261.5	282.8	284.2	287.2	289.4	290.3	292.8
Maintenance and repair commodities	198.4	206.1	208.1	211.5	212.5	214.0	216.6	198.0	206.5	209.0	210.8	211.9	213.6	215.8
Paint and wallpaper, supplies, tools, and equipment (12/77=100)	108.6	112.5	114.3	117.0	117.4	118.8	121.6	108.6	112.8	115.0	116.1	116.6	118.1	120.3
Lumber, awnings, glass, and masonry (12/77=100)	109.2	113.7	113.7	115.2	116.0	115.5	115.4	109.8	114.4	114.8	115.7	116.2	117.2	118.1
Plumbing, electrical, heating, and cooling supplies (12/77=100)	104.9	110.1	110.8	111.9	112.8	[illegible]	114.7	105.2	110.2	111.5	112.6	113.8	114.0	114.5
Miscellaneous supplies and equipment (12/77=100)	106.8	110.3	111.1	112.9	113.3	113.8	114.3	104.8	109.5	110.3	111.2	111.9	112.2	112.3
Fuel and other utilities	219.9	243.5	247.2	251.2	252.9	252.0	255.1	220.1	244.1	247.7	251.7	253.4	252.4	255.7
Fuels	252.7	293.8	299.7	306.6	310.3	307.0	311.8	252.9	293.9	299.8	306.6	310.1	306.9	311.8
Fuel oil, coal, and bottled gas	311.8	412.9	438.6	461.6	470.8	477.4	488.0	312.0	413.5	439.0	462.5	471.7	478.2	489.0
Fuel oil	313.5	429.5	458.2	482.5	491.2	497.2	507.3	313.6	430.0	458.5	483.3	491.9	497.7	506.1
Other fuels (6/78 = 100)	99.3	106.2	109.3	114.4	118.5	121.7	126.0	99.5	106.5	109.4	114.6	118.8	122.2	126.6
Gas (piped) and electricity	236.2	264.5	266.5	270.1	272.5	267.3	270.8	236.3	264.6	268.5	269.9	272.2	267.1	270.7
Electricity	202.0	227.4	229.2	230.6	228.7	221.5	224.7	202.5	228.0	229.7	231.1	228.8	221.5	224.9
Utility (piped) gas	277.0	307.7	308.7	317.5	329.1	328.9	332.6	276.1	306.5	308.5	315.8	327.4	327.8	331.1

23. Continued—Consumer Price Index—U.S. city average

[1967 = 100 unless otherwise specified]

General summary	All Urban Consumers							Urban Wage Earners and Clerical Workers (revised)						
	1978	1979						1978	1979					
	Dec.	July	Aug.	Sept.	Oct.	Nov.	Dec.	Dec.	July	Aug.	Sept.	Oct.	Nov.	Dec.
HOUSING—Continued														
Fuel and other utilities—Continued														
Other utilities and public services	160.1	159.4	159.8	159.8	158.8	161.0	161.9	160.1	159.4	159.8	159.8	158.9	160.9	161.8
Telephone services	133.3	132.1	132.5	132.4	131.2	133.3	134.3	133.4	132.2	132.5	132.4	131.3	133.3	134.2
Local charges (12/77 = 100)	101.5	100.1	100.5	100.4	98.7	101.8	103.2	101.6	100.2	100.6	100.5	98.8	101.8	103.2
Interstate toll calls (12/77 = 100)	99.2	98.4	98.5	98.4	98.4	98.4	98.4	99.3	98.5	98.5	98.4	98.4	98.4	98.4
Intrastate toll calls (12/77 = 100)	101.3	101.3	101.5	101.4	101.7	101.5	101.5	101.2	101.2	101.4	101.3	101.5	101.3	101.3
Water and sewerage maintenance	241.1	244.0	244.6	245.3	245.6	247.1	247.2	240.8	244.0	244.6	245.5	245.8	247.2	247.3
Household furnishings and operations	184.0	190.4	191.2	192.2	193.3	195.1	195.8	183.0	189.0	189.8	190.6	191.7	193.2	193.9
Housefurnishings	158.6	162.9	163.2	164.1	165.2	166.6	166.9	158.1	162.5	163.0	163.5	164.4	165.5	165.9
Textile housefurnishings	168.4	173.6	172.8	175.3	177.8	178.9	178.6	170.1	171.6	173.0	174.9	177.2	178.4	177.3
Household linens (12/77 = 100)	103.8	104.3	103.6	106.7	107.7	108.8	108.3	104.6	103.1	103.7	106.3	107.4	108.3	107.2
Curtains, drapes, slipcovers, and sewing materials (12/77 = 100)	106.2	112.4	112.0	112.0	114.2	114.4	114.6	107.7	111.4	112.7	112.2	114.1	114.5	114.4
Furniture and bedding	172.0	176.8	177.1	178.3	180.0	182.2	182.8	171.1	177.2	177.3	178.5	180.3	182.1	182.7
Bedroom furniture (12/77 = 100)	108.8	113.2	114.0	114.8	116.4	117.7	118.3	107.7	112.1	112.7	113.0	114.8	115.9	116.0
Sofas (12/77 = 100)	103.5	106.2	106.3	107.1	107.3	107.9	108.2	104.5	108.7	108.2	108.6	109.6	111.7	111.6
Living room chairs and tables (12/77 = 100)	103.4	104.5	104.9	105.1	106.2	107.7	108.1	103.3	106.2	106.1	106.7	107.5	108.6	109.2
Other furniture (12/77 = 100)	110.2	113.3	112.7	113.9	115.0	116.8	117.1	108.8	112.5	112.5	114.2	114.7	115.3	115.9
Appliances including TV and sound equipment	133.1	135.4	135.8	136.2	136.9	137.5	137.5	132.3	135.0	135.5	135.7	135.7	136.2	136.9
Television and sound equipment (12/77 = 100)	103.2	103.9	104.3	104.7	104.9	105.0	105.3	102.4	103.3	104.0	104.4	104.1	104.4	104.8
Television	102.7	102.6	102.8	102.9	103.4	103.6	103.6	101.6	101.6	101.9	101.9	102.0	102.4	102.2
Sound equipment (12/77 = 100)	104.8	106.1	106.8	107.5	107.4	107.4	107.8	104.1	105.8	106.7	107.4	106.9	107.1	108.0
Household appliances	151.1	155.1	155.5	155.8	156.9	158.2	157.9	150.3	154.9	155.1	155.2	155.6	156.2	157.1
Refrigerators and home freezer	149.9	152.9	154.6	154.1	155.3	156.0	156.7	152.3	157.3	157.9	156.5	157.9	158.1	159.0
Laundry equipment (12/77 = 100)	106.3	110.7	110.7	110.9	112.1	113.1	113.6	105.6	110.1	110.2	111.2	111.3	112.2	112.8
Other household appliances (12/77 = 100)	106.3	108.7	108.6	109.1	109.8	110.8	109.9	104.6	107.1	107.1	107.2	107.2	107.6	108.2
Stoves, dishwashers, vacuums, and sewing machines (12/77 = 100)	108.1	109.0	108.5	108.6	109.0	109.7	108.6	105.3	107.6	107.7	107.7	106.9	107.1	108.1
Office machines, small electric appliances, and air conditioners (12/77 = 100)	104.1	108.5	108.8	109.7	110.7	112.1	111.4	103.7	106.5	106.4	106.8	107.6	108.2	108.3
Other household equipment (12/77 = 100)	106.1	110.3	110.7	110.9	111.2	112.4	113.0	105.9	110.4	110.6	110.3	110.8	111.6	111.8
Floor and window coverings, infants' laundry cleaning and outdoor equipment (12/77 = 100)	105.7	109.1	109.5	111.1	109.8	111.1	111.7	101.3	104.6	105.9	105.8	105.5	107.7	107.4
Clocks, lamps, and decor items (12/77 = 100)	103.0	107.5	107.1	108.0	108.6	110.0	110.1	104.4	107.2	106.7	107.0	107.1	108.2	107.3
Tableware, serving pieces, and nonelectric kitchenware (12/77 = 100)	108.5	114.4	115.1	114.7	115.4	116.8	117.2	108.4	114.1	113.9	114.5	114.7	115.2	115.2
Lawn equipment, power tools, and other hardware (12/77 = 100)	105.2	107.6	108.5	107.6	108.5	109.0	110.3	106.4	111.0	111.5	109.5	111.0	111.1	112.5
Housekeeping supplies	213.8	222.3	223.4	224.1	224.8	226.3	229.2	214.1	220.7	221.6	222.6	223.9	226.7	227.2
Soaps and detergents	208.1	210.9	212.5	215.1	217.9	220.6	221.2	206.8	210.5	210.9	214.5	216.3	218.2	219.7
Other laundry and cleaning products (12/77 = 100)	107.6	111.3	112.0	112.3	113.7	114.1	114.7	107.5	111.3	111.9	112.4	113.5	113.7	114.5
Cleansing and toilet tissue, paper towels and napkins (12/77 = 100)	111.2	116.5	116.2	116.4	117.2	119.2	120.5	111.5	116.9	116.3	117.1	117.9	119.6	120.9
Stationery, stationery supplies, and gift wrap (12/77 = 100)	104.4	108.9	109.5	109.9	109.5	111.3	111.9	104.2	107.5	108.5	108.3	108.6	109.2	109.3
Miscellaneous household products (12/77 = 100)	108.7	112.3	112.9	113.3	114.3	115.6	116.9	107.2	110.5	111.3	111.6	112.7	114.1	114.7
Lawn and garden supplies (12/77 = 100)	104.6	113.0	113.8	112.7	110.0	113.8	112.5	107.6	110.4	111.3	109.9	108.8	113.2	109.9
Housekeeping services	238.1	249.7	251.6	253.4	254.6	256.6	258.1	237.4	248.6	250.4	252.1	253.9	255.9	257.5
Postage	257.3	257.3	257.3	257.3	257.3	257.3	257.3	257.2	257.2	257.2	257.2	257.2	257.2	257.2
Moving, storage, freight, household laundry, and drycleaning services (12/77 = 100)	108.8	116.3	117.3	118.1	118.8	120.4	121.2	109.5	116.5	117.7	118.6	119.7	121.2	122.3
Appliance and furniture repair (12/77 = 100)	105.8	109.5	110.7	111.7	112.3	112.9	113.4	105.4	109.4	110.3	111.1	112.1	112.9	113.4
APPAREL AND UPKEEP	163.2	164.3	166.3	169.8	171.0	171.7	172.2	163.3	164.5	166.2	169.3	170.8	171.3	171.4
Apparel commodities	158.9	158.6	160.6	164.2	165.2	165.9	166.1	159.1	159.1	160.7	163.9	165.3	165.7	165.7
Apparel commodities less footwear	157.0	155.6	157.7	161.5	162.3	162.9	163.0	157.4	156.0	157.9	161.2	162.4	162.7	162.6
Men's and boys'	160.2	159.2	159.6	162.7	164.2	165.4	165.4	160.3	160.6	161.1	163.2	164.4	165.3	165.0
Men's (12/77 = 100)	101.6	100.0	100.6	102.7	103.5	104.3	104.3	101.9	101.3	101.9	103.2	103.8	104.5	104.2
Suits, sport coats, and jackets (12/77 = 100)	99.9	96.8	97.1	100.0	101.6	101.2	100.9	98.2	95.8	96.2	98.3	99.1	98.7	96.8
Coats and jackets (12/77 = 100)	98.3	94.4	95.5	96.5	97.8	98.1	98.0	100.8	97.6	99.2	99.1	99.5	99.7	99.1
Furnishings and special clothing (12/77 = 100)	105.1	108.4	109.3	110.6	109.9	112.4	112.3	104.4	106.6	107.0	108.6	109.1	110.0	109.9
Shirts (12/77 = 100)	103.5	100.9	103.2	107.2	108.5	109.7	110.5	104.7	104.1	104.9	107.1	108.3	109.4	111.5
Dungarees, jeans, and trousers (12/77 = 100)	100.3	99.0	98.1	99.0	99.5	100.5	100.4	101.6	101.5	101.9	102.5	102.8	104.0	103.4
Boys' (12/77 = 100)	101.2	104.2	103.3	104.8	106.3	106.6	106.6	100.6	103.5	102.7	103.9	105.3	105.6	105.8
Coats, jackets, sweaters, and shirts (12/77 = 100)	96.6	101.7	101.1	102.7	103.9	103.2	102.4	96.1	101.3	100.3	102.0	103.8	103.4	103.1
Furnishings (12/77 = 100)	106.2	108.0	107.9	109.4	110.8	111.5	111.9	105.8	107.1	107.0	108.8	110.1	109.7	110.2
Suits, trousers, sport coats, and jackets (12/77 = 100)	102.8	104.8	103.1	104.5	106.5	107.4	107.8	102.0	103.9	102.9	103.5	104.7	105.8	106.2
Women's and girls'	151.7	147.8	151.3	155.9	155.5	155.1	154.6	151.9	147.5	150.5	154.4	154.8	154.5	153.5
Women's (12/77 = 100)	101.0	98.4	100.7	103.9	103.4	103.0	102.8	101.3	98.7	100.4	103.0	103.3	103.0	102.3
Coats and jackets	166.0	162.1	170.4	174.1	173.9	173.3	170.0	170.4	166.8	173.1	175.7	174.1	172.4	167.9
Dresses	162.4	157.2	162.8	171.1	167.2	164.3	165.3	161.9	152.8	152.8	158.5	159.1	156.8	155.7
Separates and sportswear (12/77 = 100)	99.8	95.0	96.3	99.8	98.6	99.2	98.6	98.5	98.7	97.7	100.4	100.4	100.7	99.5
Underwear, nightwear, and hosiery (12/77 = 100)	103.4	105.6	106.2	106.2	106.6	108.1	108.2	103.9	106.1	107.0	107.4	107.9	108.9	109.3
Suits (12/77 = 100)	94.6	87.3	89.8	96.7	97.1	95.2	95.8	95.9	87.9	91.0	96.1	99.9	97.5	97.7
Girls (12/77 = 100)	100.4	98.1	100.5	102.4	103.6	103.9	102.8	99.7	95.5	98.8	101.1	101.5	101.7	101.4
Coats, jackets, dresses, and suits (12/77 = 100)	98.4	98.7	100.8	102.8	102.8	102.2	100.3	97.8	94.6	95.9	98.5	97.9	97.5	97.7
Separates and sportswear (12/77 = 100)	100.9	93.9	98.3	100.3	102.5	103.6	102.6	99.9	92.5	99.7	102.1	103.5	104.3	102.9
Underwear, nightwear, hosiery, and accessories (12/77 = 100)	102.8	104.6	104.1	105.7	106.7	107.2	107.3	102.4	102.0	101.8	103.5	103.9	104.2	104.4

23. Continued—Consumer Price Index—U.S. city average

[1967 = 100 unless otherwise specified]

General summary	All Urban Consumers							Urban Wage Earners and Clerical Workers (revised)						
	1978	1979						1978	1979					
	Dec.	July	Aug.	Sept.	Oct.	Nov.	Dec.	Dec.	July	Aug.	Sept.	Oct.	Nov.	Dec.
APPAREL AND UPKEEP—Continued														
Apparel commodities—Continued														
Apparel commodities less footwear—Continued														
Infants' and toddlers'	219.2	219.0	221.2	223.4	224.8	226.3	227.1	215.5	221.9	224.2	226.0	228.7	228.7	230.5
Other apparel commodities	162.0	167.9	169.8	172.6	175.5	177.6	180.9	164.7	168.4	170.2	174.9	178.7	179.8	182.9
Sewing materials and notions (12/77 = 100)	99.1	101.3	102.3	102.3	102.2	100.8	102.4	99.4	95.6	96.8	100.4	100.6	99.7	100.8
Jewelry and luggage (12/77 = 100)	107.2	111.7	113.0	115.6	118.3	121.0	123.1	109.8	114.9	116.1	118.9	122.3	123.8	126.2
Footwear	169.6	176.6	177.5	180.1	182.6	183.8	184.3	168.8	176.6	176.9	179.4	181.9	183.2	183.8
Men's (12/77 = 100)	107.2	113.4	114.5	115.0	116.7	117.7	117.3	106.9	114.5	115.2	116.3	118.0	119.1	119.4
Boys' and girls' (12/77 = 100)	105.5	111.0	112.0	111.6	113.0	114.0	115.8	105.7	111.2	111.4	111.6	113.0	114.5	114.7
Womens' (12/77 = 100)	105.9	108.3	108.1	112.0	113.5	113.9	113.8	104.7	106.9	106.5	109.6	111.1	111.2	111.8
Apparel services	192.5	205.7	207.7	210.2	212.5	214.2	216.6	191.9	204.9	206.7	208.7	210.8	212.0	213.4
Laundry and drycleaning other than coin operated (12/77 = 100)	111.2	120.6	122.1	123.6	125.2	126.3	127.1	111.3	120.3	121.8	123.2	124.7	125.7	126.6
Other apparel services (12/77 = 100)	107.1	111.2	111.9	113.0	114.0	114.7	117.0	106.2	111.2	111.5	112.3	112.9	113.3	113.7
TRANSPORTATION	192.6	216.6	219.6	221.4	222.7	224.9	227.7	193.1	217.8	220.7	222.4	223.4	225.7	228.3
Private	192.5	217.4	220.4	222.0	223.1	225.0	227.5	192.8	218.3	221.2	222.7	223.7	225.7	228.2
New cars	159.8	166.7	166.6	166.1	167.5	170.6	171.7	159.4	166.6	166.3	165.9	167.4	170.9	171.7
Used cars	194.0	209.2	207.0	202.9	199.9	198.4	198.2	194.0	209.2	207.0	202.9	199.9	198.4	198.3
Gasoline	206.2	260.0	292.0	301.0	303.8	306.9	313.9	206.5	281.0	293.3	302.3	305.2	308.3	315.6
Automobile maintenance and repair	229.3	244.0	245.7	247.1	249.1	250.8	252.6	229.5	244.2	246.0	247.5	249.4	251.1	253.4
Body work (12/77 = 100)	109.5	117.4	118.6	119.4	120.6	121.6	123.3	110.0	117.6	118.6	119.2	120.4	121.7	123.1
Automobile drive train, brake, and miscellaneous mechanical repair (12/77 = 100)	110.1	116.7	117.4	118.1	119.4	120.1	120.6	110.7	117.5	118.2	119.0	120.2	120.8	121.8
Maintenance and servicing (12/77 = 100)	108.9	115.9	116.3	116.9	117.5	118.4	119.2	108.2	115.3	116.0	116.8	117.3	118.2	119.3
Power plant repair (12/77 = 100)	108.1	114.8	116.0	116.7	117.8	118.5	119.2	108.5	115.2	116.3	117.0	118.0	118.6	119.6
Other private transportation	190.6	198.5	200.5	201.7	203.7	205.5	207.5	191.0	199.1	201.0	202.3	204.0	206.3	208.4
Other private transportation commodities	164.2	173.3	175.1	177.7	182.0	183.4	185.6	166.4	174.4	176.1	178.7	181.6	183.9	186.4
Motor oil, coolant, and other products (12/77 = 100)	105.2	110.5	112.2	114.4	115.9	117.4	118.1	104.6	109.9	112.0	114.5	115.9	118.1	119.3
Automobile parts and equipment (12/77 = 100)	106.2	112.3	113.4	114.9	117.9	118.7	120.3	108.0	113.2	114.1	115.7	117.6	119.0	120.6
Tires	146.0	153.7	154.7	156.4	160.7	161.5	163.8	149.1	155.7	156.1	158.1	161.1	163.0	165.7
Other parts and equipment (12/77 = 100)	107.6	114.8	116.7	119.1	121.8	123.0	124.4	108.3	114.3	116.8	118.6	120.0	121.5	122.4
Other private transportation services	199.4	207.1	209.1	210.1	211.4	213.4	215.3	199.4	207.6	209.6	210.6	211.9	214.3	216.3
Automobile insurance	222.2	229.1	232.3	233.5	233.8	233.9	235.3	222.2	229.0	232.3	233.5	233.7	233.9	235.2
Automobile finance charges (12/77 = 100)	109.4	116.8	117.2	117.7	120.4	124.6	127.2	108.5	116.4	116.4	117.0	119.4	124.1	126.5
Automobile rental, registration, and other fees (12/77 = 100)	104.2	106.9	107.5	107.8	107.9	108.3	108.5	104.4	107.3	108.1	108.4	108.6	108.9	109.2
State registration	143.8	144.0	144.0	144.0	144.0	144.1	144.1	143.6	143.9	143.9	143.9	143.9	144.0	144.0
Drivers' license (12/77 = 100)	104.5	104.5	104.5	104.5	104.5	104.5	104.5	104.3	104.3	104.3	104.3	104.2	104.2	104.2
Vehicle inspection (12/77 = 100)	110.2	114.6	114.6	114.6	114.6	115.6	117.5	111.4	115.5	115.5	115.5	115.5	116.5	118.3
Other vehicle related fees (12/77 = 100)	107.8	114.0	115.5	116.1	116.4	117.1	117.6	109.5	116.9	119.3	120.3	120.8	121.3	122.2
Public	189.1	197.1	200.8	205.2	209.1	216.5	223.0	190.0	197.6	200.6	204.1	207.3	214.0	219.1
Airline fare	188.8	198.5	205.2	214.1	220.6	232.1	245.5	188.3	198.4	205.2	214.2	220.7	232.4	245.8
Intercity bus fare	243.3	258.8	263.2	268.0	276.0	279.8	282.2	243.6	258.5	263.0	268.0	275.5	279.9	282.3
Intracity mass transit	185.7	189.8	190.5	190.5	191.3	195.6	196.4	185.5	189.7	190.2	190.2	191.0	195.1	195.7
Taxi fare	207.6	220.6	224.7	228.5	233.6	237.0	238.5	211.8	226.5	230.3	233.9	238.7	242.4	243.9
Intercity train fare	192.8	216.1	220.6	221.0	221.1	231.0	236.3	192.8	217.1	220.8	221.3	221.4	232.1	236.6
MEDICAL CARE	227.8	239.9	241.8	243.7	245.9	248.0	250.7	228.0	240.5	242.6	244.7	247.2	249.1	251.7
Medical care commodities	148.0	154.1	155.0	155.8	156.6	157.8	159.2	148.7	155.3	156.2	156.7	157.4	158.5	159.9
Prescription drugs	136.2	141.9	142.8	143.5	144.5	145.5	146.4	136.9	143.0	143.7	144.4	145.2	146.2	147.4
Anti-infective drugs (12/77 = 100)	107.1	112.0	112.5	113.1	113.5	113.9	114.6	108.6	113.0	113.2	114.1	114.8	115.5	116.8
Tranquilizers and sedatives (12/77 = 100)	110.6	114.0	114.6	114.9	115.8	117.1	118.4	110.0	114.4	114.8	115.0	115.6	116.9	118.3
Circulatories and diuretics (12/77 = 100)	105.0	108.6	109.3	109.3	109.7	111.0	111.4	105.9	109.1	109.7	110.0	110.6	111.6	112.3
Hormones, diabetic drugs, biologicals, and prescription and supplies (12/77 = 100)	112.3	118.9	120.3	120.9	122.5	123.2	123.8	112.7	119.3	120.4	120.8	122.2	122.6	123,1
Pain and symptom control drugs (12/77 = 100)	108.3	113.1	113.7	114.8	115.6	116.8	117.8	108.7	114.7	115.2	116.0	116.3	117.5	118.2
Supplements, cough and cold preparations, and respiratory agents (12/77 = 100)	106.1	109.5	110.3	110.9	111.3	111.9	112.1	106.8	111.0	111.7	112.2	112.6	112.8	113.7
Nonprescription drugs and medical supplies (12/77 = 100)	106.5	110.8	111.4	112.0	112.5	113.4	114.6	107.1	111.9	112.5	112.8	113.2	114.0	115.1
Eyeglasses (12/77 = 100)	104.0	108.2	108.7	109.2	110.2	110.9	110.9	104.4	108.5	108.9	109.3	110.0	110.4	110.5
Internal and respiratory over-the-counter drugs	164.1	171.3	172.2	173.0	173.7	175.4	177.9	165.1	173.2	174.3	174.7	175.2	176.6	178.5
Nonprescription medical equipment and supplies (12/77 = 100)	106.0	109.7	110.4	110.8	111.0	111.8	113.1	106.6	110.7	111.3	111.2	111.8	112.7	114.2
Medical care services	244.8	258.5	260.6	262.8	265.3	267.6	270.7	244.8	258.8	261.2	263.8	266.8	268.8	271.8
Professional services	215.9	227.6	228.9	230.3	231.6	233.0	235.9	216.8	229.3	231.1	233.1	234.9	235.9	238.3
Physicians' services	230.9	224.7	246.6	248.4	249.7	250.8	252.5	230.9	246.8	248.7	251.5	254.4	255.5	256.5
Dental services	204.7	215.2	216.0	217.2	218.5	220.7	224.5	207.4	217.1	219.0	220.7	221.2	222.7	226.1
Other professional services (12/77 = 100)	107.2	111.5	111.9	112.4	112.7	112.8	115.1	106.5	111.0	111.5	111.7	112.1	112.2	114.8
Other medical care services	279.8	295.8	299.0	302.0	306.2	309.5	312.8	279.0	294.9	298.1	301.3	305.9	309.3	313.0
Hospital and other medical services (12/77 = 100)	111.3	117.3	118.6	119.6	121.3	122.6	123.8	111.1	116.6	117.8	118.9	120.5	121.8	123.2
Hospital room	350.5	369.7	374.2	376.4	380.2	385.1	389.4	350.1	367.5	371.7	374.1	379.4	383.6	388.7
Other hospital and medical care services	110.4	116.4	117.4	118.8	120.8	122.0	122.9	110.1	115.6	116.7	118.0	119.5	120.8	122.1

23. Continued—Consumer Price Index—U.S. city average

[1967 = 100 unless otherwise specified]

General summary	All Urban Consumers							Urban Wage Earners and Clerical Workers (revised)						
	1978	1979						1978	1979					
	Dec.	July	Aug.	Sept.	Oct.	Nov.	Dec.	Dec.	July	Aug.	Sept.	Oct.	Nov.	Dec.
ENTERTAINMENT	180.9	189.1	190.2	191.1	192.0	192.8	193.4	181.0	188.6	168.9	190.2	191.4	192.0	191.5
Entertainment commodities	181.3	189.7	191.0	192.0	193.1	194.0	195.2	180.9	188.2	186.4	189.9	190.7	191.3	192.4
Reading materials (12/77 = 100)	106.4	110.0	111.1	111.9	113.8	114.5	115.1	106.1	109.5	110.7	111.4	113.3	114.2	114.8
Newspapers	204.5	212.6	214.0	214.5	217.7	222.4	223.5	203.9	212.2	213.7	214.2	217.4	222.2	223.3
Magazines, periodicals, and books (12/77 = 100)	109.2	112.0	113.7	115.0	117.2	116.0	116.8	109.4	111.7	113.5	114.8	117.2	115.8	116.6
Sporting goods and equipment (12/77 = 100)	103.8	110.0	110.4	111.3	111.2	111.7	112.2	102.7	107.0	105.4	107.5	106.7	106.9	107.7
Sport vehicles (12/77 = 100)	103.5	110.8	111.3	112.3	111.5	112.2	112.9	102.8	106.9	103.9	106.7	104.6	104.8	105.8
Indoor and warm weather sport equipment (12/77 = 100)	104.9	106.7	105.9	106.1	107.5	107.8	107.5	101.6	104.7	104.7	104.7	106.0	106.1	106.3
Bicycles	153.1	162.2	163.8	165.6	167.1	167.1	167.1	151.9	161.8	162.9	164.7	166.9	167.4	167.0
Other sporting goods and equipment (12/77 = 100)	103.3	107.8	108.6	109.3	110.0	110.3	111.0	102.2	106.5	107.2	108.5	109.8	110.2	111.3
Toys, hobbies and other entertainment (12/77 = 100)	104.6	109.4	110.2	110.4	110.8	111.2	112.1	105.1	109.6	110.2	110.4	111.0	111.2	111.8
Toys, hobbies and music equipment (12/77 = 100)	105.0	109.3	110.0	110.4	110.7	110.5	111.2	105.0	109.1	108.8	109.6	110.1	109.8	109.9
Photographic supplies and equipment (12/77 = 100)	104.6	108.4	108.2	108.9	109.4	109.9	109.7	104.3	107.7	107.6	108.8	109.3	109.6	110.1
Pet supplies and expense (12/77 = 100)	104.0	110.3	111.8	111.6	112.1	113.5	115.5	105.7	111.6	112.6	112.9	113.9	114.6	116.1
Entertainment services	180.7	188.6	189.4	190.2	190.8	191.5	191.1	182.1	190.1	190.7	191.8	193.5	194.3	190.9
Fees for participant sports (12/77 = 100)	106.4	111.9	112.3	113.0	113.2	113.8	113.8	107.4	112.1	112.3	113.4	114.9	115.2	112.8
Admissions (12/77 = 100)	108.5	114.3	114.7	115.2	115.7	116.1	116.6	109.5	115.3	115.9	116.3	116.8	117.3	117.8
Other entertainment services (12/77 = 100)	107.2	109.1	109.7	109.4	110.0	110.0	108.6	106.5	110.5	110.9	110.9	111.4	112.0	109.0
OTHER GOODS AND SERVICES	189.1	195.2	197.0	201.7	202.3	202.9	204.0	188.4	195.1	197.2	200.6	201.4	202.0	203.0
Tobacco products	180.9	186.8	189.9	190.9	191.3	191.5	192.1	180.6	186.9	190.1	190.9	191.2	191.4	192.1
Cigarettes	183.5	189.2	192.6	193.6	193.8	194.0	194.7	183.4	189.4	193.1	193.7	193.9	194.1	194.8
Other tobacco products and smoking accessories (12/77 = 100)	105.9	110.8	111.1	112.2	113.0	112.8	113.2	104.8	110.3	110.0	111.0	112.3	112.4	112.7
Personal care	187.3	196.4	197.5	199.0	199.8	200.9	203.0	186.8	196.0	197.6	198.4	199.4	200.5	202.3
Toilet goods and personal care appliances	180.9	188.6	189.7	191.4	192.5	193.1	195.8	180.7	188.1	190.2	191.0	191.6	192.4	194.5
Products for the hair, hairpieces and wigs (12/77 = 100)	105.2	109.4	111.1	111.6	111.9	112.2	113.0	103.8	108.5	110.5	110.6	111.1	111.4	112.4
Dental and shaving products (12/77 = 100)	106.6	113.2	113.6	114.3	114.1	115.6	117.3	106.4	111.0	112.1	112.5	112.7	113.9	114.7
Cosmetics, bath and nail preparations, manicure and eye makeup implements (12/77 = 100)	103.7	109.5	108.9	110.4	110.7	111.4	113.0	103.5	109.0	110.0	110.6	110.1	110.2	112.1
Other toilet goods and small personal care appliances (12/77 = 100)	105.1	106.2	107.6	108.6	110.9	109.9	112.1	106.9	108.8	109.7	110.3	111.7	112.3	113.1
Personal care services	193.7	203.9	205.0	206.4	207.0	208.5	210.0	193.0	204.0	205.0	205.8	207.3	208.6	210.2
Beauty parlor services for women	195.3	205.2	206.1	207.7	208.3	210.3	212.1	195.8	205.9	206.7	207.4	209.1	210.2	212.0
Haircuts and other barber shop services for men (12/77 = 100)	108.0	114.1	115.1	115.5	115.9	116.1	116.8	106.3	113.6	114.2	114.7	115.4	116.3	117.1
Personal and educational expenses	206.7	209.3	210.8	223.3	224.0	224.2	224.6	206.9	209.8	211.2	223.5	224.2	224.4	224.8
School books and supplies	187.7	191.6	192.6	201.5	202.3	202.3	202.5	189.6	194.2	195.2	205.0	205.8	205.9	206.0
Personal and educational services	211.4	213.8	215.4	228.6	229.4	229.6	229.9	211.4	214.0	215.5	228.4	229.0	229.3	229.7
Tuition and other school fees	108.4	108.9	109.4	117.7	118.1	118.1	118.1	108.3	108.8	109.4	117.9	118.2	118.2	118.2
College tuition (12/77 = 100)	108.6	109.2	109.7	116.9	117.3	117.3	117.3	108.6	109.2	109.7	116.8	117.3	117.3	117.3
Elementary and high school tuition (12/77 = 100)	107.5	107.5	108.3	120.9	120.9	120.9	120.9	107.4	107.4	108.4	120.7	120.7	120.7	120.7
Personal expenses (12/77 = 100)	108.5	113.0	114.8	115.1	115.8	116.3	117.3	108.7	113.0	114.4	114.4	114.9	115.5	116.3
Special indexes:														
Gasoline, motor oil, coolant and other products	204.6	276.6	288.2	297.1	299.8	302.9	309.7	204.8	277.5	289.5	298.3	301.2	304.3	311.4
Insurance and finance	246.6	272.8	278.7	283.5	288.9	296.0	302.1	248.4	272.5	278.3	283.1	228.5	295.8	301.6
Utilities and public transportation	201.7	215.3	217.0	219.3	220.7	220.5	223.5	202.1	215.9	217.4	218.5	220.7	220.3	223.0
Housekeeping and home maintenance services	257.4	272.5	274.4	276.6	278.7	280.6	282.2	256.4	273.7	275.3	277.8	279.9	281.3	283.4

24. Consumer Price Index for All Urban Consumers: Cross classification of region and population size class by expenditure category and commodity and service group

[December 1977 = 100]

Category and group	Size class A (1.25 million or more)			Size class B (385,000 - 1.250 million)			Size class C (75,000 - 385,000)			Size class D (75,000 or less)		
	1979			1979			1979			1979		
	Aug.	Oct.	Dec.	Aug.	Oct.	Dec.	Aug.	Oct.	Dec.	Aug.	Oct.	Dec.
	Northeast											
EXPENDITURE CATEGORY												
All items	115.0	117.3	119.0	117.3	120.2	122.2	120.2	123.0	125.7	116.9	119.2	121.8
Food and beverages	117.9	119.2	120.6	118.9	119.6	121.9	121.7	121.9	123.2	120.4	119.4	121.2
Housing	114.8	117.9	119.8	116.7	121.3	123.7	122.5	127.7	132.1	116.1	119.9	123.2
Apparel and upkeep	104.9	107.7	108.9	108.1	109.2	109.0	104.3	107.8	108.5	103.4	108.3	109.8
Transportation	119.6	121.1	123.7	123.4	125.0	127.6	123.6	124.9	127.0	122.5	124.5	127.3
Medical care	113.6	115.4	117.3	115.3	118.5	120.0	114.8	117.0	118.9	114.8	116.3	119.0
Entertainment	110.6	111.4	111.5	110.9	113.6	113.5	110.4	110.0	109.8	113.6	114.1	115.1
Other goods and services	108.3	111.7	112.7	111.4	114.1	114.3	113.0	115.6	116.3	109.2	112.5	113.1
COMMODITY AND SERVICE GROUP												
Commodities	116.6	118.6	120.5	119.3	121.8	123.7	120.8	122.8	125.1	117.7	120.0	122.5
Commodities less food and beverages	115.8	118.3	120.4	119.0	122.8	124.6	120.4	123.2	126.0	116.5	120.4	123.2
Services	113.0	115.6	117.2	114.6	117.8	119.9	119.1	123.3	126.6	115.7	117.9	120.7
	North Central											
EXPENDITURE CATEGORY												
All items	121.0	123.2	126.3	120.5	122.3	124.6	119.0	121.9	123.7	119.5	122.0	123.0
Food and beverages	120.2	121.2	123.2	118.6	119.2	120.2	120.4	121.6	123.4	122.0	122.8	124.8
Housing	125.8	128.7	133.1	124.1	125.7	129.3	120.3	124.5	125.9	120.5	124.0	123.6
Apparel and upkeep	102.8	105.3	105.6	104.6	109.9	110.9	105.3	107.4	109.0	104.0	110.0	111.9
Transportation	122.8	125.0	127.9	122.9	125.2	127.5	123.7	126.0	129.1	123.2	124.3	127.3
Medical care	115.0	115.9	119.6	117.2	118.6	119.3	116.4	117.5	119.7	117.5	119.1	121.8
Entertainment	111.9	112.6	113.9	109.2	110.7	111.0	110.5	112.7	114.4	111.3	112.7	113.8
Other goods and services	109.0	112.5	113.6	114.9	117.8	117.7	110.0	112.3	114.0	112.7	115.7	116.1
COMMODITY AND SERVICE GROUP												
Commodities	120.7	122.5	125.4	119.4	120.8	122.5	119.1	121.7	123.5	118.9	121.1	122.5
Commodities less food and beverage	120.9	123.0	126.4	119.7	121.5	123.5	118.5	121.7	123.6	117.6	120.4	121.6
Services	121.5	124.3	127.7	122.4	124.7	128.0	118.8	122.2	124.1	120.4	123.3	123.8
	South											
EXPENDITURE CATEGORY												
All items	118.7	120.7	123.1	120.1	122.4	124.6	119.9	122.1	124.3	118.5	120.6	122.5
Food and beverages	121.1	122.2	123.5	120.3	121.3	122.9	121.6	122.1	123.9	120.0	121.0	122.5
Housing	119.9	122.0	125.0	122.4	125.8	128.4	122.7	125.9	128.4	119.3	121.6	123.9
Apparel and upkeep	107.5	111.2	112.3	107.3	110.8	110.3	104.5	106.4	105.7	102.8	103.9	104.8
Transportation	122.6	124.2	127.6	123.5	124.5	127.8	121.8	123.2	126.4	122.4	124.4	126.3
Medical care	113.3	116.0	117.7	115.7	116.9	118.3	115.5	117.6	120.7	118.5	122.5	124.9
Entertainment	108.1	109.4	109.5	111.9	113.2	113.9	111.8	113.6	113.8	115.9	117.1	119.4
Other goods and services	111.5	114.4	115.8	110.8	114.0	115.1	111.4	114.2	115.5	114.3	117.3	118.3
COMMODITY AND SERVICE GROUP												
Commodities	118.9	120.5	122.6	119.3	121.2	123.1	119.3	120.7	122.7	118.6	120.2	121.9
Commodities less food and beverages	118.0	119.8	122.2	118.9	121.2	123.2	118.3	120.1	122.2	118.0	119.9	121.6
Services	118.4	121.0	123.8	121.2	124.3	126.8	120.8	124.2	126.7	118.5	121.1	123.5
	West											
EXPENDITURE CATEGORY												
All items	118.7	120.8	124.8	120.9	123.6	126.6	119.5	122.2	124.5	118.8	122.8	124.3
Food and beverages	119.4	121.2	123.4	121.4	123.1	125.8	120.1	121.1	122.9	121.6	121.5	123.7
Housing	119.0	121.2	127.0	122.4	126.2	130.2	120.5	124.8	127.8	117.8	124.8	125.4
Apparel and upkeep	104.8	107.9	110.0	108.8	111.0	111.5	103.9	104.4	104.4	109.5	114.0	114.9
Transportation	125.3	127.2	129.9	124.8	126.7	128.8	125.0	126.3	129.0	123.1	124.6	128.2
Medical care	116.8	119.8	121.9	116.6	117.8	121.3	116.5	118.4	119.9	119.0	120.7	122.7
Entertainment	109.3	109.3	111.1	114.4	115.6	115.9	112.6	113.8	114.9	115.7	117.8	119.2
Other goods and services	112.4	115.2	115.5	112.5	115.3	116.5	110.7	113.0	113.6	114.4	116.0	116.4
COMMODITY AND SERVICE GROUP												
Commodities	118.7	120.5	123.1	120.8	123.1	125.3	119.4	121.7	123.6	119.1	120.7	123.0
Commodities less food and beverage	118.3	120.2	123.0	120.6	123.1	125.1	119.1	121.9	123.8	118.0	120.4	122.7
Services	118.8	121.3	126.9	121.0	124.4	128.4	119.6	122.8	125.9	118.5	125.9	126.3

25. Consumer Price Index—U.S. city average, and selected areas

[1967 = 100 unless otherwise specified]

Area[1]	All Urban Consumers							Urban Wage Earners and Clerical Workers (revised)						
	1978	1979						1978	1979					
	Dec.	July	Aug.	Sept.	Oct.	Nov.	Dec.	Dec.	July	Aug.	Sept.	Oct.	Nov.	Dec.
U.S. city average[2]	202.9	218.9	221.1	223.4	225.4	227.5	229.9	202.9	219.4	221.5	223.7	225.6	227.6	230.0
Anchorage, Alaska (10/67 = 100)	...	207.4	...	213.2	...	213.7	...	...	206.4	...	210.9	...	211.8	...
Atlanta, Ga.	184.5	...	216.9	...	220.8	...	223.3	199.2	...	219.0	...	223.5	...	227.0
Baltimore, Md.	...	221.0	...	224.9	...	227.2	...	...	221.4	...	224.9	...	227.9	...
Boston, Mass.	...	214.2	...	218.1	...	222.7	...	...	213.7	...	217.9	...	222.5	...
Buffalo, N.Y.	199.7	...	214.6	...	218.7	...	221.2	199.5	...	215.3	...	218.6	...	220.7
Chicago, Ill.-Northwestern Ind.	198.6	217.4	218.6	221.3	221.8	225.9	228.4	198.5	216.8	218.2	220.6	221.7	225.6	227.8
Cincinnati, Ohio-Ky.-Ind.	...	224.8	...	229.0	...	233.4	...	...	226.5	...	230.8	...	235.6	...
Cleveland, Ohio	205.7	...	221.4	...	224.7	...	232.5	206.0	...	222.6	...	225.5	...	233.2
Dallas-Ft. Worth, Tex.	201.6	...	222.9	...	228.2	...	234.1	201.2	...	223.0	...	228.0	...	233.3
Denver-Boulder, Colo.	...	236.5	...	240.8	...	245.9	...	...	239.3	...	243.6	...	248.6	...
Detroit, Mich.	202.2	219.5	222.2	223.7	227.2	231.3	233.2	201.9	219.8	222.6	223.5	226.9	230.8	232.2
Honolulu, Hawaii	191.3	...	207.2	...	210.5	...	214.8	191.2	...	207.2	...	211.1	...	215.5
Houston, Tex.	219.7	...	240.6	...	244.2	...	248.7	218.3	...	239.0	...	241.8	...	246.0
Kansas City, Mo.-Kansas	198.8	...	224.6	...	229.9	...	233.7	198.9	...	223.1	...	227.9	...	232.4
Los Angeles-Long Beach, Anaheim, Calif.	197.1	214.7	217.5	220.7	221.8	224.2	228.0	197.0	216.8	219.6	223.0	224.0	225.8	229.9
Miami, Fla. (11/77 = 100)	...	115.7	...	117.4	...	119.4	...	...	116.9	...	118.7	...	120.5	...
Milwaukee, Wis.	...	222.7	...	226.0	...	229.8	...	...	225.0	...	228.7	...	232.5	...
Minneapolis-St. Paul, Minn.-Wis.	208.6	...	227.0	...	231.2	...	234.0	209.2	...	228.5	...	233.0	...	234.8
New York, N.Y.-Northeastern N.J.	201.5	214.0	215.4	218.1	219.9	221.3	222.9	200.9	214.1	215.3	217.8	219.3	220.7	222.4
Northeast, Pa. (Scranton)	...	211.7	...	215.4	...	220.0	...	...	213.4	...	217.1	...	221.1	...
Philadelphia, Pa.-N.J.	201.1	216.1	217.7	219.5	220.1	222.4	223.7	202.4	216.9	218.1	220.3	221.3	223.8	224.6
Pittsburgh, Pa.	205.2	...	219.1	...	226.0	...	229.2	204.2	...	220.0	...	226.1	...	229.7
Portland, Oreg.-Wash.	...	227.4	...	232.2	...	236.6	...	...	227.9	...	232.6	...	236.7	...
St. Louis, Mo.-Ill.	...	216.9	...	222.2	...	225.7	...	...	217.4	...	222.5	...	226.3	...
San Diego, Calif.	...	236.1	...	240.4	...	247.8	...	...	233.1	...	237.7	...	244.8	...
San Francisco-Oakland, Calif.	200.8	...	218.3	...	221.5	...	230.2	200.4	...	218.6	...	220.8	...	229.0
Seattle-Everett, Wash.	...	217.5	...	222.6	...	227.6	...	...	215.9	...	221.0	...	225.5	...
Washington, D.C.-Md.-Va.	...	220.4	...	222.9	...	225.4	...	...	221.9	...	224.4	...	226.7	...

[1] The areas listed include not only the central city but the entire portion of the Standard Metropolitan Statistical Area, as defined for the 1970 Census of Population, except that the Standard Consolidated Area is used for New York and Chicago.

[2] Average of 85 cities.

26. Producer Price Indexes, by stage of processing

[1967 = 100]

Commodity grouping	Annual average 1978	1979 Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	1980 Jan.
FINISHED GOODS														
Finished goods	194.6	205.4	207.7	209.1	211.4	212.7	213.7	216.2	217.3	220.7	223.7	225.9	227.8	232.1
Finished consumer goods	192.6	203.7	206.3	207.9	210.2	211.6	212.7	215.6	217.5	221.7	224.1	226.6	228.8	233.2
Finished consumer foods	206.7	220.2	225.1	226.3	227.8	226.6	223.6	224.9	223.5	228.1	226.7	230.5	232.0	231.4
Crude	215.5	236.7	257.2	244.6	241.8	226.7	227.1	224.9	231.7	214.0	215.4	228.0	227.8	225.9
Processed	204.1	216.9	220.5	222.8	224.6	224.4	221.3	222.8	220.7	227.0	225.4	228.6	230.1	229.7
Other nondurable goods	195.4	205.4	207.2	209.8	213.1	217.1	221.7	227.1	233.4	238.9	243.0	245.2	247.8	254.4
Durable goods	165.8	175.2	176.2	176.8	178.4	179.5	180.4	181.6	181.6	182.9	187.4	188.5	191.2	198.2
Capital Equipment	199.1	209.3	210.8	211.7	214.0	215.1	215.8	217.2	216.5	217.8	222.5	223.8	225.1	229.1
INTERMEDIATE MATERIALS														
Intermediate materials, supplies, and components	215.5	225.7	228.5	231.5	235.8	238.2	240.3	244.6	247.5	251.0	254.6	256.1	258.4	265.6
Materials and components for manufacturing	208.3	218.6	221.6	224.5	229.0	230.9	232.1	236.0	238.0	240.7	243.9	245.2	247.5	255.2
Materials for food manufacturing	202.3	214.4	217.3	219.6	222.2	222.5	222.3	226.7	225.1	228.9	225.3	227.7	230.5	225.8
Materials for nondurable manufacturing	195.8	203.2	205.3	208.7	213.7	216.7	218.1	222.5	225.3	227.6	231.2	233.1	235.1	240.6
Materials for durable manufacturing	237.2	252.0	256.8	260.0	266.0	267.2	268.9	273.3	275.2	278.8	284.5	284.2	287.5	303.5
Components for manufacturing	189.1	197.2	199.0	200.3	203.1	204.5	205.3	207.7	209.3	211.3	212.5	214.5	215.9	218.9
Materials and components for construction	224.4	236.1	239.0	241.3	244.5	245.2	245.6	247.4	249.2	252.5	254.4	253.8	253.6	257.5
Processed fuels and lubricants	296.4	302.0	304.8	312.9	323.9	336.8	349.5	364.8	384.6	399.3	410.5	416.5	424.6	443.9
Manufacturing industries	270.4	268.3	269.0	275.4	280.7	287.4	293.8	304.0	311.2	317.2	322.5	325.3	332.3	340.6
Nonmanufacturing industries	320.0	334.0	339.1	348.9	365.9	385.5	404.9	425.5	458.8	483.0	500.4	509.7	518.8	549.8
Containers	212.5	223.9	224.3	229.3	231.8	234.5	234.9	235.4	237.8	237.9	240.8	243.5	248.1	250.9
Supplies	196.9	207.4	209.6	211.1	212.8	213.7	216.1	219.6	219.6	221.2	224.4	226.0	228.4	232.2
Manufacturing industries	183.6	193.1	194.3	197.4	199.4	201.5	202.7	204.2	208.6	209.4	211.8	213.1	215.3	220.9
Nonmanufacturing industries	204.0	215.0	217.7	218.4	219.9	220.3	223.2	227.8	225.4	227.5	231.1	232.9	235.3	238.2
Manufactured animal feeds	200.2	215.9	221.6	219.3	219.5	214.6	226.2	241.3	220.8	224.0	229.2	227.3	230.8	224.2
Other supplies	201.9	211.6	213.6	215.0	216.8	218.3	219.2	221.5	223.1	224.9	228.1	230.7	232.9	237.8
CRUDE MATERIALS														
Crude materials for further processing	240.1	260.2	270.4	276.6	279.9	282.3	283.0	287.1	281.7	288.3	289.2	290.8	296.7	296.9
Foodstuffs and feedstuffs	215.3	233.0	243.7	247.4	251.5	251.9	248.2	254.1	243.7	248.7	247.1	246.4	249.7	243.0
Nonfood materials	286.7	311.5	320.7	331.6	333.3	339.6	348.7	349.3	353.6	363.1	368.9	374.8	365.8	399.0
Nonfood materials except fuel	235.4	255.6	264.7	275.5	276.5	276.6	286.6	285.2	286.1	293.3	298.6	304.6	311.5	329.9
Manufacturing industries	240.8	261.8	271.9	283.8	284.8	284.7	295.9	294.0	294.9	302.8	308.5	314.9	322.5	342.0
Construction	185.7	198.8	200.4	201.9	203.6	204.5	205.4	207.2	208.6	209.9	212.2	214.6	216.6	225.7
Crude fuel	463.7	504.3	513.9	525.2	529.2	556.8	563.1	570.7	586.2	604.0	611.4	616.8	641.8	637.2
Manufacturing industries	481.9	529.6	541.6	555.4	560.0	593.8	601.3	610.4	629.2	651.8	660.5	667.0	697.7	691.7
Nonmanufacturing industries	459.6	494.9	502.7	512.1	515.8	538.8	544.3	550.7	563.6	577.8	584.4	589.0	609.7	606.2
SPECIAL GROUPINGS														
Finished goods excluding foods	188.9	198.8	200.2	201.7	204.2	206.3	208.5	211.4	213.2	216.2	220.6	222.2	224.3	230.1
Finished consumer goods excluding Foods	183.7	193.3	194.9	196.7	199.3	202.1	205.2	208.4	212.3	216.3	220.6	222.4	225.0	231.8
Intermediate materials, supplies, and Components, excluding intermediate materials for food manufacturing and manufactured animal feeds	216.4	226.5	229.1	232.3	236.7	238.8	241.3	245.4	249.0	252.5	256.4	257.8	260.1	268.1
Intermediate foods and feeds	201.0	214.3	218.2	218.9	220.7	219.3	223.0	231.0	223.1	226.6	226.0	227.0	230.0	224.7
Crude materials for further processing excluding crude foodstuffs and feedstuffs, plant and animal fibers, oilseeds, and leaf tobacco	316.6	344.2	358.4	370.6	372.4	379.2	389.5	391.7	396.9	408.6	416.5	423.9	437.1	453.0

NOTE: Data for September 1979 have been revised to reflect the availability of late reports and corrections by respondents. All data are subject to revision 4 months after original publication.

27. Producer Price Indexes, by commodity groupings[1]

[1967 = 100 unless otherwise specified]

Code	Commodity group and subgroup	Annual average 1978	1979												1980
			Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.
	All commodities	209.3	220.8	224.1	226.7	230.0	232.0	233.5	236.9	238.3	242.0	245.2	248.9	249.4	254.7
	All commodities (1957-59 = 100)	222.1	234.2	237.7	240.5	243.7	245.7	247.7	251.4	252.8	256.7	260.2	262.0	264.6	267.3
	Farm products and processed foods and feeds	206.6	221.1	227.2	229.0	244.0	230.8	229.0	232.2	227.5	231.8	230.6	232.3	234.5	231.9
	Industrial commodities	209.4	220.0	222.5	225.4	229.0	231.6	234.0	237.5	240.6	244.2	248.5	250.2	252.8	260.3
	FARM PRODUCTS AND PROCESSED FOODS AND FEEDS														
01	Farm products	212.5	230.4	240.9	242.8	223.3	245.4	242.8	246.8	238.5	241.0	239.5	240.2	242.5	236.4
01-1	Fresh and dried fruits and vegetables	216.5	233.7	263.0	235.7	234.7	228.2	226.4	226.7	241.7	208.3	217.8	216.4	210.5	218.9
01-2	Grains	162.5	184.4	189.3	192.0	198.3	210.3	218.7	247.4	229.1	224.4	229.0	226.6	227.9	214.6
01-3	Livestock	220.1	247.3	268.5	275.8	284.0	280.7	264.0	256.0	240.2	256.4	251.7	248.3	252.5	247.8
01-4	Live poultry	199.8	206.0	217.8	217.6	209.4	216.3	182.9	183.8	171.9	173.5	182.0	195.5	194.7	195.2
01-5	Plant and animal fibers	193.4	213.6	205.1	197.8	197.8	207.6	219.5	207.6	207.9	211.3	212.9	215.4	222.0	230.0
01-6	Fluid milk	219.7	241.8	244.6	243.7	242.4	242.0	243.8	247.6	250.0	258.5	258.5	262.5	264.0	262.3
01-7	Eggs	158.6	178.5	176.7	199.9	185.5	163.8	170.7	167.6	166.8	175.4	155.9	178.7	198.4	165.6
01-8	Hay, hayseeds, and oilseeds	215.8	240.1	246.1	249.5	248.3	240.7	258.4	260.1	251.9	240.9	235.1	229.8	230.3	218.1
01-9	Other farm products	274.9	269.7	253.6	254.6	255.1	264.1	261.0	311.9	310.8	315.9	317.6	318.3	319.4	301.1
02	Processed foods and feeds	202.6	215.2	218.9	220.5	222.3	222.0	220.6	223.3	220.5	225.8	224.8	227.1	229.2	228.5
02-1	Cereal and bakery products	190.3	197.2	199.1	200.1	203.0	204.9	206.3	212.4	216.0	218.7	219.2	222.3	223.7	225.4
02-2	Meats, poultry, and fish	217.1	240.3	248.5	250.6	253.0	250.4	241.4	237.7	225.5	239.9	234.4	239.5	242.8	239.5
02-3	Dairy products	188.4	203.5	203.2	204.9	207.1	207.9	208.4	209.0	215.2	218.3	218.2	219.0	219.6	221.4
02-4	Processed fruits and vegetables	202.6	218.5	219.5	219.6	220.5	221.4	221.5	223.6	224.6	225.1	223.3	222.5	222.3	222.8
02-5	Sugar and confectionery	197.8	204.8	208.4	208.4	208.7	207.6	211.1	215.7	218.3	217.2	218.6	222.7	234.4	234.8
02-6	Beverages and beverage materials	200.0	200.9	201.1	201.2	201.5	205.3	208.5	214.1	216.5	217.9	219.2	221.4	221.9	224.1
02-7	Fats and oils	225.3	229.7	237.5	238.6	246.2	241.8	243.6	253.2	251.7	253.3	246.2	242.1	235.8	224.9
02-8	Miscellaneous processed foods	199.0	206.7	208.0	217.5	219.3	220.2	211.1	212.7	217.6	219.0	220.6	222.1	222.0	225.4
02-9	Manufactured animal feeds	197.4	211.3	217.2	215.7	215.6	210.8	220.5	234.9	216.2	219.2	224.3	222.7	225.3	218.5
	INDUSTRIAL COMMODITIES														
03	Textile products and apparel	159.8	164.1	164.2	165.2	166.4	167.2	168.4	169.3	170.5	171.3	171.9	172.4	172.8	174.9
03-1	Synthetic fibers (12/75 = 100)	109.6	113.0	113.5	113.6	115.1	117.4	118.5	119.5	120.6	123.6	125.6	124.9	124.5	126.9
03-2	Processed yarns and threads (12/75 = 100)	102.4	105.3	105.3	107.0	106.8	107.8	108.6	109.5	110.6	111.7	112.2	113.0	113.1	114.4
03-3	Gray fabrics (12/75 = 100)	118.6	125.6	123.2	123.1	124.5	124.7	125.4	128.3	128.7	128.7	129.8	130.6	132.5	132.2
03-4	Finished fabrics (12/75 = 100)	103.8	103.5	104.1	105.4	105.9	107.0	107.6	108.2	109.0	109.1	108.7	108.5	109.3	109.8
03-81	Apparel	152.4	157.4	157.6	158.3	159.8	159.8	160.2	160.3	161.4	161.6	162.1	162.9	162.3	165.3
03-82	Textile housefurnishings	178.6	181.8	186.0	187.4	188.0	188.0	189.3	189.9	190.5	193.9	194.6	194.8	197.0	199.2
04	Hides, skins, leather, and related products	200.0	223.4	232.2	253.3	258.9	260.6	258.0	261.9	257.9	251.1	253.6	248.5	248.9	255.3
04-1	Hides and skins	360.5	452.8	497.8	639.6	642.2	666.9	611.0	586.5	511.9	485.3	478.8	447.6	443.9	468.8
04-2	Leather	238.6	292.8	309.2	371.9	393.6	429.4	414.6	385.2	365.9	330.0	343.6	319.8	324.8	347.6
04-3	Footwear	183.0	198.4	200.0	208.9	212.0	216.3	221.1	221.8	225.4	226.9	226.9	227.3	227.3	228.5
04-4	Other leather and related products	177.0	190.7	192.2	195.9	200.4	208.1	212.3	212.1	210.9	210.1	209.8	208.5	208.1	213.2
05	Fuels and related products and power	322.5	338.1	342.5	350.9	361.5	377.6	393.7	411.8	432.8	454.8	468.8	476.7	488.7	507.8
05-1	Coal	430.0	443.6	444.0	445.3	447.1	450.8	452.0	452.5	454.2	452.5	454.9	455.4	457.8	458.1
05-2	Coke	411.8	421.2	423.7	428.5	430.1	430.6	430.6	430.6	430.6	430.6	431.2	431.2	431.2	430.6
05-3	Gas fuels[1]	428.7	449.9	458.1	471.0	477.4	507.2	522.3	548.4	572.4	603.4	619.1	637.1	670.5	679.6
05-4	Electric power	250.6	251.0	251.1	257.3	260.6	265.9	269.9	274.8	278.8	280.5	283.6	282.1	287.2	290.7
05-61	Crude petroleum[2]	300.1	316.4	322.3	324.2	326.2	335.7	356.4	370.6	385.7	422.1	436.7	450.4	470.8	513.6
05-7	Petroleum products, refined[3]	321.0	343.9	350.0	360.3	378.6	400.0	423.6	449.8	482.8	513.7	534.4	544.9	554.8	582.4
06	Chemicals and allied products	198.8	205.0	207.3	209.9	215.1	218.0	219.2	225.0	228.5	230.8	233.5	235.6	238.1	245.5
06-1	Industrial chemicals[4]	225.6	234.0	237.4	239.7	248.2	255.6	259.3	270.4	277.1	280.0	284.2	287.2	291.6	302.6
06-21	Prepared paint	192.3	198.9	202.3	202.3	203.3	201.3	201.3	205.3	205.3	206.0	206.7	208.9	210.7	223.1
06-22	Paint materials	212.7	222.5	224.3	227.0	231.6	236.1	239.5	246.7	247.9	252.0	253.5	254.8	255.4	258.9
06-3	Drugs and pharmaceuticals	148.1	155.4	156.2	156.6	157.5	157.7	159.0	159.2	159.6	161.0	162.9	163.0	164.4	166.5
06-4	Fats and oils, inedible	315.8	336.1	367.9	398.5	448.7	418.3	374.1	381.6	376.4	379.9	366.9	344.3	327.1	325.6
06-5	Agricultural chemicals and chemical products	198.4	201.7	203.1	206.3	209.8	210.0	209.2	211.2	215.3	219.4	223.7	229.2	232.7	238.1
06-6	Plastic resins and materials	199.8	204.2	206.3	210.9	220.6	228.5	230.1	244.5	250.1	252.0	259.2	261.7	262.7	270.0
06-7	Other chemicals and allied products	181.8	184.3	184.7	186.5	186.9	188.9	190.5	191.8	194.4	195.8	196.5	198.3	201.9	206.6
07	Rubber and plastic products	174.8	180.8	183.2	185.9	188.8	190.8	193.1	195.5	198.8	200.7	202.4	204.3	205.7	208.2
07-1	Rubber and rubber products	185.3	194.7	197.6	199.4	201.2	202.6	204.8	209.5	214.6	217.1	219.7	223.3	223.9	227.1
07-11	Crude rubber	187.2	187.9	201.1	204.8	211.6	214.2	222.0	226.1	233.0	232.2	235.2	236.4	239.4	251.9
07-12	Tires and tubes	179.2	191.5	194.1	195.0	196.1	197.3	199.9	208.2	211.6	215.0	217.9	222.7	222.7	224.7
07-13	Miscellaneous rubber products	189.6	195.1	198.1	200.3	201.3	202.6	203.5	205.4	209.4	211.9	214.2	216.9	217.4	219.1
07-2	Plastic products (6/78 = 100)	....	102.3	103.5	105.7	108.0	109.5	111.0	111.2	112.2	113.0	113.6	113.8	115.2	116.2
08	Lumber and wood products	276.0	290.2	293.9	300.5	304.9	302.8	298.8	300.1	304.7	308.7	308.8	299.0	289.8	290.0
08-1	Lumber	322.4	336.6	339.9	350.5	356.4	354.8	354.8	355.0	365.3	373.9	370.2	355.5	338.9	336.3
08-2	Millwork	235.4	244.5	251.5	257.8	266.0	261.6	258.9	252.5	249.6	250.9	255.6	252.3	250.3	254.1
08-3	Plywood	236.6	257.4	257.1	254.7	252.4	249.3	238.6	240.7	254.3	257.9	254.4	242.9	237.7	238.2
08-4	Other wood products	211.8	223.2	226.2	232.2	235.5	238.4	238.5	237.6	237.4	238.0	237.7	238.9	240.5	242.2

See footnotes at end of table.

27. Continued—Producer Price Indexes, by commodity groupings[1]

[1967 = 100 unless otherwise specified]

Code	Commodity groups and subgroups	Annual average 1978	1979												1980
			Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.
	INDUSTRIAL COMMODITIES—Continued														
09	Pulp, paper, and allied products	195.6	207.0	208.8	212.3	215.0	216.2	216.6	218.3	222.2	223.0	227.2	229.3	231.0	237.4
09-1	Pulp, paper, and products, excluding building paper and board	195.6	207.7	209.5	213.2	216.0	217.2	217.8	219.6	223.6	224.3	228.6	230.9	232.6	239.1
09-11	Woodpulp	266.5	291.3	291.4	294.3	303.8	306.9	308.3	320.3	320.6	320.6	339.4	339.9	339.9	358.8
09-12	Wastepaper	191.2	192.9	194.1	203.2	206.5	206.2	207.2	207.9	206.6	206.7	206.7	220.0	221.2	222.7
09-13	Paper	206.1	217.9	221.2	223.3	226.3	227.2	227.5	228.2	229.5	230.3	230.0	242.1	243.0	245.5
09-14	Paperboard	179.6	188.5	190.2	192.9	197.9	199.2	199.8	201.7	206.4	209.6	211.2	212.8	215.4	221.8
09-15	Converted paper and paperboard products	185.6	198.3	199.8	204.1	205.8	207.0	207.6	209.0	214.4	214.6	216.5	218.4	220.3	227.5
09-2	Building paper and board	187.4	184.1	183.6	182.6	183.4	183.3	180.8	178.0	179.1	182.6	185.5	183.6	184.4	186.0
10	Metals and metal products	227.1	241.9	247.3	251.7	256.0	256.2	258.2	260.8	261.8	263.7	269.4	270.9	273.5	284.5
10-1	Iron and steel	253.6	272.4	274.9	279.9	280.2	279.5	283.2	286.8	286.1	285.5	289.0	291.6	292.7	297.3
10-13	Steel mill products	254.5	271.5	271.8	272.5	275.0	276.7	277.3	284.6	284.7	284.8	286.4	288.7	289.3	293.7
10-2	Nonferrous metals	207.8	223.5	239.2	246.6	259.6	258.2	259.7	262.3	263.1	269.3	282.8	283.7	291.2	326.1
10-3	Metal containers	243.4	256.8	256.8	264.5	270.1	268.5	267.3	267.2	268.4	268.7	276.7	280.7	280.7	283.3
10-4	Hardware	200.4	211.7	213.3	214.2	215.3	216.9	217.1	218.5	220.1	221.5	223.8	225.4	226.5	228.4
10-5	Plumbing fixtures and brass fittings	199.1	204.3	207.8	209.7	212.0	213.8	217.0	219.6	222.4	223.0	223.4	225.4	226.4	229.7
10-6	Heating equipment	174.4	180.1	180.9	183.4	183.8	185.7	185.2	186.0	188.1	191.3	191.9	192.7	195.2	197.3
10-7	Fabricated structural metal products	226.4	238.4	240.5	241.3	243.8	247.0	248.2	250.5	252.2	253.7	255.6	256.6	257.7	258.8
10-8	Miscellaneous metal products	212.0	222.0	223.4	225.2	227.0	228.5	230.1	231.8	235.6	236.7	239.1	239.4	239.9	241.5
11	Machinery and equipment	198.1	205.1	206.5	207.9	209.8	211.4	212.4	214.8	216.0	217.7	219.6	221.0	222.9	227.1
11-1	Agricultural machinery and equipment	213.1	222.8	223.9	224.8	226.4	228.3	229.4	231.2	233.3	237.4	238.8	241.4	243.2	247.8
11-2	Construction machinery and equipment	232.9	245.5	247.9	248.7	251.7	253.7	254.0	257.0	258.5	258.9	262.9	264.5	268.2	275.4
11-3	Metalworking machinery and equipment	217.0	230.4	232.0	233.0	235.3	237.6	239.1	241.4	243.5	246.4	249.1	251.4	254.6	258.7
11-4	General purpose machinery and equipment	216.6	226.3	227.7	230.4	232.6	234.0	235.1	237.1	238.3	240.2	242.1	243.7	246.1	249.6
11-6	Special industry machinery and equipment	223.0	236.2	237.0	239.1	243.4	245.1	246.1	249.8	251.0	251.2	253.9	256.3	258.2	260.7
11-7	Electrical machinery and equipment	164.9	171.2	172.8	173.8	175.0	176.5	177.6	179.9	181.2	182.5	184.1	186.0	186.5	190.5
11-9	Miscellaneous machinery	194.7	202.7	203.4	204.0	205.4	207.1	207.4	209.7	209.7	212.0	212.9	214.5	215.7	220.0
12	Furniture and household durables	160.4	166.6	167.9	168.3	168.7	169.6	170.2	170.7	171.5	172.7	174.1	175.6	177.0	182.1
12-1	Household furniture	173.5	181.0	181.3	181.8	182.7	184.8	185.3	185.8	186.2	188.5	189.3	192.4	194.3	195.4
12-2	Commercial furniture	201.5	214.4	221.2	221.2	221.7	221.9	221.8	222.7	222.7	222.7	223.3	223.3	225.1	227.1
12-3	Floor coverings	141.6	143.4	143.6	144.0	144.4	146.0	146.5	149.1	150.0	150.4	151.8	152.8	152.9	158.8
12-4	Household appliances	153.0	157.0	158.3	158.8	158.7	159.3	160.0	161.1	162.2	162.7	163.2	164.5	165.2	166.6
12-5	Home electronic equipment	90.2	92.2	92.3	92.3	92.3	92.4	92.8	90.2	90.2	90.3	87.8	87.9	88.1	88.5
12-6	Other household durable goods	203.1	216.0	216.6	217.9	218.6	219.5	220.6	223.7	226.6	231.0	244.1	246.6	252.1	283.1
13	Nonmetallic mineral products	222.8	238.3	240.5	240.8	243.4	245.6	246.9	249.5	249.9	254.6	255.6	257.1	259.2	268.0
13-11	Flat glass	172.8	181.1	183.1	183.1	183.1	183.1	184.0	184.1	184.1	184.5	184.7	186.4	186.4	190.9
13-2	Concrete ingredients	217.7	235.9	238.2	239.8	242.0	242.5	243.3	245.1	245.9	246.7	246.9	248.4	249.9	263.5
13-3	Concrete products	214.0	235.6	236.4	237.8	240.5	241.6	243.7	245.2	246.3	248.7	249.4	250.5	253.2	264.9
13-4	Structural clay products excluding refractories	197.2	209.7	210.7	212.8	214.8	215.7	216.5	220.3	222.3	223.7	221.1	221.1	226.8	229.6
13-5	Refractories	216.5	227.5	227.8	228.3	228.4	228.5	232.6	240.8	241.7	242.4	245.0	248.2	248.7	249.3
13-6	Asphalt roofing	292.0	308.8	317.8	303.1	316.4	317.9	323.0	326.4	325.9	333.0	334.0	345.9	342.9	358.5
13-7	Gypsum products	229.1	247.6	250.6	251.0	252.2	248.8	251.3	251.8	252.3	254.9	255.3	258.2	255.0	256.4
13-8	Glass containers	244.4	250.7	250.7	250.7	250.7	265.2	265.2	265.2	265.2	265.2	265.5	265.5	273.6	274.5
13-9	Other nonmetallic minerals	275.6	288.8	293.7	294.5	300.0	303.0	302.0	310.5	309.9	336.0	341.2	342.2	342.2	351.6
14	Transportation equipment (12/68 = 100)	173.5	182.7	183.5	183.8	186.8	187.2	187.5	188.4	185.9	188.6	193.6	194.4	195.1	199.3
14-1	Motor vehicles and equipment	176.0	185.0	185.9	186.1	189.4	189.8	190.1	190.8	187.8	188.6	196.3	197.0	197.6	200.3
14-4	Railroad equipment	252.8	266.4	268.0	268.9	271.7	271.6	274.7	280.6	280.9	281.6	286.3	288.2	289.0	295.0
15	Miscellaneous products	184.3	197.7	199.8	200.6	201.4	203.3	205.2	207.0	208.9	213.1	216.8	219.0	227.2	242.2
15-1	Toys, sporting goods, small arms, ammunition	163.2	170.4	171.0	171.5	173.2	174.3	174.7	176.9	177.6	179.8	181.2	181.7	183.5	190.4
15-2	Tobacco products	198.5	213.5	213.6	214.0	214.4	214.4	214.4	214.8	221.3	221.9	221.9	221.9	226.3	238.3
15-3	Notions	182.0	188.2	188.2	190.2	190.2	190.6	190.6	192.0	191.9	191.9	195.8	196.0	197.0	203.1
15-4	Photographic equipment and supplies	145.7	150.1	150.2	150.2	150.1	150.6	151.6	152.0	152.2	154.3	157.3	161.3	164.5	166.0
15-51	Mobile Homes (12/74 = 100)	126.4	131.7	132.5	133.8	135.2	137.2	137.9	138.2	139.5	140.7	142.5	143.5	143.6	144.2
15-9	Other miscellaneous products	210.6	237.8	244.0	245.5	246.1	250.6	255.8	261.4	261.4	272.5	280.9	284.9	307.9	349.7

[1] Prices for natural gas are lagged 1 month.

[2] Includes only domestic production.

[3] Most prices for refined petroleum products are lagged 1 month.

[4] Some prices for industrial chemicals are lagged 1 month.

[5] Not available.

NOTE: Data for September 1979 have been revised to reflect the availability of late reports and corrections by respondents. All data are subject to revision 4 months after original publication.

28. Producer Price Indexes, for special commodity groupings

[1967 = 100 unless otherwise specified]

Commodity grouping	Annual average 1978	1979												1980
		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.
All commodities — less farm products	208.4	219.3	222.0	224.7	228.0	230.1	232.0	235.4	237.5	241.4	244.9	246.7	249.2	219.3
All foods	206.4	219.9	225.0	225.9	227.7	226.4	223.8	225.4	224.7	228.5	226.8	229.9	232.1	219.9
Processed foods	206.7	219.8	223.5	225.6	227.8	227.5	224.7	226.4	224.8	230.8	228.9	231.8	234.1	219.8
Industrial commodities less fuels	197.2	207.3	209.6	211.9	214.7	216.0	217.0	219.0	220.3	222.0	225.4	226.4	228.1	207.3
Selected textile mill products (Dec. 1975 = 100)	108.8	109.1	110.8	111.8	112.3	112.8	113.5	114.0	115.1	115.8	116.0	116.1	117.0	109.8
Hosiery	106.3	110.1	109.9	110.5	112.5	112.5	112.7	114.1	113.0	112.7	113.0	114.6	115.3	110.1
Underwear and nightwear	158.9	164.6	166.3	167.1	167.3	167.7	168.3	168.5	170.8	170.8	171.2	171.6	172.9	164.6
Chemicals and allied products, including synthetic rubber and manmade fibers and yarns	190.5	196.3	198.0	200.0	204.1	207.6	209.5	215.0	218.6	220.9	223.7	226.0	228.6	196.3
Pharmaceutical preparations	140.6	148.1	149.0	149.4	150.0	150.1	151.7	151.7	152.0	153.6	155.6	155.4	156.9	148.1
Lumber and wood products, excluding millwork and other wood products	298.3	314.8	317.0	323.7	326.4	325.1	321.7	325.3	333.9	341.0	337.4	323.5	310.3	314.8
Special metals and metal products	209.6	220.0	225.6	228.2	232.7	232.4	233.7	235.5	234.9	236.4	242.9	244.2	245.9	222.0
Fabricated metal products	216.2	227.0	228.6	230.6	232.9	234.6	235.7	237.4	239.8	241.1	243.7	244.8	245.6	227.0
Copper and copper products	155.6	168.8	188.2	197.9	212.1	199.0	193.0	191.9	197.1	200.5	211.5	213.6	216.1	168.8
Machinery and motive products	190.4	199.6	200.8	201.7	204.1	205.3	206.0	207.7	207.2	208.5	212.8	214.0	215.4	199.6
Machinery and equipment, except electrical	214.3	224.9	226.1	227.7	230.0	231.8	232.6	235.1	236.2	238.2	240.2	242.0	244.1	224.9
Agricultural machinery, including tractors	216.3	227.6	228.5	229.6	230.8	232.1	233.8	235.8	238.4	243.6	244.7	247.9	250.0	227.6
Metalworking machinery	228.8	245.2	247.4	248.9	251.2	254.3	256.8	260.1	261.7	265.6	269.5	272.5	276.2	245.2
Numerically controlled machine tools (Dec. 1971 = 100)	179.1	188.9	190.9	192.6	192.7	195.7	195.8	202.2	204.2	206.5	208.7	209.0	211.3	188.9
Total tractors	228.7	240.8	242.5	243.1	245.4	247.7	248.2	251.2	253.8	256.0	259.4	260.9	264.9	240.8
Agricultural machinery and equipment less parts	212.7	223.5	224.4	225.5	226.7	228.1	229.5	231.4	233.7	238.4	239.5	242.4	244.6	223.5
Farm and garden tractors less parts	216.1	225.6	225.8	226.7	228.5	230.5	231.8	233.9	237.6	244.1	246.3	248.8	250.4	225.6
Agricultural machinery excluding tractors less parts	216.7	229.5	230.9	232.1	233.0	233.6	235.7	237.6	239.2	243.5	243.7	247.4	250.0	229.5
Industrial valves	232.3	245.4	247.8	249.5	252.4	255.0	255.8	257.0	258.2	260.1	260.3	261.1	265.2	245.4
Industrial fittings	232.7	249.9	249.9	252.0	255.5	259.3	260.4	260.8	262.3	264.3	271.7	276.8	276.8	249.9
Abrasive grinding wheels	208.1	220.2	220.2	220.3	220.3	221.6	222.8	222.8	224.6	224.6	235.3	235.3	239.0	220.2
Construction materials	228.3	241.4	244.1	246.9	250.0	250.3	250.3	252.3	254.3	256.6	258.2	256.5	255.3	241.4

NOTE: Data for September 1979 have been revised to reflect the availability of late reports and corrections by respondents. All data are subject to revision 4 months after original publication.

29. Producer Price Indexes, by durability of product

[1967 = 100]

Commodity grouping	Annual average 1978	1979												1980
		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.
Total durable goods	204.9	216.3	218.9	221.0	223.9	224.7	225.8	227.6	228.0	230.1	234.0	234.9	236.8	243.4
Total nondurable goods	211.9	223.4	227.3	230.4	234.1	236.9	238.8	243.7	245.8	251.1	253.5	256.0	259.2	263.0
Total manufactures	204.2	215.0	217.5	219.7	223.1	225.0	226.5	229.8	231.7	235.2	238.6	240.2	242.3	248.2
Durable	204.7	215.8	218.0	219.8	222.7	223.8	224.6	226.6	227.2	229.4	233.3	234.1	235.8	242.2
Nondurable	203.0	213.4	216.1	219.0	222.8	225.6	227.8	232.5	235.9	241.0	243.7	246.3	248.8	253.8
Total raw or slightly processed goods	234.6	250.2	258.5	263.3	266.1	268.2	269.7	274.3	272.1	276.9	278.6	281.1	286.4	287.5
Durable	209.6	235.4	253.9	273.6	272.5	262.9	272.8	265.4	259.8	255.7	259.0	265.8	267.8	282.7
Nondurable	235.6	250.4	258.0	261.6	264.7	267.6	268.5	274.0	272.0	277.5	279.1	281.3	286.8	286.9

NOTE: Data for September 1979 have been revised to reflect the availability of late reports and corrections by respondents. All data are subject to revision 4 months after original publication.

30. Producer Price Indexes for the output of selected SIC industries

[1967 = 100 unless otherwise specified]

1972 SIC code	Industry Description	Annual average 1978	1979												1980
			Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.
	MINING														
1011	Iron ores (12/75 = 100)	121.9	127.3	127.3	127.3	131.9	131.9	136.0	136.0	138.8	136.1	140.2	140.2	142.0	142.0
1092	Mercury ores (12/75 = 100)	126.6	153.3	168.7	178.3	202.1	237.5	277.0	270.8	245.8	252.1	275.0	252.1	300.0	308.3
1211	Bituminous coal and lignite	430.2	444.0	444.4	445.7	447.5	451.3	452.5	453.1	454.8	452.9	455.4	455.8	458.1	458.0
1311	Crude petroleum and natural gas	358.2	388.2	397.2	403.8	407.6	427.2	444.1	457.5	476.0	508.4	522.0	533.5	553.3	583.2
1442	Construction sand and gravel	194.6	208.0	210.4	210.9	214.1	216.0	217.0	219.3	220.1	221.0	223.5	224.3	225.7	238.0
1455	Kaolin and ball clay (6/76 = 100)	111.8	125.4	125.4	125.4	125.4	125.4	125.5	125.5	125.5	125.5	126.7	114.7	119.7	128.5
	MANUFACTURING														
2011	Meat packing plants	216.7	243.6	250.8	256.6	265.0	259.2	249.1	243.8	229.3	247.2	239.1	241.6	243.9	240.7
2013	Sausages and other prepared meats	215.2	223.8	230.4	235.6	224.4	227.7	217.1	214.7	203.4	211.7	213.0	214.2	219.9	211.5
2016	Poultry dressing plants	182.5	194.6	204.6	206.1	199.7	203.5	177.8	178.4	169.6	171.2	163.1	188.3	188.5	186.1
2021	Creamery butter	205.2	211.9	211.1	216.1	224.7	225.3	225.3	227.5	237.9	240.6	240.1	241.7	243.1	241.9

See footnotes at end of table.

30. Continued—Producer Price Indexes for the output of selected SIC industries

[1967 = 100 unless otherwise specified]

1972 SIC code	Industry description	Annual average 1978	1979												1980
			Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.
	MANUFACTURING—Continued														
2022	Cheese natural and processed (12/72= 100)	169.6	184.2	179.4	182.5	186.8	185.2	185.6	186.3	195.4	200.8	196.8	193.4	192.6	197.1
2024	Ice cream and frozen desserts (12/72 = 100)	154.8	166.2	166.7	166.7	167.3	171.0	171.5	171.5	175.0	176.1	177.5	178.4	180.2	180.9
2033	Canned fruits and vegetables	193.2	203.3	204.4	205.2	206.2	207.2	207.5	209.9	210.5	212.0	213.0	212.4	212.0	213.5
2034	Dehydrated food products (12/73 = 100)	131.3	179.6	181.2	180.9	181.7	182.1	181.0	182.0	180.7	170.0	158.2	156.3	157.3	157.6
2041	Flour mills (12/71 = 100)	147.0	155.8	160.5	157.5	158.1	166.7	174.6	190.9	176.9	183.5	184.6	184.9	184.9	181.7
2044	Rice milling	207.6	163.6	166.6	171.0	206.8	206.8	206.8	206.8	218.7	223.5	227.3	231.8	218.1	217.5
2048	Prepared foods, n.e.c. (12/75 = 100)	107.3	115.6	118.4	118.3	117.5	115.2	118.9	128.1	119.4	120.9	123.9	124.6	125.3	122.3
2061	Raw cane sugar	190.7	191.6	198.2	195.7	197.5	195.6	207.0	209.0	216.8	216.7	224.3	223.3	248.4	260.5
2063	Beet sugar	188.5	197.0	197.0	198.6	199.3	199.7	199.7	202.0	199.4	200.0	202.6	209.6	223.4	223.5
2067	Chewing gum	218.0	241.6	242.5	242.5	242.6	242.2	242.2	242.9	242.9	242.9	242.9	262.2	262.2	262.3
2074	Cottonseed oil mills	183.1	198.7	204.5	202.8	198.5	192.5	210.4	224.5	214.1	217.9	214.9	204.7	205.6	182.2
2075	Soybean oil mills	225.6	233.1	241.2	242.0	244.7	237.7	251.1	262.8	250.0	248.6	244.8	242.6	241.8	230.2
2077	Animal and marine fats and oils	287.9	305.0	344.5	362.6	393.1	363.8	335.3	352.0	321.4	333.8	333.7	315.2	300.7	296.0
2083	Malt	181.5	190.8	190.8	190.8	190.8	190.8	201.4	201.4	201.4	214.9	214.9	228.2	228.2	244.1
2085	Distilled liquor, except brandy (12/75 = 100)	106.7	108.9	109.4	109.4	109.4	113.6	113.6	113.6	115.7	117.1	117.1	118.1	118.1	118.6
2091	Canned and cured seafoods (12/73 = 100)	136.4	137.3	137.9	138.5	139.2	140.9	142.1	148.5	148.2	154.0	151.1	155.6	159.8	160.9
2092	Fresh or frozen packaged fish	303.8	338.1	361.9	359.4	375.8	382.4	397.6	403.7	391.5	389.2	400.9	392.4	389.3	390.7
2095	Roasted coffee (12/72 = 100)	262.3	229.4	222.5	221.6	220.5	231.7	244.2	271.0	279.2	279.2	280.0	287.5	287.5	281.3
2098	Macaroni and spaghetti	176.9	184.7	184.7	184.7	184.7	186.6	188.6	203.5	210.4	210.4	210.4	221.5	227.7	227.7
2111	Cigarettes	204.6	221.1	221.2	221.3	221.4	221.4	221.4	221.5	228.9	229.1	229.2	229.2	234.3	245.8
2121	Cigars	141.4	142.8	143.0	145.0	145.4	145.4	145.3	149.8	150.1	150.1	147.4	147.2	147.2	147.9
2131	Chewing and smoking tobacco	222.0	235.3	236.4	240.9	245.9	245.9	245.9	246.4	246.4	255.8	260.4	260.8	260.8	260.9
2211	Weaving mills, cotton (12/72 = 100)	181.1	188.8	190.1	190.4	191.8	192.7	194.3	196.1	196.5	198.7	200.7	200.1	200.8	203.1
2221	Weaving mills, synthetic (12/77 = 100)	109.0	114.5	112.7	112.4	113.3	113.6	114.1	116.2	116.3	116.2	116.9	116.9	117.3	117.6
2251	Women's hosiery, except socks (12/75 = 100)	91.5	95.1	94.3	94.4	97.3	97.3	97.6	99.6	98.1	97.5	98.0	100.3	100.2	103.6
2254	Knit underwear mills	184.1	169.3	169.9	172.6	172.8	173.1	173.3	172.9	174.0	174.0	174.3	174.6	178.2	182.9
2257	Circular knit fabric mills (6/76 = 100)	98.5	91.2	91.7	93.9	93.2	94.1	95.8	96.1	96.4	96.2	96.4	96.4	98.4	98.8
2261	Finishing plants, cotton (6/76 = 100)	111.0	116.5	117.4	118.2	119.0	120.8	120.9	122.5	123.2	124.0	126.1	123.1	123.4	124.9
2262	Finishing plants, synthetics, silk (6/76 = 100)	101.4	104.6	105.0	105.2	105.9	106.3	107.0	107.5	108.2	108.3	109.2	108.9	109.2	109.8
2271	Woven carpets and rugs (12/75 = 100)	114.7	115.8	115.8	116.0	116.0	116.7	117.1	(1)	(1)	(1)	(1)			
2272	Tufted carpets and rugs	125.3	125.8	126.0	126.5	127.0	127.7	128.1	127.6	128.6	129.0	129.5	130.0	130.1	135.6
2281	Yarn mills, except wool (12/71= 100)	167.4	170.9	171.4	172.3	173.1	174.5	175.7	177.5	177.4	179.4	181.2	182.9	184.6	188.3
2282	Throwing and winding mills (6/76 = 100)	99.2	103.1	102.7	106.0	104.4	106.3	107.5	108.5	109.7	111.2	111.0	111.0	109.2	109.3
2284	Thread mills (6/76 = 100)	114.6	120.3	120.3	120.3	120.4	120.4	120.4	120.5	128.1	128.1	128.3	128.4	128.5	128.7
2298	Cordage and twine (12/77 = 100)	99.3	98.5	98.6	98.6	101.7	102.8	105.4	105.4	113.5	115.1	114.9	114.9	115.0	115.0
2311	Men's and boys' suits and coats	194.3	199.3	199.6	199.9	203.9	204.2	204.5	205.8	206.5	208.5	206.6	206.8	206.6	207.5
2321	Men's and boys' shirts and nightwear	180.8	191.2	191.4	191.6	191.8	192.4	193.5	194.7	195.9	196.0	194.5	194.7	194.5	198.8
2322	Men's and boys' underwear	180.6	184.5	184.6	188.7	188.7	188.7	188.7	188.7	190.0	190.0	190.0	190.0	194.0	200.0
2323	Men's and boys' neckwear (12/75 = 100)	102.3	103.4	103.4	103.4	103.4	103.4	103.4	103.4	110.9	110.9	110.9	110.9	110.9	112.4
2327	Men's and boys' separate trousers	152.7	157.7	157.8	157.8	162.3	162.3	162.5	162.5	162.7	162.7	162.9	163.4	163.4	164.2
2328	Men's and boys' work clothing	195.2	198.5	199.8	200.0	206.5	206.5	209.0	208.9	210.7	210.9	213.1	218.9	219.4	225.3
2331	Women's and misses' blouses and waists (6/78 = 100)	...	102.6	99.1	99.2	99.1	100.3	100.5	102.6	102.7	102.8	103.0	105.9	106.8	107.0
2335	Women's and misses' dresses (12/77 = 100)	100.7	105.0	104.9	106.6	106.6	105.9	105.9	106.4	106.3	108.3	108.7	108.8	108.8	112.9
2341	Women's and children's underwear (12/72 = 100)	132.1	141.2	142.3	142.3	142.6	143.3	143.3	144.2	145.3	145.3	146.7	147.4	147.7	149.4
2342	Brassieres and allied garments (12/75 = 100)	111.7	113.5	116.0	116.0	116.1	116.2	117.5	117.5	117.8	117.8	117.8	117.8	118.8	119.7
2361	Children's dresses and blouses (12/77 = 100)	(1)	105.4	105.4	105.5	106.7	106.7	102.1	102.4	102.4	103.7	105.7	105.7	105.6	106.1
2381	Fabric dress and work gloves	214.4	227.3	232.2	232.2	241.5	243.9	243.9	245.4	245.4	245.4	245.4	246.9	246.9	257.7
2394	Canvas and related products (12/77 = 100)	99.6	105.9	105.9	105.9	105.9	105.9	106.9	108.4	111.0	111.4	111.4	112.1	120.1	122.1
2396	Automotive and apparel trimmings (12/77 = 100)	106.3	107.1	107.1	107.1	107.1	107.1	114.3	114.3	114.3	114.3	114.3	114.3	114.3	114.3
2421	Sawmills and planing mills (12/71 = 100)	228.9	239.5	241.9	249.5	252.5	251.6	250.9	251.3	259.1	265.6	262.2	250.1	237.5	234.8
2436	Softwood veneer and plywood (12/75 = 100)	150.1	164.2	162.2	160.1	157.3	151.1	140.7	148.1	153.4	156.0	153.3	143.3	138.7	138.5
2439	Structural wood members, n.e.c. (12/75 = 100)	136.2	142.3	148.1	148.3	150.1	150.1	150.0	150.0	149.9	150.8	158.2	158.2	158.2	158.2
2448	Wood pallets and skids (12/75 = 100)	149.4	160.6	161.8	163.8	166.8	166.7	167.0	166.9	166.8	167.9	167.9	171.0	170.5	169.8
2451	Mobile homes (12/74 = 100)	126.5	131.8	132.5	133.8	135.3	137.3	138.0	138.2	139.6	140.7	142.5	143.5	143.6	144.2
2492	Particleboard (12/75 = 100)	159.7	143.0	141.9	142.7	143.8	141.6	137.4	134.3	134.7	138.5	139.6	136.9	134.1	136.5
2511	Wood household furniture (12/71 = 100)	152.4	160.3	160.3	160.9	162.7	164.6	164.0	164.5	164.6	166.0	168.1	171.3	173.6	175.7
2512	Upholstered household furniture (12/71 = 100)	143.1	146.9	146.9	147.6	147.4	149.2	149.4	150.0	150.2	151.6	151.8	153.9	155.8	155.9
2515	Mattresses and bedsprings	156.3	162.3	162.9	162.9	163.1	163.2	164.1	164.5	165.8	165.8	166.8	172.1	172.1	169.7
2521	Wood office furniture	194.4	207.2	213.1	213.1	214.2	214.3	214.2	216.8	216.8	216.8	217.6	217.6	221.9	226.2
2611	Pulp mills (12/73 = 100)	178.5	187.1	187.3	189.9	192.5	195.2	196.6	205.4	205.7	206.8	215.2	215.6	215.8	227.2
2621	Paper mills, except building (12/74 = 100)	115.7	123.7	124.7	126.0	128.5	129.3	129.5	130.2	131.0	131.4	135.2	136.7	137.0	139.2
2631	Paperboard mills (12/74 = 100)	106.4	112.0	112.9	114.4	117.1	118.1	118.5	119.7	121.9	123.4	125.4	126.4	127.7	131.4
2647	Sanitary paper products	251.4	267.4	267.6	269.2	270.8	271.7	271.9	276.4	285.9	285.4	286.4	286.5	289.1	294.0
2654	Sanitary food containers	170.8	178.8	179.4	179.5	184.1	189.1	189.1	189.6	189.6	191.8	195.8	198.1	199.9	202.6
2655	Fiber cans, drums, and similar products (12/75 = 100)	123.0	130.0	130.4	130.8	130.9	132.2	134.0	136.6	136.6	136.6	136.6	137.2	140.9	143.2
2812	Alkalies and chlorine (12/73 = 100)	198.8	202.4	203.2	201.8	203.7	204.9	206.3	209.5	212.2	213.1	213.6	216.5	217.1	220.3
2821	Plastics materials and resins (6/76 = 100)	103.8	106.0	106.9	109.2	113.8	117.7	118.6	124.9	127.8	128.9	132.5	133.9	134.3	138.2
2822	Synthetic rubber	180.5	189.4	191.4	192.7	196.5	200.9	206.6	214.2	223.4	223.8	224.4	227.0	229.4	240.0
2824	Organic fiber, noncellulosic	107.6	110.7	111.0	111.5	113.1	115.9	117.4	118.6	119.8	123.5	124.7	124.1	123.5	124.3
2873	Nitrogenous fertilizers (12/75 = 100)	96.6	95.4	96.6	98.0	101.5	101.9	101.4	102.8	104.1	106.1	107.9	111.7	113.6	114.5
2874	Phosphatic fertilizers	166.0	167.8	173.3	179.1	185.2	185.1	184.2	188.9	199.4	204.3	211.9	221.2	223.4	230.0
2875	Fertilizers, mixing only	181.9	185.2	187.5	192.8	197.3	197.8	197.8	198.1	205.6	211.1	218.4	226.9	227.1	233.8
2892	Explosives	217.3	226.6	227.1	226.9	227.9	230.0	230.3	240.1	240.7	250.3	250.6	251.8	252.7	253.9
2911	Petroleum refining (6/76 = 100)	119.6	127.3	129.3	132.8	138.8	146.6	155.1	165.5	176.6	188.9	196.3	200.9	204.8	213.6
2951	Paving mixtures and blocks (12/75 = 100)	117.1	123.5	124.8	125.9	128.5	130.1	131.2	134.4	134.9	141.6	145.5	145.6	145.7	150.0
2952	Asphalt felts and coatings (12/75) = 100)	128.2	134.7	139.3	132.8	138.6	139.3	141.6	143.6	142.7	145.8	146.1	151.6	150.4	156.1
3011	Tires and inner tubes (12/73 = 100)	154.0	164.0	168.2	167.1	168.0	169.2	170.6	176.8	181.2	184.2	188.5	190.9	191.0	192.7

30. Continued—Producer Price indexes for the output of selected SIC industries

[1967 = 100 unless otherwise specified]

1972 SIC code	Industry description	Annual average 1978	1979 Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	1980 Jan.
3021	Rubber and plastic footwear (12/71 = 100)	156.7	168.7	169.0	169.0	169.0	169.5	169.6	171.0	173.4	173.4	173.4	173.4	173.4	173.7
3031	Reclaimed rubber (12/73 = 100)	154.3	161.3	161.3	162.1	164.5	167.6	169.1	169.2	169.2	177.7	171.7	177.1	177.4	177.6
3079	Miscellaneous plastic products (6/78 = 100)	...	102.1	103.4	105.4	107.5	109.0	110.7	111.4	112.3	113.1	113.9	114.1	115.6	116.6
3111	Leather tanning and finishing (12/77 = 100)	119.1	135.9	143.7	173.8	182.9	201.3	195.8	181.8	172.9	155.2	161.9	150.8	153.5	164.3
3142	House slippers (12/75 = 100)	122.5	129.6	134.7	136.3	136.3	138.5	142.0	135.0	135.0	135.0	136.9	137.0	137.0	144.8
3143	Men's footwear, except athletic (12/75 = 100)	127.1	135.2	141.0	145.6	147.6	152.8	155.4	155.4	158.2	160.1	159.3	159.2	159.2	159.3
3144	Women's footwear, except athletic	164.1	178.3	178.4	189.2	190.3	192.2	195.4	198.7	201.5	201.6	202.3	204.0	204.0	205.7
3171	Women's handbags and purses (12/75 = 100)	111.4	123.0	123.0	123.0	123.0	131.7	131.8	131.8	131.8	131.8	131.8	131.8	131.8	131.9
3211	Flat glass (12/71 = 100)	142.7	149.0	150.8	150.8	150.8	150.8	151.8	151.9	151.9	152.3	152.6	153.3	153.9	157.4
3221	Glass containers	244.3	250.7	250.7	250.7	250.7	265.2	265.2	265.2	265.2	265.2	265.4	265.5	273.6	274.5
3241	Cement, hydraulic	251.2	275.4	278.8	280.3	283.1	283.2	283.7	285.4	285.4	285.4	282.8	282.9	283.6	302.8
3251	Brick and structural clay tile	230.8	248.9	250.9	252.8	256.7	258.3	258.7	261.0	263.3	265.9	260.4	261.3	262.7	268.3
3253	Ceramic wall and floor tile (12/75 = 100)	107.7	111.6	111.6	113.0	113.0	113.0	113.0	120.2	120.2	120.2	120.1	120.2	130.3	130.4
3255	Clay refractories	221.4	233.4	233.2	234.1	234.4	234.6	236.9	246.5	246.7	247.1	251.7	254.4	255.4	256.5
3259	Structural clay products, n.e.c.	176.3	184.1	184.4	186.7	186.8	186.8	187.8	188.2	192.1	192.1	193.2	192.6	196.9	196.7
3261	Vitreous plumbing fixtures	186.7	195.1	198.6	198.9	201.6	204.6	206.4	210.1	212.4	213.1	214.5	215.7	217.3	219.2
3262	Vitreous china food utensils	268.8	284.4	290.6	290.6	290.6	290.6	290.6	297.5	297.5	298.0	297.9	305.3	307.9	307.9
3263	Fine earthenware food utensils	228.1	242.4	237.0	237.1	237.1	237.1	236.4	238.8	238.8	246.0	245.8	246.9	290.3	290.3
3269	Pottery products, n.e.c. (12/75 = 100)	122.2	129.6	129.2	129.2	129.2	129.2	129.0	131.0	131.0	133.3	133.2	135.0	148.8	148.8
3271	Concrete block and brick	202.0	223.0	223.1	227.0	230.8	232.6	232.7	232.7	235.7	237.8	240.0	240.0	240.1	249.5
3273	Ready-mixed concrete	217.6	240.0	241.1	241.7	244.5	245.2	247.5	249.6	250.5	252.4	253.0	264.5	267.0	270.1
3274	Lime (12/75 = 100)	129.5	136.2	136.6	137.5	139.9	139.8	140.1	141.8	142.9	144.2	144.7	144.4	144.7	149.6
3275	Gypsum products	229.5	248.1	251.1	251.5	252.7	249.4	251.9	252.3	252.8	255.4	255.9	256.8	255.6	255.9
3291	Abrasive products (12/71 = 100)	172.3	181.1	182.2	182.4	184.0	185.1	185.8	187.7	188.6	190.4	193.9	194.7	197.1	199.2
3297	Nonclay refractories (12/74 = 100)	133.6	139.8	140.3	140.4	140.5	140.5	143.9	148.1	149.1	149.7	150.1	152.3	152.4	152.6
3312	Blast furnaces and steel mills	262.3	279.9	280.3	281.1	283.5	285.3	285.8	292.8	293.0	293.2	296.3	297.0	297.6	302.3
3313	Electrometallurgical products (12/75 = 100)	94.8	103.5	104.0	104.0	106.8	111.7	112.3	116.5	116.5	116.0	116.2	117.5	117.6	117.8
3316	Cold finishing of steel shapes	241.0	258.1	258.3	258.4	258.1	259.8	261.3	270.6	270.8	270.9	271.9	273.2	273.9	274.2
3317	Steel pipes and tubes	255.2	265.0	265.1	265.8	265.0	264.5	264.5	271.9	271.3	271.3	272.8	272.6	273.0	280.9
3321	Gray iron foundries (12/68 = 100)	233.5	244.9	244.7	249.4	253.9	253.3	254.5	253.9	253.8	254.8	265.6	266.0	268.3	272.3
3333	Primary zinc	223.2	243.2	260.6	260.9	274.2	274.5	275.2	281.4	265.5	264.2	265.2	257.9	265.7	266.1
3334	Primary aluminum	217.4	220.3	226.1	232.4	235.8	237.4	238.5	244.9	247.4	248.2	256.0	263.2	266.6	267.0
3351	Copper rolling and drawing	170.2	184.2	199.9	211.0	220.1	215.6	211.7	211.2	213.6	216.7	223.3	222.7	225.1	231.1
3353	Aluminum sheet plate and foil (12/75 = 100)	137.6	145.8	146.4	146.5	148.0	148.7	148.8	149.6	149.8	150.0	150.8	151.5	151.9	153.4
3354	Aluminum extruded products (12/75 = 100)	134.3	141.1	141.6	142.5	146.1	147.5	147.6	150.3	151.9	151.9	153.5	157.3	157.8	158.8
3355	Aluminum rolling, drawing, n.e.c. (12/75 = 100)	119.7	125.2	126.5	127.5	129.6	131.5	131.6	132.7	133.1	133.5	136.8	139.9	140.3	140.5
3411	Metal cans	238.5	252.7	253.9	260.9	264.4	263.8	262.2	262.2	262.9	263.5	270.2	273.8	273.9	276.6
3425	Hand saws and saw blades (12/72 = 100)	147.9	157.7	157.8	157.9	159.6	161.9	162.5	162.8	166.3	166.4	166.9	169.4	169.6	173.0
3431	Metal sanitary ware	209.1	214.7	217.4	219.2	220.8	222.2	224.1	226.4	228.9	229.2	230.1	231.7	232.9	237.3
3465	Automotive stampings (12/75 = 100)	118.8	123.6	125.0	125.7	126.2	127.0	127.1	127.8	130.9	131.6	132.7	132.7	132.7	132.8
3482	Small arms ammunition (12/75 = 100)	119.5	129.3	129.3	125.9	128.3	130.4	131.4	134.0	134.0	134.0	137.5	137.9	149.2	147.9
3493	Steel springs, except wire	204.6	210.9	212.6	216.7	218.1	218.7	220.5	221.6	222.1	222.8	223.5	223.9	225.4	226.0
3494	Valves and pipe fittings (12/71 = 100)	185.5	196.1	197.6	199.0	201.4	203.6	204.2	205.3	206.2	207.5	209.5	211.6	213.9	216.5
3498	Fabricated pipe and fittings	265.5	276.6	276.7	276.8	284.9	288.2	290.7	294.8	294.8	294.9	297.0	297.4	297.4	301.7
3519	Internal combustion engines, n.e.c.	220.1	232.7	233.8	234.0	237.1	239.0	239.2	242.3	245.7	251.8	252.8	253.7	253.7	259.2
3531	Construction machinery (12/76 = 100)	114.0	120.0	121.1	121.6	123.0	123.9	124.0	125.6	126.3	126.5	128.4	129.0	130.7	134.2
3532	Mining machinery (12/72 = 100)	209.5	222.5	223.4	224.2	228.0	228.4	228.4	231.2	231.5	232.7	233.1	234.7	235.8	243.1
3533	Oilfield machinery and equipment	246.2	279.5	281.4	281.8	283.5	288.4	290.0	292.0	293.3	296.8	300.5	301.3	308.0	314.0
3534	Elevators and moving stairways	204.2	211.7	214.1	213.4	213.8	213.6	214.2	215.4	214.6	219.1	216.8	220.6	220.9	223.9
3542	Machine tools, metal forming types (12/71 = 100)	213.6	231.6	233.3	234.1	237.9	238.8	240.6	244.6	245.1	247.9	249.6	253.5	256.7	266.0
3546	Power driven hand tools (12/76 = 100)	111.1	115.4	116.3	116.9	117.7	117.8	118.7	119.2	120.2	120.4	121.9	122.7	124.2	126.2
3552	Textile machinery (12/69 = 100)	179.9	189.0	189.6	190.4	191.6	191.7	192.6	195.0	197.5	198.2	199.2	200.6	200.6	202.7
3553	Woodworking machinery (12/72 = 100)	168.1	177.9	177.3	179.2	181.0	183.2	184.5	185.9	187.7	190.0	193.0	193.1	193.3	201.7
3576	Scales and balances, excluding laboratory	179.7	188.8	191.1	191.1	191.3	192.8	193.7	194.8	195.4	195.4	192.9	196.6	197.7	200.9
3592	Carburetors, pistons, rings, valves (6/76 = 100)	128.2	135.0	135.7	136.9	137.6	138.6	138.7	139.2	139.6	140.7	141.5	143.5	144.6	147.3
3612	Transformers	158.3	163.2	165.4	167.0	168.5	168.0	168.5	167.9	167.6	168.4	171.4	170.5	171.7	173.0
3623	Welding apparatus, electric (12/72 = 100)	178.1	184.8	186.0	186.6	187.3	191.5	191.9	193.5	194.1	195.1	196.2	197.9	199.6	200.6
3631	Household cooking equipment (12/75 = 100)	114.8	119.1	119.2	120.2	120.3	120.7	120.9	122.0	123.4	124.3	124.3	125.8	126.1	126.6
3632	Household refrigerators, freezers (6/76 = 100)	109.6	111.4	112.5	112.7	111.8	111.9	112.6	113.6	114.3	115.1	114.8	115.3	115.9	116.6
3633	Household laundry equipment (12/73 = 100)	141.0	145.4	146.3	146.9	146.9	147.0	147.2	148.8	149.9	150.6	152.1	153.5	154.7	155.2
3635	Household vacuum cleaners	135.5	138.1	138.1	140.4	140.4	141.2	141.5	141.6	141.7	141.9	144.3	144.7	145.8	146.2
3636	Sewing machines (12/75 = 100)	111.2	119.8	119.8	119.8	121.1	121.1	121.1	121.8	122.2	122.2	122.0	122.0	122.0	122.0
3641	Electric lamps	214.7	226.6	226.8	227.1	229.8	229.8	229.7	240.8	244.3	242.7	244.8	240.8	240.5	248.3
3644	Noncurrent-carrying wiring devices (12/72 = 100)	185.8	196.1	197.1	198.0	200.4	202.6	203.0	203.3	207.7	209.1	212.8	214.2	217.3	215.2
3646	Commercial lighting fixtures (12/75 = 100)	112.7	117.6	119.6	121.2	124.3	126.8	127.4	127.9	127.9	130.5	130.3	132.0	132.3	133.9
3648	Lighting equipment, n.e.c. (12/75 = 100)	114.6	121.2	121.9	122.3	123.5	124.0	124.6	127.6	128.2	128.5	129.3	129.8	130.5	133.0
3671	Electron tubes receiving type	200.9	210.8	210.9	211.0	211.2	211.3	226.4	226.5	226.6	227.2	227.2	227.3	227.6	229.1
3674	Semiconductors and related devices	85.3	84.1	84.2	84.4	84.7	84.7	84.7	84.2	84.3	84.7	84.7	85.0	86.0	86.6
3675	Electronic capacitors (12/75 = 100)	111.5	112.7	114.4	115.9	119.6	120.1	122.1	126.7	129.3	134.1	134.0	134.9	137.9	147.7
3676	Electronic resistors (12/75 = 100)	118.3	122.7	122.6	123.1	123.2	123.2	123.2	124.0	124.6	125.2	127.8	127.8	127.3	127.4
3678	Electronic connectors (12/75 = 100)	118.9	123.7	125.4	125.6	125.8	126.6	126.9	133.4	134.1	137.6	138.4	140.7	141.0	143.6
3692	Primary batteries, dry and wet	162.0	162.4	162.7	164.8	167.9	172.1	172.7	172.8	172.8	172.8	173.1	173.1	174.1	174.2
3711	Motor vehicles and car bodies (12/75 = 100)	115.9	122.0	122.3	122.3	124.5	124.6	124.8	125.1	122.1	122.5	129.6	129.8	130.0	132.5
3942	Dolls (12/75 = 100)	103.2	107.8	109.0	109.6	109.3	109.3	109.3	111.8	112.6	112.6	112.9	113.0	113.0	121.2
3944	Games, toys, and children's vehicles	172.3	177.3	178.8	179.2	179.6	182.3	183.1	183.5	184.4	185.1	185.7	186.3	186.6	195.5
3955	Carbon paper and inked ribbons (12/75 = 100)	105.1	109.3	114.3	115.5	119.6	120.2	116.7	117.1	118.3	118.7	121.5	125.5	125.6	126.5
3995	Burial caskets (6/76 = 100)	113.0	117.8	120.9	120.9	121.0	121.7	121.7	123.3	123.8	124.8	124.8	124.8	124.8	128.3
3996	Hard surface floor coverings (12/75 = 100)	116.3	120.7	120.7	120.7	120.7	123.7	124.5	128.3	128.3	128.3	131.0	134.1	134.1	138.6

[1] Not available.

NOTE: Data for September 1979 have been revised to reflect the availability of late reports and corrections by respondents. All data are subject to revision 4 months after original publication.

PRODUCTIVITY DATA

PRODUCTIVITY DATA are compiled by the Bureau of Labor Statistics from establishment data and from estimates of compensation and output supplied by the U.S. Department of Commerce and the Federal Reserve Board.

Definitions

Output is the constant dollar gross domestic product produced in a given period. Indexes of **output per hour of labor input,** or labor productivity, measure the value of goods and services produced per hour of labor. **Compensation per hour** includes wages and salaries of employees plus employers' contributions for social insurance and private benefit plans. The data also include an estimate of wages, salaries, and supplementary payments for the self-employed, except for nonfinancial corporations, in which there are no self-employed. **Real compensation per hour** is compensation per hour adjusted by the Consumer Price Index for All Urban Consumers.

Unit labor cost measures the labor compensation cost required to produce one unit of output and is derived by dividing compensation by output. **Unit nonlabor payments** include profits, depreciation, interest, and indirect taxes per unit of output. They are computed by subtracting compensation of all persons from the current dollar gross domestic product and dividing by output. In these tables, **Unit nonlabor costs** contain all the components of unit nonlabor payments except unit profits. **Unit profits** include corporate profits and inventory valuation adjustments per unit of output.

The **implicit price deflator** is derived by dividing the current dollar estimate of gross product by the constant dollar estimate, making the deflator, in effect, a price index for gross product of the sector reported.

The use of the term "man-hours" to identify the labor component of productivity and costs, in tables 31 through 34, has been discontinued. **Hours of all persons** is now used to describe the labor input of payroll workers, self-employed persons, and unpaid family workers. **Output per all-employee hour** is now used to describe labor productivity in nonfinancial corporations where there are no self-employed.

Notes on the data

In the private business sector and the nonfarm business sector, the basis for the output measure employed in the computation of output per hour is Gross Domestic Product rather than Gross National Product. Computation of hours includes estimates of nonfarm and farm proprietor hours.

Output data are supplied by the Bureau of Economic Analysis, U.S. Department of Commerce, and the Federal Reserve Board. Quarterly manufacturing output indexes are adjusted by the Bureau of Labor Statistics to annual estimates of output (gross product originating) from the Bureau of Economic Analysis. Compensation and hours data are from the Bureau of Economic Analysis and the Bureau of Labor Statistics.

Beginning with the September 1976 issue of the *Review,* tables 31–34 were revised to reflect changeover to the new series—private business sector and nonfarm business sector—which differ from the previously published total private economy and nonfarm sector in that output imputed for owner-occupied dwellings and the household and institutions sectors, as well as the statistical discrepancy, are omitted. For a detailed explanation, see J. R. Norsworthy and L. J. Fulco, "New sector definitions for productivity series," *Monthly Labor Review,* October 1976, pages 40–42.

31. Indexes of productivity and related data, selected years, 1950–79

[1967 = 100]

Item	1950	1955	1960	1965	1970	1972	1973	1974	1975	1976	1977	1978	1979
Private business sector:													
Output per hour of all persons	61.0	70.3	78.7	95.0	104.2	111.4	113.6	110.1	112.4	116.4	118.6	119.2	118.1
Compensation per hour	42.4	55.8	71.9	88.7	123.1	139.7	151.2	164.9	181.3	197.2	213.0	231.2	252.8
Real compensation per hour	58.9	69.6	81.1	93.8	105.8	111.5	113.6	111.7	112.5	115.6	117.3	118.3	116.3
Unit labor cost	69.6	79.4	91.3	93.3	118.2	125.4	133.1	149.8	161.3	169.4	179.6	194.0	214.1
Unit nonlabor payments	73.2	80.5	85.5	95.9	105.8	119.0	124.9	130.4	150.4	158.0	165.6	174.3	184.4
Implicit price deflator	70.8	79.8	89.3	94.2	113.9	123.2	130.3	143.1	157.5	165.5	174.8	187.2	203.8
Nonfarm business sector:													
Output per hour of all persons	66.9	74.3	80.9	95.9	103.0	110.1	112.0	108.5	110.5	114.4	116.2	116.8	115.5
Compensation per hour	45.4	58.7	74.2	89.4	121.7	138.4	149.2	162.8	178.9	193.8	209.3	227.3	247.6
Real compensation per hour	63.0	73.2	83.7	94.6	104.8	110.4	112.1	110.2	111.0	113.7	115.3	116.3	113.9
Unit labor cost	67.9	79.1	91.7	93.2	118.1	125.7	133.2	150.0	161.8	169.4	180.1	194.5	214.4
Unit nonlabor payments	71.5	80.1	84.5	95.8	106.0	117.5	117.8	124.7	146.0	156.0	163.9	169.8	178.8
Implicit price deflator	69.1	79.4	89.2	94.1	114.0	122.9	127.9	141.4	156.4	164.8	174.5	186.1	202.2
Nonfinancial corporations:													
Output per hour of all employees	(1)	(1)	80.2	96.8	103.5	110.5	112.8	108.5	111.8	115.5	116.8	117.9	(1)
Compensation per hour	(1)	(1)	75.7	90.0	121.5	136.7	147.5	161.4	177.4	192.2	207.6	224.8	(1)
Real compensation per hour	(1)	(1)	85.4	95.3	104.4	109.1	110.8	109.3	110.1	112.7	114.4	116.0	(1)
Unit labor cost	(1)	(1)	94.3	93.0	117.4	123.7	130.7	148.8	158.6	166.4	177.7	190.6	(1)
Unit nonlabor payments	(1)	(1)	90.8	100.1	103.5	114.8	116.8	124.8	148.1	158.8	161.4	170.6	(1)
Implicit price deflator	(1)	(1)	93.1	95.5	112.5	120.5	125.8	140.2	154.9	163.0	173.0	183.5	(1)
Manufacturing:													
Output per hour of all persons	65.0	74.1	78.9	98.3	104.5	115.7	118.8	112.6	118.2	123.4	127.2	129.0	130.2
Compensation per hour	46.1	60.5	77.1	91.0	121.8	136.6	148.4	161.1	180.2	195.1	212.0	229.5	250.5
Real compensation per hour	62.5	75.4	87.0	96.3	104.7	109.0	110.0	109.1	111.8	114.5	116.8	117.5	115.2
Unit labor cost	69.4	81.6	97.7	92.6	116.5	118.1	123.2	143.1	152.4	158.2	166.6	179.4	192.4
Unit nonlabor payments	82.4	86.6	82.4	103.3	98.2	107.4	108.4	105.6	128.4	139.6	147.4	152.4	(1)
Implicit price deflator	73.3	83.8	96.1	95.9	110.3	114.8	118.0	121.6	145.1	152.5	160.7	171.1	(1)

[1] Not available.

32. Annual percent change in productivity and related data, 1969–79

Item	Year											Annual rate of change	
	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1950-78	1960-78
Private business sector:													
Output per hour of all persons	0.2	0.7	3.3	3.5	1.9	−3.0	2.1	3.5	1.9	0.5	−0.9	2.6	2.2
Compensation per hour	6.6	7.1	6.7	6.3	8.2	9.1	9.9	8.8	8.0	8.5	9.3	5.8	6.8
Real compensation per hour	1.4	1.1	2.4	2.9	1.9	−1.7	.7	2.8	1.5	0.8	−1.7	2.6	2.1
Unit labor cost	6.6	6.4	3.3	2.8	6.2	12.5	7.7	5.0	6.0	8.0	10.4	3.2	4.5
Unit nonlabor payments	1.0	1.2	6.8	5.2	5.0	4.4	15.3	5.1	4.8	5.3	5.8	2.8	4.0
Implicit price deflator	4.7	4.7	4.4	3.6	5.8	9.8	10.1	5.0	5.6	7.1	8.9	3.1	4.3
Nonfarm business sector:													
Output per hour of all persons	−.3	.1	3.1	3.7	1.7	−3.1	1.9	3.5	1.6	0.5	−1.2	2.2	2.0
Compensation per hour	6.3	6.7	6.7	6.5	7.8	9.1	9.8	8.3	8.0	8.6	8.9	5.5	6.5
Real compensation per hour	.9	.7	2.3	3.1	1.5	−1.7	.7	2.4	1.4	0.9	−2.1	2.3	1.9
Unit labor cost	6.7	6.5	3.5	2.8	6.0	12.7	7.9	4.7	6.3	8.0	10.2	3.2	4.5
Unit nonlabor payments	.4	1.6	6.7	3.8	.3	5.9	17.1	6.9	5.0	3.7	5.2	2.8	3.9
Implicit price deflator	4.5	4.9	4.5	3.1	4.1	10.5	10.6	5.4	5.9	6.6	8.7	3.1	4.3
Nonfinancial corporations:													
Output per hour of all employees	.3	−.1	3.4	3.3	2.1	−3.6	3.1	3.2	1.1	1.0	(1)	(1)	2.0
Compensation per hour	6.7	6.7	6.2	5.9	7.9	9.4	10.0	8.3	8.0	8.3	(1)	(1)	6.3
Real compensation per hour	1.2	.7	1.9	2.5	1.6	−1.4	.7	2.4	1.5	0.6	(1)	(1)	1.7
Unit labor cost	6.3	6.8	2.7	2.5	5.7	13.8	6.6	4.9	6.8	7.3	(1)	(1)	4.2
Unit nonlabor payments	0	.5	7.3	3.3	1.8	6.8	18.7	5.8	4.9	3.8	(1)	(1)	3.4
Implicit price deflator	4.1	4.6	4.2	2.8	4.4	11.5	10.5	5.2	6.1	6.1	(1)	(1)	3.9
Manufacturing:													
Output per hour of all persons	1.1	−.3	5.3	5.1	2.7	−5.2	4.9	4.4	3.1	.6	1.8	2.8	2.6
Compensation per hour	6.4	6.9	6.3	5.5	7.2	10.1	11.8	8.3	8.6	8.3	9.1	5.4	6.3
Real compensation per hour	1.0	.9	2.0	2.1	.9	−.8	2.4	2.4	2.0	.6	−1.9	2.2	1.6
Unit labor cost	5.2	7.2	.9	.4	4.3	16.1	6.6	3.8	5.3	7.7	7.2	2.7	3.6
Unit nonlabor payments	−4.4	−3.2	9.2	2.3	−1.0	−.7	21.6	8.8	5.5	3.4	N.A.	1.8	2.3
Implicit price deflator	2.3	4.2	3.1	1.0	2.8	11.5	10.2	5.1	5.4	6.5	N.A.	2.5	3.3

[1] Not available.

33. Indexes of productivity, hourly compensation, unit costs, and prices, seasonally adjusted

[1967 = 100]

Item	Annual average		Quarterly indexes										
			1977			1978				1979			
	1978	1979	II	III	IV	I	II	III	IV	I	II	III	IV
Private business sector:													
Output per hour of all persons	119.2	118.1	117.9	119.4	118.8	118.4	119.0	119.7	119.8	118.9	118.2	117.8	117.3
Compensation per hour	231.2	252.8	210.8	215.3	218.5	224.2	228.5	233.6	238.4	244.8	250.3	255.6	260.0
Real compensation per hour	118.3	116.3	116.7	117.6	117.9	118.7	118.1	118.2	118.0	118.0	116.9	115.8	114.2
Unit labor cost	194.0	214.1	178.8	180.2	183.8	189.4	192.1	195.2	199.0	205.9	211.7	217.0	[r]221.5
Unit nonlabor payments	174.3	184.4	164.7	167.9	166.6	164.8	173.9	177.0	181.3	180.8	183.7	185.6	[r]188.2
Implicit price deflator	187.2	203.8	173.9	176.0	178.6	180.9	185.8	189.9	192.9	197.2	202.0	206.1	[r]210.0
Nonfarm business sector:													
Output per hour of all persons	116.8	115.5	115.8	116.7	116.3	116.0	116.5	117.3	117.6	116.6	115.4	115.0	114.9
Compensation per hour	227.3	247.6	207.3	211.2	214.8	220.6	224.6	229.4	234.3	240.2	[r]244.4	249.9	255.2
Real compensation per hour	116.3	113.9	114.7	115.4	115.9	116.8	116.1	116.1	116.0	115.8	114.3	113.2	112.1
Unit labor cost	194.5	214.4	179.0	180.9	184.7	190.2	192.7	195.6	199.3	206.0	212.1	217.3	222.2
Unit nonlabor payments	169.9	178.8	163.2	167.1	166.0	161.1	169.2	173.0	176.1	174.3	177.6	180.5	183.3
Implicit price deflator	186.1	202.2	173.6	176.2	178.3	180.2	184.7	187.8	191.4	195.1	200.3	204.7	208.9
Nonfinancial corporations:													
Output per hour of all employees	117.9	(1)	116.5	117.4	116.7	116.7	117.8	118.4	118.8	118.1	117.3	[r]117.2	(1)
Compensation per hour	224.8	(1)	205.7	209.5	212.8	218.5	222.3	226.9	231.3	237.4	242.1	247.1	(1)
Real compensation per hour	115.0	(1)	113.8	114.5	114.8	115.7	114.9	114.8	114.5	114.5	113.1	[r]112.0	(1)
Total unit costs	193.3	(1)	180.5	182.4	186.3	190.8	191.8	194.0	196.8	202.3	208.0	[r]213.2	(1)
Unit labor cost	190.6	(1)	176.6	178.4	182.3	187.3	188.7	191.5	194.8	201.0	206.4	[r]210.8	(1)
Unit nonlabor costs	201.8	(1)	192.4	194.8	196.7	201.5	200.6	201.6	203.1	206.5	213.2	[r]220.5	(1)
Unit profits	127.2	(1)	123.3	130.9	122.2	107.1	129.2	132.7	136.7	130.3	129.2	[r]127.5	(1)
Implicit price deflator	183.5	(1)	172.0	174.7	176.8	178.3	182.3	184.9	188.2	191.6	196.3	[r]200.4	(1)
Manufacturing:													
Output per hour for all persons	129.0	130.2	127.3	128.4	127.8	125.7	127.2	129.2	129.8	129.0	130.0	131.1	130.6
Compensation per hour	229.5	250.5	209.7	214.1	217.5	223.2	226.6	231.4	236.5	242.4	248.2	253.0	258.0
Real compensation per hour	117.5	115.2	116.1	117.0	117.4	118.1	117.1	117.0	117.1	116.9	115.9	114.6	113.3
Unit labor cost	179.4	192.4	164.7	166.7	170.2	177.5	178.1	179.1	182.2	187.9	190.9	193.0	197.6

34. Percent change from preceding quarter and year in productivity, hourly compensation, unit costs, and prices, seasonally adjusted at annual rate

[1967 = 100]

Item	Quarterly percent change at annual rate						Percent change from same quarter a year ago					
	II 1978 to III 1978	III 1978 to IV 1978	IV 1978 to I 1979	I 1979 to II 1979	II 1979 to III 1979	III 1979 to IV 1979	III 1977 to III 1978	IV 1977 to IV 1978	I 1978 to I 1979	II 1978 to II 1979	III 1978 to III 1979	IV 1978 to IV 1979
Private business sector:												
Output per hour of all persons	2.4	0.3	−3.0	−2.2	−1.3	−1.6	0.2	0.8	0.4	−0.6	−1.6	−2.0
Compensation per hour	9.2	8.5	11.1	9.3	8.8	6.9	8.5	9.1	9.2	9.5	9.4	9.0
Real compensation per hour	.3	−.7	.1	−3.8	−3.6	−5.6	0.4	.1	−.6	−1.0	−2.0	−3.2
Unit labor cost	6.6	8.1	14.8	11.8	10.3	8.7	8.3	8.3	8.7	10.2	11.2	11.3
Unit nonlabor payments	7.4	9.9	−1.0	6.5	4.1	5.9	5.4	7.5	9.7	5.6	4.8	3.9
Implicit price deflator	6.9	8.7	9.3	10.1	8.3	7.8	7.4	8.0	9.0	8.7	9.1	8.9
Nonfarm business sector:												
Output per hour of all persons	2.7	.8	−3.2	−4.1	−1.4	−1.2	5	1.1	[r].5	−1.0	−2.0	−2.3
Compensation per hour	8.8	8.8	10.4	7.9	8.5	8.9	8.7	9.1	8.9	9.0	8.9	8.9
Real compensation per hour	.0	−.4	−.6	−5.0	−3.9	3.8	.6	.1	−.8	−1.5	−2.5	−3.3
Unit labor cost	6.0	8.0	14.0	12.5	10.1	9.3	8.1	7.9	8.3	10.1	11.1	[r]11.1
Unit nonlabor payments	9.4	7.3	−4.0	7.8	6.6	6.4	3.5	6.1	8.2	5.0	4.3	4.1
Implicit price deflator	7.0	7.8	8.1	11.0	9.0	8.4	6.6	7.3	8.3	8.5	9.0	9.1
Nonfinancial corporations:												
Output per hour of all employees	2.0	1.1	−2.1	−2.8	[r]−0.2	(1)	0.8	1.8	1.3	.5	[r]−1.0	(1)
Compensation per hour	8.4	8.1	11.0	8.9	[r]8.6	(1)	8.3	8.7	8.7	8.9	8.9	(1)
Real compensation per hour	−.4	−1.0	.0	−4.9	[r]−3.8	(1)	.2	−.3	−1.0	−1.6	−2.5	(1)
Total unit costs	5.1	5.9	11.7	11.8	[r]10.2	(1)	6.4	5.6	6.1	8.6	[r]8.9	(1)
Unit labor costs	6.2	6.9	13.4	11.2	[r]8.8	(1)	7.4	6.8	7.3	9.4	[r]10.1	(1)
Unit nonlabor costs	1.7	2.9	6.8	13.5	[r]4.6	(1)	3.5	2.2	2.5	6.2	[r]9.4	(1)
Unit profits	11.4	19.5	−22.1	−3.4	[r]−5.3	(1)	1.4	13.6	21.7	0	[r]−3.9	(1)
Implicit price deflator	5.7	7.3	7.6	10.2	[r]8.6	(1)	5.8	8.4	7.5	7.7	[r]8.4	(1)
Manufacturing:												
Output per hour of all persons	6.3	2.0	−2.4	2.9	3.5	−1.5	.6	1.6	2.6	2.2	1.5	0.6
Compensation per hour	6.7	8.3	10.3	9.8	8.1	8.2	6.1	8.7	8.6	9.5	9.4	9.1
Real compensation per hour	−.1	0	−.6	−3.4	−4.3	4.5	0	−.3	−1.1	−1.0	−2.1	[r]−3.2
Unit labor cost	2.2	7.1	13.0	6.7	4.4	9.8	7.4	7.1	5.9	7.2	7.8	8.5

LABOR-MANAGEMENT DATA

MAJOR COLLECTIVE BARGAINING DATA are obtained from contracts on file at the Bureau of Labor Statistics, direct contact with the parties, and from secondary sources. Additional detail is published in *Current Wage Developments*, a monthly periodical of the Bureau. Data on work stoppages are based on confidential responses to questionnaires mailed by the Bureau of Labor Statistics to parties involved in work stoppages. Stoppages initially come to the attention of the Bureau from reports of Federal and State mediation agencies, newspapers, and union and industry publications.

Definitions

Data on wage changes apply to private nonfarm industry agreements covering 1,000 workers or more. Data on wage and benefit changes *combined* apply only to those agreements covering 5,000 workers or more. **First-year wage settlements** refer to pay changes going into effect within the first 12 months after the effective date of the agreement. **Changes over the life of the agreement** refer to total agreed upon settlements (exclusive of potential cost-of-living escalator adjustments) expressed at an average annual rate. **Wage-rate changes** are expressed as a percent of straight-time hourly earnings, while **wage and benefit changes** are expressed as a percent of total compensation.

Effective wage-rate adjustments going into effect in major bargaining units measure changes actually placed into effect during the reference period, whether the result of a newly negotiated increase, a deferred increase negotiated in an earlier year, or as a result of a cost-of-living escalator adjustment. Average adjustments are affected by workers receiving no adjustment, as well as by those receiving increases or decreases.

Work stoppages include all known strikes or lockouts involving six workers or more and lasting a full shift or longer. Data cover all workers idle one shift or more in establishments directly involved in a stoppage. They do not measure the indirect or secondary effect on other establishments whose employees are idle owing to material or service shortages.

35. Wage and benefit settlements in major collective bargaining units, 1975 to date
[In percent]

Sector and measure	Annual average					Quarterly average						
						1978			1979			
	1975	1976	1977	1978	1979	II	III	IV	I	II	III	IV
Wage and benefit settlements, all industries:												
First-year settlements	11.4	8.5	9.8	8.3	8.9	6.8	7.2	8.1	2.5	10.6	9.0	8.1
Annual rate over life of contract	8.1	6.6	6.2	6.3	6.6	6.0	5.9	5.2	5.2	7.7	6.0	6.0
Wage rate settlements, all industries:												
First-year settlements	10.2	8.4	7.8	7.6	7.4	6.9	7.5	7.4	4.8	9.0	6.6	6.3
Annual rate over life of contract	7.8	6.4	5.8	6.4	6.0	6.2	6.4	5.9	6.6	7.0	4.8	4.9
Manufacturing:												
First-year settlements	9.8	8.9	8.4	8.3	7.0	7.1	8.4	9.5	8.7	9.9	6.2	5.9
Annual rate over life of contract	8.0	6.0	5.5	6.6	5.4	5.8	7.2	7.4	8.6	8.1	4.6	4.2
Nonmanufacturing (excluding construction):												
First-year settlements	11.9	8.6	8.0	8.0	7.5	7.7	7.4	6.4	2.3	8.5	9.1	7.2
Annual rate over life of contract	8.0	7.2	5.9	6.5	5.9	6.9	5.9	5.1	5.8	5.7	5.8	7.5
Construction:												
First-year settlements	8.0	6.1	6.3	6.5	8.9	6.4	7.0	8.4	11.0	9.1	10.4	7.9
Annual rate over life of contract	7.5	6.2	6.3	6.2	8.4	6.0	7.2	7.1	7.7	8.2	9.1	7.1

36. Effective wage adjustments going into effect in major collective bargaining units, 1975 to date

[In percent]

Sector and measure	Average annual changes					Average quarterly changes								
	1975	1976	1977	1978	1979	1977	1978				1979			
						IV	I	II	III	IV	I	II	III	IV
Total effective wage rate adjustment, all industries	8.7	8.1	8.0	8.2	8.8	1.1	1.3	2.6	2.7	1.4	1.4	2.6	3.2	1.5
Change resulting from—														
Current settlement	2.8	3.2	3.0	2.0	2.8	0.5	0.5	0.6	0.5	0.4	0.2	1.1	1.0	0.4
Prior settlement	3.7	3.2	3.2	3.7	3.0	.3	.6	1.4	1.2	.5	.6	.9	1.0	.4
Escalator provision	2.2	1.6	1.7	2.4	3.0	.3	.3	.6	1.0	.5	.6	.5	1.2	.6
Manufacturing	8.5	8.5	8.4	8.6	9.2	1.4	1.4	2.2	2.9	1.9	1.4	2.3	3.1	2.2
Nonmanufacturing	8.9	7.7	7.6	7.9	8.5	.8	1.3	2.9	2.5	1.1	1.4	2.8	3.4	.9

NOTE: Because of rounding and compounding, the sums of individual items may not equal totals.

37. Work stoppages, 1947 to date

Month and year	Number of stoppages		Workers involved		Days idle	
	Beginning in month or year	In effect during month	Beginning in month or year (thousands)	In effect during month (thousands)	Number (thousands)	Percent of estimated working time
1947	3,693	....	2,170	....	34,600	.30
1948	3,419	....	1,960	....	34,100	.28
1949	3,606	....	3,030	....	50,500	.44
1950	4,843	....	2,410	....	38,800	.33
1951	4,737	....	2,220	....	22,900	.18
1952	5,117	....	3,540	....	59,100	.48
1953	5,091	....	2,400	....	28,300	.22
1954	3,468	....	1,530	....	22,600	.18
1955	4,320	....	2,650	....	28,200	.22
1956	3,825	....	1,900	....	33,100	.24
1957	3,673	....	1,390	....	16,500	.12
1958	3,694	....	2,060	....	23,900	.18
1959	3,708	....	1,880	....	69,000	.50
1960	3,333	....	1,320	....	19,100	.14
1961	3,367	....	1,450	....	16,300	.11
1962	3,614	....	1,230		18,600	.13
1963	3,362	....	941	....	16,100	.11
1964	3,655	....	1,640	....	22,900	.15
1965	3,963	....	1,550	....	23,300	.15
1966	4,405	....	1,960	....	25,400	.15
1967	4,595	....	2,870	....	42,100	.25
1968	5,045	....	2,649	....	49,018	.28
1969	5,700	....	2,481	....	42,869	.24
1970	5,716	....	3,305		66,414	.37
1971	5,138	....	3,280	....	47,589	.26
1972	5,010	....	1,714	....	27,066	.15
1973	5,353	....	2,251	....	27,948	.14
1974	6,074	....	2,778	....	47,991	.24
1975	5,031	....	1,746	....	31,237	.16
1976	5,648	....	2,420	....	37,859	.19
1977	5,506	....	2,040	....	35,822	.17
1978: September	453	854	448	551	4,446	.25
October	370	721	117	216	2,352	.13
November	268	569	64	136	1,691	.09
December	157	406	53	143	1,377	.06
1979: January	262	366	68	144	1,925	.10
February	299	501	75	221	1,670	.10
March	391	608	112	223	1,871	.10
April	512	781	426	535	5,126	.27
May	556	877	132	395	3,682	.19
June	536	866	137	302	2,969	.16
July	471	817	168	290	3,001	.16
August	463	869	119	270	3,152	.15
September	464	793	135	243	2,319	.13
October	443	781	230	334	2,988	.15
November	257	546	91	255	2,720	.15
December	134	....	42	....	1,876	.11
1980: January[p]	352	441	207	292	3,142	.16

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MONTHLY LABOR REVIEW

U.S. Department of Labor
Bureau of Labor Statistics
April 1980

In this issue:

Two articles about Frances Perkins
A look at the distribution of earned income
An evaluation of labor force statistics

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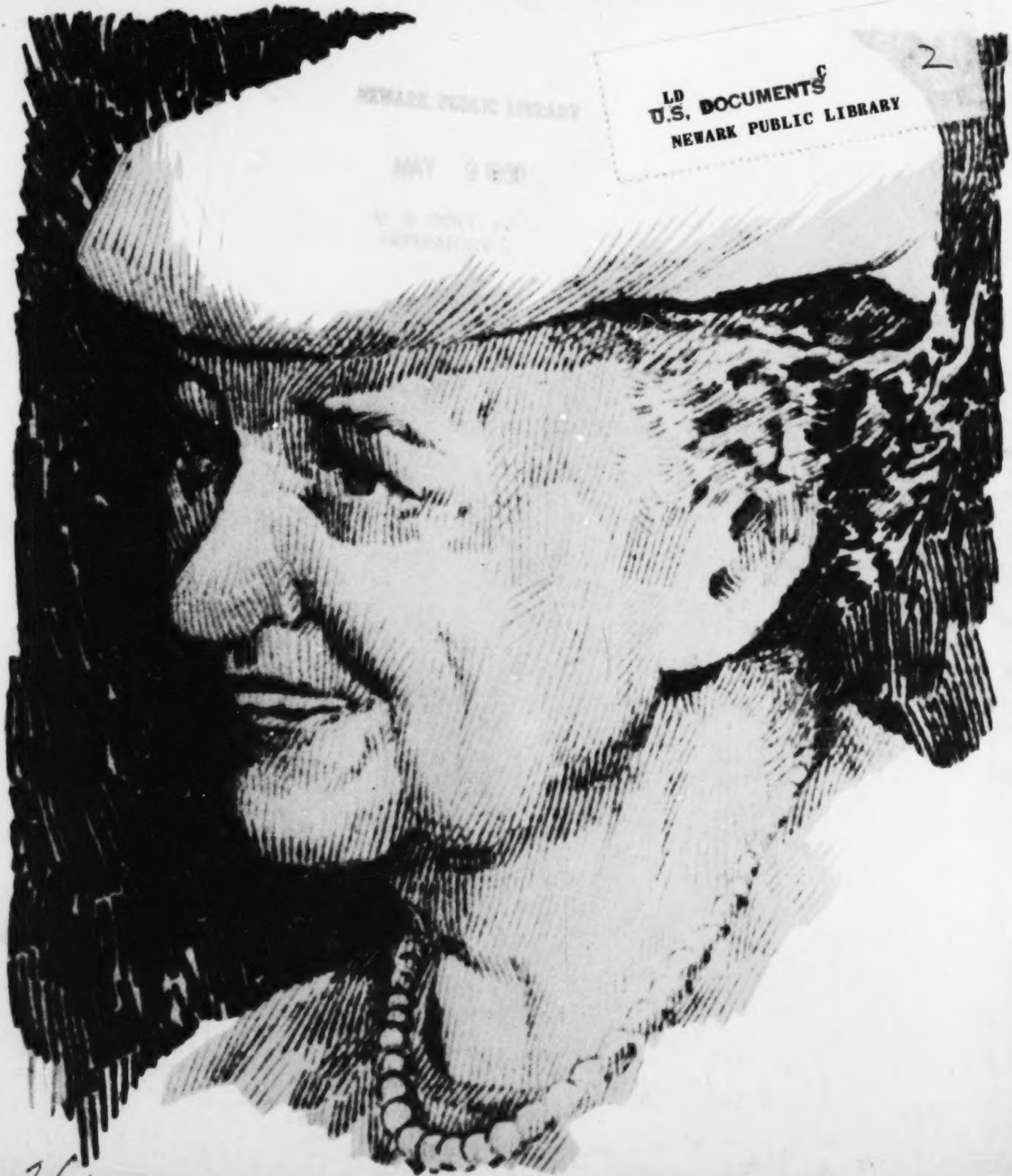

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APRIL 1980
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Labor Month In Review

FRANCES PERKINS. The 100th anniversary of the birth of Frances Perkins is being marked this month by the issuance of a postage stamp bearing her likeness and by the naming in her honor of the building housing the U.S. Department of Labor. Several articles and other features in this issue of the *Monthly Labor Review* describe the life and work of Frances Perkins. Her important contributions also are recounted in a Labor Department booklet marking the dedication of the Frances Perkins Building. Excerpts:

Questions for FDR. Before Frances Perkins would accept the Cabinet appointment as Secretary of Labor, she told President-elect Franklin Delano Roosevelt, "I don't want to say yes to you unless you know what I'd like to do and are willing to have me go ahead and try."

She then read Roosevelt her list. It contained much of what would become the New Deal's most important social welfare and labor legislation: direct Federal aid to the States for unemployment relief, public works, maximum hours, minimum wages, child labor laws, unemployment insurance, social security, and a revitalized public employment service. "Are you sure you want these things done?" she asked. "Because you don't want me for Secretary of Labor if you don't."

Roosevelt never hesitated. He was convinced that the capable and strong-minded woman in his study was the most qualified person for the job. "Yes," he said. "I'll back you." With that, Perkins immediately accepted the post and served as Secretary of Labor the entire 12 years of the Roosevelt Administration. She was the first woman ever to serve as a Cabinet member and she served longer than any other Secretary of Labor.

Social security. The Social Security Act of 1935 was probably the most enduring contribution Perkins made as a Government official. As a member of the Committee on Economic Security, she worked tirelessly to create a practical social security program which could both pass the Congress and help the people. She made hundreds of speeches supporting social security. Its enactment, on August 14, 1935, helped change the economic and social structure of American life. Her belief that working people had a right to benefits during unemployment and in their old age was made the law of the land by this act. Perkins' determination helped workers secure a more equitable place on the social scale. Her leadership, and the dedicated work of many others, helped remove the threat of starvation, eviction, and destitution from every worker's doorstep.

Fair labor standards. If social security was Frances Perkins' pride, the Fair Labor Standards Act must have been her joy. She had long advocated minimum wage and maximum hour legislation. The collapse of labor standards during the Depression made some type of Government action imperative. Many among Roosevelt's advisers were uncertain of the constitutionality of Federal labor standards legislation. To lay the groundwork for Federal standards she believed inevitable, Perkins instructed the Labor Department to work with State governments to create a body of consistent laws and standards. She set up a Division of Labor Standards and was the first Labor Secretary to show real interest and concern for State labor agencies. She always tried to attend meetings with state representatives and considered these sessions very useful in developing workers' compensation and safety and health standards.

During his 1936 campaign for reelection, Roosevelt promised to support a Federal labor standards bill. The measure passed the Senate but died in the House Rules Committee. Perkins and Roosevelt would not let it rest in peace. Compromises were made and pressure was applied. The Fair Labor Standards Act.finally became law on June 25, 1938.

The role of States. The social legislation of the 1930's forever changed the position of the American worker in society. While the Federal Government was often instrumental in creating these laws and indispensable for putting them into operation, Perkins often advocated more involvement for the individual States. She believed that programs such as unemployment insurance should be administered by a Federal-State system. At the National Conference for Labor Legislation in February 1934, she said: "The fundamental power to make regulations with regard to welfare . . . lies with the sovereign States." While many New Dealers have been seen as "big government" people, Perkins rarely favored the Federal Government dictating or making policy for the States. The closer decisionmaking was to the people, the better Perkins liked it.

The Perkins legacy. Perkins, indeed, had become an important historical figure. Yet with all her accomplishments, she never lost the basic qualities that made her an extraordinary person: her courage, her vibrant personality, her gift for friendship, her sense of propriety and privacy, and her deep religious spirit. These qualities formed the core ot her character and they touched everyone she knew as well as the millions of people unknown to her for whom she worked throughout her life.

The distribution of earned income among men and women, 1958–77

The trend toward greater earnings inequality for men continued, but appeared to slow in recent years; the more unequal distribution for women remained stable, probably reflecting limited occupational advances

PETER HENLE AND PAUL RYSCAVAGE

The distribution of income continues to be a lively topic for public policy as well as academic debate. While few, if any, officials have embraced income redistribution as a goal of public policy, many legislative and administrative measures have, in fact, altered income distribution. The extent of such redistribution often becomes a major factor underlying the resolution of tax, welfare, and other economic policy questions. As one example, the 1977 congressional rejection of practically all President Carter's proposals for tax reform reflected a quite different attitude toward income distribution than the attitudes underlying the antipoverty programs of the 1960's.

A 1972 article explored the distribution of earned income (wages, salaries, and self-employment earnings) for men during 1958–70.[1] That study found "a slow but persistent trend toward greater inequality" both for all male earners and for those working full time year round. Various possible explanations for such a trend were discussed, including the changing age composition of the population, the changing structural characteristics of jobs, and differential changes in the rates of compensation.

The current effort extends the earlier work in several ways. First, the data have been carried forward to 1977. This permits a broader perspective to test the trends identified from 1958–70 data. Second, data for women are included for the first time, allowing a comparison of earnings distribution trends by sex. And third, more recent contributions to the literature are reviewed to determine whether they have added to the earlier analysis.[2]

As in the earlier case, this study utilizes the Gini index as a shorthand method of describing the shape of earnings distribution.[3] Although it may have some statistical limitations, it still seems a useful way to identify the degree of equality at any one time and track changes in distribution over several years. The primary data used here are annual earnings reported to the Census Bureau by members of a nationwide sample of households (Current Population Survey). The current data incorporate various improvements in methodology, with the result that the 1958–70 Gini indexes utilized in the earlier article have been revised.[4] Values are for money income only, and no effort was made to include any estimate for fringe benefits not reflected in earnings, such as employer expenditures for health, welfare, and retirement plans. The article will focus first on the new and revised data for men; a discussion of the new data for women will follow.

Earnings distribution of men

The basic structure of the earnings distribution noted in the 1972 article still holds. For example, the distribu-

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tion of wages and salaries is more equal than the distribution of all reported earnings. This follows from the fact that the self-employed include major concentrations at both the low and the high end of the distribution—low-earning proprietors of small retail and service establishments and high-earning professionals and businessmen. In a somewhat similar way, the distribution for year-round full-time workers is more equal than the distribution for all workers, because the inclusion of the part-time and part-year workers adds a large group of low-income earners to the distribution.

The "slow but persistent" trend toward inequality, previously noted for the years 1958–70, is still evident, although a 20-year perspective yields somewhat different insights. As shown in table 1, the trend towards inequality for the most inclusive series (all earners) continued steadily until 1977. A similar trend is evident for all male wage and salary workers. For both series, the 1968–73 period appears to show the greatest shift toward inequality, with the trend somewhat less marked before and after this period. For year-round full-time workers, the figures indicate either no trend at all (all earners) or a slightly more modest trend toward inequality (wage and salary workers).

These data, of course, pertain to broad aggregates and all classes of earners. Perhaps more revealing are the data for occupational and industry groups, shown in table 2. The trend toward inequality among male workers in specific occupations and industries is even more evident. To assist in this analysis, a simple time series regression of the annual Gini indexes was utilized; the results are shown in tables 3 and 4.

Table 1. Gini indexes of all earnings and wages and salaries among men, 1958–77

Item and year	All earners		Wage and salary earners	
	Total	Year-round full-time	Total	Year-round full-time
Workers, 1977 (in thousands)	61,704	39,263	47,473	34,128
Median income, 1977	$11,037	$14,626	$12,439	$14,902
Gini index:				
1958	.399	.315	.327	[1].254
1959	.398	.318	.324	[1].262
1960	.411	.325	.337	[1].275
1961	.419	.329	.343	[1].274
1962	.410	.318	.336	[1].270
1963	.406	.310	.336	[1].270
1964	.406	.315	.336	[1].275
1965	....	....	.334	[1].276
1966	.406	.312	.342	[1].281
1967	.409	.315	.335	.274
1968	.410	.313	.337	.273
1969	.417	.306	.344	.272
1970	.423	.310	.350	.278
1971	.428	.311	.357	.281
1972	.431	.321	.365	.287
1973	.427	.314	.360	.283
1974	.429	.319	.359	.286
1974[r]	.433	.315	.361	.281
1975	.434	.311	.367	.282
1976	.438	.317	.371	.284
1977	.439	.318	.374	.287

[1] Gini indexes for year-round full-time wage and salary workers, 1958–66, appeared in the earlier article (see text footnote 1), and were not recomputed when changes were made in the way the Gini indexes were calculated by the Census Bureau (see text footnote 4 for information on these changes).

[r] = revised. The 1974 income data were revised because of changes in the procedures used in collecting and processing the data. See text footnote 4 for more details.

NOTE: Data on earnings apply to all individuals with earnings in the specified year. Data on wages and salaries apply to all individuals employed in March of the following year who received wages or salaries in the specified year.

Of the 10 major occupational groups, eight (managers and farm laborers are the exception) show a distinct trend toward inequality among all earners during 1958–77. Among year-round full-time workers, managers and farm laborers show a trend towards equality, professional workers and nonfarm laborers show an uncertain trend, but all the remaining occupational groups show a trend towards inequality. Increasing inequality is pronounced among blue-collar groups such as craftworkers and operatives. Clerical and sales (white-collar) occupations show an equally distinct trend toward inequality since 1958, but for clerical workers the annual data indicate less change during recent years.

When the data are grouped by industry, the results are similar; but industry data are available only for wage and salary workers. Moreover, for year-round full-time workers, data are available only from 1967, although these data were viewed along with the 1958–70 data available for the earlier article (based on an allocation method no longer utilized by the Census Bureau).

As shown in table 4, industry data for all wage and salary earners also display a definite trend toward inequality. The trend is especially marked for construction, manufacturing, transportation, trade, finance, most of the service industries, and public administration. As expected, data for all workers show a more definitive trend than the results for year-round full-time workers. Focusing on the latter group, both agriculture and mining show a trend toward equality. For the transportation, retail trade, and finance groups and for public administration, a statistically significant trend toward inequality is clear, but for the remaining industries little trend is indicated.

Earlier factors less significant

The 1972 article reviewed various postwar developments that may have contributed to the trend towards inequality of earnings. Three types of factors were examined: changes in the personal characteristics of earners that might affect their earnings ability, chiefly age and schooling; changes in the characteristics of jobs that might affect the earnings ability of the jobholders; and changes in the rates of compensation in various occupations and industries that might affect differently jobs at various points in the earnings distribution.

The earlier analysis identified four specific developments that may have contributed to the trend towards inequality: the growing importance of voluntary part-

Table 2. Gini indexes of earnings among men, by occupation (all earners) and industry (wage and salary earners), selected years

Item	Workers, 1977 (In thousands)	Median income, 1977	Gini indexes						
			1958	1970	1974	1974[r]	1975	1976	1977
OCCUPATION									
Total, all earners	61,704	11,037	0.399	0.423	0.429	0.433	0.434	0.438	0.439
Professional and technical	8,546	16,212	353	366	372	380	381	391	378
Salaried	7,709	15,967	303	327	345	343	348	358	347
Farmers and farm managers	1,376	4,317	531	558	608	598	592	615	604
Managers	8,193	16,850	386	379	393	361	369	367	368
Salaried	6,702	17,803	318	344	372	341	344	335	338
Clerical workers	3,625	10,822	274	346	360	355	359	361	363
Salesworkers	3,701	11,685	433	460	464	460	474	473	486
Craftworkers	12,337	12,313	260	275	298	297	309	312	321
Operatives	10,737	10,066	297	313	340	341	346	352	364
Service workers	6,102	5,077	375	467	487	495	499	498	511
Farm laborers	1,421	1,996	560	606	602	574	580	580	564
Nonfarm laborers	5,585	4,566	419	496	500	499	494	517	499
INDUSTRY									
Total, wage and salary earners	47,473	12,439	0.327	0.350	0.359	0.361	0.367	0.371	0.374
Agriculture	1,041	5,486	485	494	449	455	476	468	466
Mining	643	15,096	274	284	273	270	284	284	281
Construction	4,038	11,622	319	335	331	336	363	373	361
Manufacturing	14,126	13,451	294	300	298	298	304	316	313
Transportation, communication, and public utilities	4,344	15,082	233	273	289	287	287	287	297
Wholesale trade	2,454	14,249	325	348	368	355	362	352	367
Retail trade	6,696	7,735	364	434	446	454	446	452	461
Finance	2,078	14,662	347	362	406	401	396	405	397
Business services	1,808	10,046	330	404	412	390	439	434	426
Personal services	742	5,564	463	463	517	503	501	495	530
Entertainment and recreation	487	8,556	474	499	503	506	478	507	504
Professional service	5,750	12,374	381	405	392	405	422	417	415
Public administration	3,268	15,434	220	252	291	270	281	247	263

[r] = revised. The 1974 income data were revised because of changes in the procedures used in collecting and processing the data. See text footnote 4 for more details.

time work; the increasing flow of young people into the labor force, many of them with low earnings; the changing occupational structure—more specifically the growing importance of highly paid professional and managerial personnel; and the pattern of increases in earnings which, in many instances, has meant higher increases in rates of pay for the higher earning occupations.

The result of these four developments in the 1958–70 period, it was concluded, was an increased proportion of earners at the lowest and highest end of the income scale.

These developments continued to operate during the 1970's, but in several respects it would appear that they were less significant, particularly in more recent years:

1. The rate at which young people have entered the labor market has slowed dramatically, reflecting the reduction in birth rates which took place beginning in the late 1950's. From 1958 to 1968, the number of young men age 16 to 19 in the civilian labor force increased at an annual rate of 4.2 percent. During 1968–73, the rate rose to 4.9 percent before dropping to 1.7 percent in the 1973–77 period.

2. The increase in voluntary part-time earners among men has also slowed considerably. From 1963 (the earliest year for which data are available) to 1973, the annual rate of increase was 4.3 percent, slowing to 2.1 percent for 1973–77.

3. Changes in the occupational mix from blue collar to white collar also have not occurred with the same rapidity. For example, professional and technical occupations accounted for 10.4 percent of male employees in 1958, increasing substantially to 14.0 percent in 1970, but further increasing to only 14.6 percent in 1977.

Table 3. Regression results of Gini indexes for the earnings of men, by occupation, 1958–77

Occupation	All earners			Full-time year-round earners		
	Trend coefficient	t statistic	R²	Trend coefficient	t statistic	R²
Total	0.0020	[1]8.50	0.810	-0003	-1.359	0.098
Professional and technical workers	0021	[1]6.79	730	0006	[2]2.111	208
Farmers and farm managers	0044	[1]5.49	640	0040	[1]4.495	543
Managers	0016	[1]3.23	381	-0023	[1]-4.851	581
Clerical	0046	[1]13.35	913	0017	[1]6.29	700
Salesworkers	0020	[1]4.15	503	0024	[1]4.33	525
Craftworkers	0030	[1]8.54	811	0019	[1]8.37	805
Operatives	0032	[1]9.89	852	0011	[1]3.38	402
Service workers	0068	[1]20.69	962	0014	[1]3.54	424
Farm laborers	0008	1.63	135	-0040	[1]-5.41	633
Nonfarm laborers	0044	[1]8.07	792	0008	[2]2.46	267

[1] Statistically significant at the 1-percent level.
[2] Statistically significant at the 5-percent level.

4. Increases in earnings have also been less dramatic among the higher paid occupations and industries. During 1958–70, the only occupational groups with higher than average earnings increases were both the professional and the managerial groups. During 1970–77, these groups showed below-average increases with higher increases recorded by laborers, semiskilled workers, and salesworkers.

For these reasons, it does not appear surprising that although the trend over the postwar period continues to point toward greater inequality, the movement in that direction has slowed in more recent years.

Special mention might be made of the two industries —agriculture and mining—in which the data for men show a trend toward greater equality. In both cases, special factors seem to be at work. In agriculture, the number of farmers and the farm work force continues to decline slowly, with the drop concentrated among the lower income farm group. Wages for farm laborers have increased quite substantially, with the minimum wage for agricultural workers rising more sharply than the basic minimum, as farm production becomes increasingly mechanized. Thus, it seems likely that the proportion of earners with low annual earnings has declined, helping to provide a more equal distribution.

In mining, which includes not only coal, metal, and nonmetallic mining, but also oil and gas extraction, the prosperity of both the coal mining and the oil and gas segments of the industry has certainly helped to raise earnings of workers in these industries. Because these two prosperous segments account for two-thirds of all mining employees, they may have been significant in producing greater equality of earnings.

Table 4. Regression results of Gini indexes for wage and salary income of men, by industry, 1958–77

Industry	Wage and salary earners			Full-time year-round earners		
	Trend coefficient	t statistic	R^2	Trend coefficient	t statistic	R^2
Total	0024	[1] 10 04	849	0.0011	[1] 6 30	0.688
Agriculture, forestry, and fisheries	–0004	–840	038	–.0023	[1] –2 990	.3318
Mining	0014	–1 768	148	–.0013	[2] –2 141	.2030
Construction	0016	[1] 3 395	390	0009	1 903	.1674
Manufacturing	0010	[1] 4 182	492	0003	2 035	.1870
Transportation, communications, and public utilities	0026	[1] 9 262	827	0015	[1] 3 732	4362
Wholesale trade	0017	[1] 3 974	467	0010	1 754	146
Retail trade	0043	[1] 12 839	902	0016	[1] 3 971	467
Finance, insurance, and real estate	0027	[1] 6 070	672	0016	[1] 3 310	378
Business and repair service	0042	[1] 6 109	675	0016	1 825	156
Personal services	0035	[1] 3 184	380	0018	1 364	094
Entertainment and recreational services	0020	1 353	082	0010	590	019
Professional services	0025	[1] 6 262	685	.0001	231	0029
Public administration	0026	[1] 5 604	636	.0045	[2] 2 580	2687

[1] Statistically significant at the 1-percent level.
[2] Statistically significant at the 5-percent level.

Table 5. Gini indexes of all earnings and wages and salaries among women, 1958–77

Item	All earners		Wage and salary earners	
	Total	Year-round full-time	Total	Year-round full-time
Workers, 1977 (in thousands)	46,194	19,238	34,503	17,736
Median income, 1977	$4,674	$8,618	$5,986	$8,733
Gini index:				
1958	466	.264	.389	.....
1959	.470	.264	.385	.....
1960	.465	.257	.384	.....
1961	.480	.284	.399	.....
1962	.470	.277	.393	.....
1963	.468	.273	.396	.....
1964	.468	.270	.391	.....
1965	....	....	.396	.....
1966	.462	.276	.392	.....
1967	.463	.287	.395	.264
1968	.460	.279	.390	.256
1969	.476	.266	.395	.246
1970	.483	.272	.402	.255
1971	.475	.266	.400	.251
1972	.475	.268	.403	.252
1973	.478	.268	.404	.254
1974	.471	.271	.395	.252
1974[r]	.470	.249	.395	.237
1975	.467	.258	.400	.245
1976	.469	.259	.401	.245
1977	.466	.260	.399	245

[r] = revised. The 1974 income data were revised because of changes in the procedures used in collecting and processing the income data. See text footnote 4 for more details.

NOTE: Data on earnings apply to all individuals with earnings in the specified year. Data on wages and salaries apply to all individuals employed in March of the following year who received wages or salaries in the specified year.

Earnings distribution of women

The earnings distribution of women is significantly different from that of men. There are relatively more low earners and fewer high earners among women, and as a result the median earnings of women (table 5) is substantially lower than the median earnings of men (table 1). Large earnings differences also exist between men and women both as full-time year-round workers and as wage and salary workers.

These earnings differences have been the subject of much research in recent years, and a large literature has developed.[5] Researchers have pointed to a number of factors responsible for the earnings gap: women are more likely than men to work part time because of their childbearing and childrearing responsibilities and because of their greater chances of experiencing unemployment; many women, because of their shorter work histories, lack the necessary job skills, or human capital, to compete successfully with men in the job market; and women are more frequently discriminated against in their attempts to move up the career ladder.

The basic structure of women's earnings distribution is somewhat more unequal than the earnings distribution of men. This greater inequality can be traced to the tendency among women—whether voluntarily or involuntarily—to work only part time and part year. For example, in 1977, nearly 60 percent of all female earners

Table 6. Distribution of all earnings among women, by occupation, 1977

Occupational group	Workers (in thousands)	Median income	Gini index	Percent share of aggregate earnings					
				Lowest fifth	Second fifth	Middle fifth	Fourth fifth	Highest fifth	Top 5 percent
Total	46,194	$4,674	.466	1.9	7.5	16.4	27.0	47.3	16.8
Professional and technical workers	6,826	9,161	.376	2.8	11.2	19.9	26.5	39.6	13.7
Salaried	6,487	9,453	.355	3.3	12.0	20.2	26.4	38.1	12.6
Farmers and farm managers	93	758	.666	1.4	3.9	6.5	15.4	72.7	30.0
Managers	2,620	7,817	.417	2.6	10.5	17.9	25.0	44.1	17.1
Salaried	2,214	8,391	.373	4.0	12.0	18.0	24.6	41.4	15.4
Clerical workers	15,095	6,053	.383	2.9	10.7	19.3	26.7	40.4	13.3
Salesworkers	3,281	2,425	.540	1.9	6.0	12.9	23.0	56.2	23.7
Craftworkers	761	5,600	.434	2.4	9.0	17.4	26.2	45.0	16.2
Operatives	5,421	5,109	.375	3.5	11.2	18.8	26.1	40.4	13.6
Service workers	8,996	2,463	.490	2.1	6.8	14.7	26.0	50.4	18.2
Farm laborers	501	849	.528	2.4	7.1	11.8	22.3	56.5	22.2
Nonfarm laborers	588	2,857	.504	1.6	5.1	14.4	29.6	49.3	16.5

worked less than year round, full time, compared to only 36 percent of all male earners. The greater prevalence of women who work full time and part time, off and on during the year, produces a greater variation in their earnings distribution relative to men.

The earnings of women who work year round in full-time jobs, however, are distributed more equally than the comparable distributions for men. This may occur because full-time year-round female earners tend to be clustered in a few occupations, where the range of earnings is not very great. (For example, in 1977, 39 percent of all female earners working full time, year round were in clerical occupations, and the Gini index for women in this occupation was only .204.)

The degree of earnings inequality varied considerably by the occupations and industries in which women worked. The most unequal earnings distributions for women in 1977 were found in the service, sales, and unskilled occupations (table 6). These occupations are major entry occupations for young women, and earnings are generally low. Occupations with the most equality —more equal than the overall distribution—were the clerical, semiskilled, managerial, and professional occupations. Among the major industries in which female wage and salary workers were employed in 1977, the most unequal earnings distributions were in retail trade, business and personal services, agriculture, forestry, and fisheries, and entertainment and recreation services (table 7). The most equal distributions were observed in manufacturing, finance, insurance, and real estate, transportation, communication, and public utilities, and public administration.

Evenly distributed gains

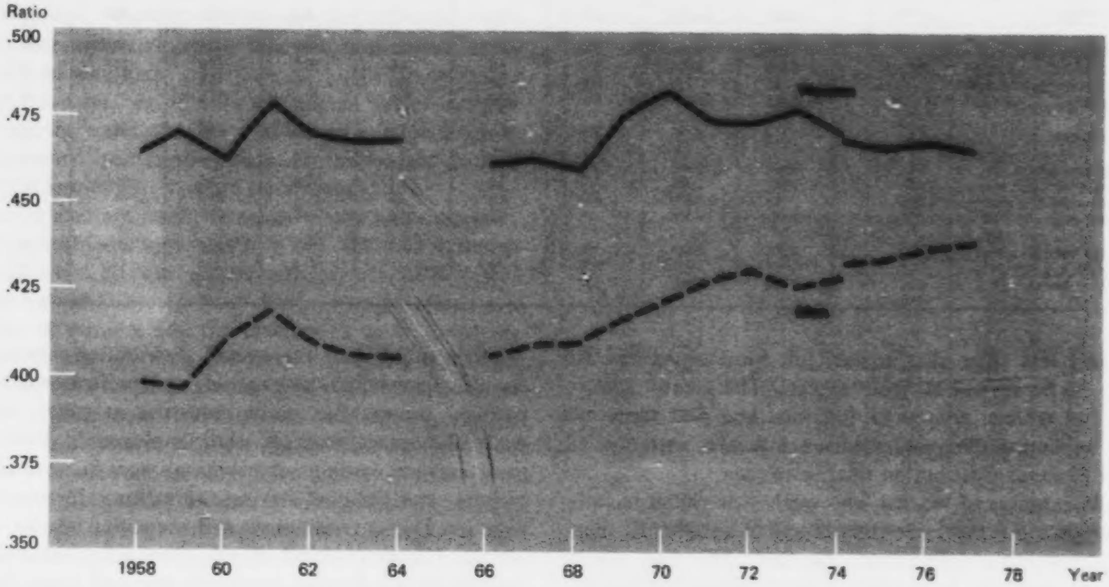
As shown earlier, there has been a trend toward greater earnings inequality among men during 1958–77, although it weakened to some extent during 1970–77. An obvious question is what was happening to the earnings distributions of women over these years.

In the aggregate, the distribution of women's earnings remained about as unequal in the 1970's as it was in the 1960's and in the late 1950's. (See chart 1.) In

Table 7. Distribution of wage and salary earnings among women, by industry, 1977

Industry	Workers (in thousands)	Median income	Gini index	Percent share of aggregate wage and salary earnings					
				Lowest fifth	Second fifth	Middle fifth	Fourth fifth	Highest fifth	Top 5 percent
Total	34,503	$5,986	.399	3.1	10.3	18.0	26.1	42.4	14.6
Agriculture, forestry, and fisheries	258	2,781	.549	1.7	5.9	12.5	24.4	55.6	26.0
Mining	75	9,408	.329	7.0	13.6	17.6	21.6	40.1	24.1
Construction	296	6,748	.359	4.4	11.8	18.8	25.3	39.7	14.2
Manufacturing	6,117	6,947	.314	5.6	13.7	18.9	24.7	37.1	12.4
Transportation, communications, and public utilities	1,349	9,047	.319	5.0	13.3	19.8	25.3	36.6	12.4
Wholesale trade	815	7,337	.352	4.6	12.6	18.8	24.3	39.7	15.2
Retail trade	6,444	3,664	.434	3.0	9.3	16.4	25.4	45.9	16.7
Finance	2,676	7,319	.317	5.5	14.1	18.9	24.0	37.6	13.6
Business services	844	5,429	.426	2.4	9.3	17.9	26.2	44.2	16.2
Personal services	2,366	1,817	.532	1.9	5.6	12.6	25.5	54.5	20.6
Entertainment and recreational services	282	4,327	.484	2.7	7.4	14.5	25.2	50.2	20.8
Professional services	11,331	6,685	.383	3.6	10.9	18.2	26.2	41.2	13.9
Public administration	1,648	8,551	.328	4.9	13.5	19.0	24.9	37.8	12.8

Chart 1. Gini indexes of all male and female earners, 1958-64 and 1966-77



NOTE: Because the Census Bureau revised the income statistics in 1974, the data for 1974-77 are plotted separately (see text footnote 4).

other words, there was no positive or negative trend in the Gini indexes over these 2 decades. (See table 5.) Furthermore, the Gini indexes for those women with steady year-round employment indicate neither a positive nor a negative trend in earnings inequality since 1958.

Among women wage and salary earners, there was some slight evidence of a movement towards greater earnings inequality, especially between 1958 and 1970 (table 5). However, this trend was certainly not as strong as that exhibited by men over the same period. Somewhat more puzzling are the Gini indexes for the full-time year-round wage and salary workers—a series that only begins in 1967. According to these data, there has been a gradual trend towards greater earnings equality between 1967 and 1977, but here, too, the trend is not a very strong one. So, the Gini indexes for these aggregate earnings distributions of women indicate neither strong positive nor negative trends in earnings inequality.

The picture is also mixed when the earnings distributions of women in the various occupations and industries are examined. In the clerical and sales occupations, for example, earnings distributions have tended towards greater inequality, and this applies even in the case of full-time year-round workers (table 8). On the other hand, there is an indication of a movement towards greater equality in the earnings distributions of women working full time, year round in professional, managerial, and service occupations. Among the industries in which women are employed, a movement towards greater earnings inequality was seen in manufacturing, transportation, communication, and public utilities, retail trade, finance, insurance, and real estate, business and personal services, and public administration (table 9). However, the wage and salary earnings distributions for women who work full time, year round in these industries provide little evidence of any trend toward either equality or inequality, except in the professional service industry (toward equality) and in public administration (toward inequality).

How is the lack of any significant trend in earnings inequality for women reconciled with the general trend towards inequality for men? Certainly, the number of young, part-time female workers has grown rapidly in the last 20 years, and an increasing number of women have been employed in higher paying white-collar occupations. These factors should have created greater earnings variation, resulting in greater earnings inequality, just as in the case of men. Although the data indicate a trend toward earnings inequality for certain occupations and industries, other sectors show an opposite trend, with no overall trend evident.

A careful review of the women's and men's earnings distributions in 1958 and 1977, although not providing an answer to the above question, did produce some interesting statistics. The following tabulation shows the earnings of men and women at various percentiles of the distributions in 1958 and 1977:

	Distribution percentiles			
	20th	*40th*	*60th*	*80th*
Women:				
1958	$ 379	$ 1,062	$ 2,152	$ 3,324
1977	1,109	3,241	6,070	9,417
Percent change	192.6	205.2	182.1	183.3
Men:				
1958	$ 1,422	$ 3,342	$ 4,148	$ 6,141
1977	3,279	8,699	13,279	18,832
Percent change	130.6	160.0	185.7	206.7

Earnings for women at the 20th, 40th, 60th, and 80th percentiles in 1977 were near or about 200 percent higher than they were in 1958. In other words, earnings growth was fairly uniform across the distribution. Among men, however, a different picture emerges: earnings growth was much faster at the 80th percentile than it was at the 20th. One possible explanation for these different growth patterns and trends in inequality between men and women may result from differences in occupational patterns.

Despite their entry into many new occupations in recent years, women still tend to be clustered in a relatively few occupations, primarily clerical and service occupations, where opportunities for advancement are typically limited and earnings increases have been traditionally moderate. Men, however, are found in a variety of occupations and tend to dominate professional and managerial occupations where employment opportunities have expanded rapidly and earnings growth has been above average.

Table 8. Regression results of Gini indexes for the earnings of women by occupation, 1956–77

Item	All earners			Full-time year-round earners		
	Trend coefficient	t statistic	R²	Trend coefficient	t statistic	R²
Total	.0001	.570	.019	–.0006	–1.669	.141
Professional and technical workers	–.0004	–1.043	.060	–.0014	[1] –3.233	.381
Farmers and farm managers	.0040	1.632	.136	–.0233	[1] –3.333	.395
Managers	–.0022	[1] –2.978	.343	–.0037	[1] –3.960	.480
Clerical workers	.0027	[1] 8.808	.820	.0013	[1] 4.561	.550
Salesworkers	.0029	[1] 5.326	.625	.0008	[1] 7.193	.753
Craftworkers	.0033	[1] 3.290	.389	.0003	.306	.006
Operatives	.0013	[1] 4.213	.511	.0001	.361	.008
Service workers	.0015	[1] 5.718	.658	–.0028	[1] –4.923	.588
Farm laborers	.0072	[1] 3.803	.460	–.0290	[1] –5.239	.618
Nonfarm laborers	–.0002	–.023	.000	–.0041	–1.869	.170

[1] Statistically significant at the 1-percent level.

Table 9. Regression results of Gini indexes for wage and salary income of women by industry, 1958–77[1]

Item	All wage and salary earners			Full-time year-round earners		
	Trend coefficient	t statistic	R²	Trend coefficient	t statistic	R²
Total	0.0007	[2] 4.458	.525	–.0016	[3] –3.107	0.518
Agriculture, forestry and fisheries	–.0039	[2] –3.376	.388	(4)	(4)	(4)
Mining	–.0057	–1.501	.112	(4)	(4)	(4)
Construction	.0018	1.540	.116	.0015	.762	.061
Manufacturing	.0017	[2] 4.554	.535	.0013	1.597	.221
Transportation, communications, and public utilities	.0025	[2] 4.889	.570	.0022	2.204	.351
Wholesale trade	.0001	.120	.001	.0010	.623	.041
Retail trade	.0027	[2] 10.172	.852	.0006	.738	.057
Finance	.0016	[2] 4.316	.509	–.0008	.713	.054
Business services	.0030	[2] 6.307	.689	–.0007	–.589	.037
Personal services	.0016	[2] 3.309	.378	–.0031	–2.019	.312
Entertainment and recreational services	.0023	1.899	.167	(4)	(4)	(4)
Professional services	.0006	1.665	.134	–.0035	[2] –6.666	.840
Public administration	.0039	[2] 7.272	.746	.0030	[2] 5.723	.785

[1] The Gini indexes used in estimating the trends for full-time year-round workers were for the years 1967–1977.

[2] Statistically significant at the 1-percent level.

[3] Statistically significant at the 5-percent level.

[4] Trends were not estimated for these groups because of the lack of data.

THIS DISCUSSION may necessarily appear incomplete because changes in the distribution of earnings, no matter how thoroughly analyzed, cannot be labeled "good" or "bad." No consensus has been reached on what constitutes an optimum distribution. Some may argue for a more (or less) egalitarian society, but few, if any, have ventured to set forth the outlines of a pattern of distribution to be used as a goal in public policy. The current state of knowledge, though imperfect, does recognize the necessity of avoiding extremes: absolute inequality would stifle all freedom, absolute equality would produce a very dull society.

Because levels of earnings are affected by many factors, including effort, skill, knowledge, inheritance, family status, and luck, it becomes difficult, if not impossible, to single out the specific factors responsible for any given change in earnings distribution. Even if one wished to eliminate the element of "luck," he or she would be hard-pressed to know how to proceed. Yet the extent to which wealth and income are widely or narrowly distributed does reflect the nature of society and its economic system. Greater attention to earnings distribution data can yield more understanding of economic forces and the actions needed to effect change. ☐

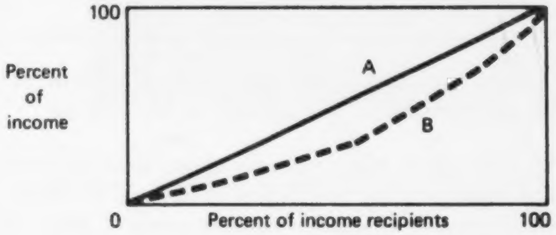
——— *FOOTNOTES* ———

ACKNOWLEDGMENT: The authors would like to acknowledge the contribution of Emmett Spiers, a statistician with the Census Bureau, who developed the data used in this article.

[1] See Peter Henle, "Exploring the distribution of earned income," *Monthly Labor Review*, December 1972, pp. 16–27.

[2] See Gian S. Sahota, "Theories of Personal Income Distribution: A Survey,"*Journal of Economic Literature*, March 1978, pp. 1–55; John A. Brittain, *Inheritance and the Inequality of Material Wealth* (Washington, D.C., The Brookings Institution, 1978); Christopher Jencks, and others, *Who Gets Ahead: The Economic Determinants of Success in America* (New York Basic Books, 1979); Stanley Lebergott, *The American Economy: Income, Wealth, and Want* (Princeton, N.J., Princeton University Press, 1976); Sheldon Danziger and Eugene Smolensky, "Income Inequality: Problems of Measurement and Interpretation," in *American Society Ink* (Chicago, Rand-McNally, 1977). Alice M. Rivlin, "Income Distribution—Can Economists Help?" *Papers and Proceedings of the Eighty-Seventh Annual Meeting of the American Economic Association*, May 1975, pp. 1–15; Morton Paglin, "The Measurement and Trend of Inequality: A Basic Revision," *American Economic Review*, September 1975, pp. 598–609; Eric Nelson, William R. Johnson, Sheldon Danziger, Robert Haveman, Eugene Smolensky, Joseph J. Minarik, C. John Kurien, and Morton Paglin, "The Measurement and Trend of Inequality; Comments," *American Economic Review*, June 1977, pp. 497–531.

[3] The Gini index (developed by an Italian statistician, Corrado Gini, 1884–1965), can best be described by the use of the following diagram:



If recipients are ranked according to their income along the horizontal axis and their total income is placed on the vertical axis, Line A will represent complete equality (10 percent of income recipients received 10 percent of income, etc.) Line B (Lorenz curve) may represent an actual distribution which always falls below the diagonal. Gini index is the ratio of the area between the two lines to the triangle below Line A, and is always less than 1.0. The closer the Gini index is to zero, the more equal the distribution.

[4] The method used by the Bureau of the Census to calculate the Gini indexes presented in this article differs slightly from the method used by the Bureau to derive the Gini indexes that were analyzed in an earlier article. Both methods used Pareto-linear interpolation and integration procedures to obtain the income quantiles and Lorenz Curves underlying the Gini indexes. The current scheme uses entirely consistent methods, whereas the earlier scheme sometimes combined Pareto and linear procedures in an inconsistent manner—moreover, the current scheme uses Simpson's rule for approximate integration in calculating the Gini indexes themselves, whereas the earlier scheme used the trapezoidal rule for approximate integration. For a more complete description of the improved methodology, see Emmett Spiers, "Estimation of Summary Measures of Income Size Distribution from Grouped Data," *American Statistical Association, 1977 Proceedings of the Social Statistics Section*, Part 1, pp. 252–57.

In addition, procedures for collecting and processing the income data were modified during the 1970–77 period, just as they were from time to time in the earlier years. These changes have been described in detail in the Census Bureau's *Current Population Reports*, Consumer Income, P–60 series, and have generally involved the procedures used in imputing income information for nonrespondents. Perhaps the most significant changes occurring in the 1970–77 period were those resulting in the revision of the 1974 income estimates. These revisions were necessitated not only by changes in the imputation procedures but also because of changes in the March CPS questions on income and work experience, changes in the number and detail of tabulated income intervals, and the correction of several small errors found in the previous processing system. Because of all these changes, the Census Bureau decided to revise the 1974 income statistics; consequently, this article contains 2 Gini indexes for the earnings distributions in 1974, one based on the old processing system and another based on the new system. For further information on the 1974 revision, see *Current Population Reports*, Series P–60, No. 105, "Money Income in 1975 of Families and Persons in The United States," Bureau of the Census, 1977.

[5] As an example of some of the research that has been done on the earnings differences between men and women, see Jacob Mincer and Solomon Polachek, "Family Investments in Human Capital: Earnings of Women," *Journal of Political Economy*, March/April 1974, Pt. II; Mary Corcoran, "The Structure of Female Wages," *The American Economic Review*, May 1978, pp. 165–78; Ronald Oaxaca, "Male-Female Wage Differentials in Urban Labor Markets," *International Economic Review*, October 1973, pp. 693–709; and Isabel V. Sawhill, "The Economics of Discrimination Against Women: Some New Findings," *Journal of Human Resources*, Summer 1973, pp. 383–95.

National Commission recommends changes in labor force statistics

The National Commission on Employment and Unemployment Statistics finds the U.S. system of employment and unemployment statistics fundamentally sound, but recommends many significant expansions and refinements of the data

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How well does our system of employment and unemployment statistics serve the needs of users? Congress raised that question in 1976, established a commission to address it, and instructed the Secretary of Labor to explore ways of implementing the commission's findings.

When it reported last September, the commission concluded that U.S. labor force statistics are generally sound, but called for improvements in a number of areas. Last month, Secretary of Labor Ray Marshall told Congress that he agrees with most of the commission's recommendations and already has implemented a few of them. This article reports both on the commission's recommendations and the Secretary's response.

Earlier review—Gordon Committee

Since its inception in the 1940's, the labor force statistics program always has been the object of careful scrutiny by the agencies of the Federal government.[1] The statistical design and operation of the most comprehensive part of the system—the household data obtained through the monthly Current Population Survey (CPS)—has been the responsibility of the Bureau of the Census and the analytical responsibility since 1959 has been lodged in the Bureau of Labor Statistics. However, because of the central role of employment and unemployment data in the formulation of Government policy, the statistical procedures and the concepts and definitions have been subject to periodic review by interagency committees and by the Joint Economic Committee of the Congress. Moreover, because the statistics are so widely used in government and the private sector, the statistical agencies have never introduced major conceptual or methodological changes without providing an opportunity for interested parties to review and comment upon them.

The first presidential review committee was appointed by President John F. Kennedy in response to widespread public criticism of and doubts about the accuracy of the labor force data because unemployment remained high during most of 1961, even though economic recovery was clearly under way. That 6-member review group, known as the Gordon Committee because its chairman was Professor Robert A. Gordon of the University of California, delivered its report in 1962. Many of its recommendations for improvements in concepts and methods were implemented in a series of actions by the BLS and the Census Bureau over the ensuing 5 years.[2] Among the major changes were the following: the sample for the survey was expanded by 50 percent; the questionnaire was sharpened to minimize reliance upon volunteered information; discouraged workers were classified as not in the labor force but, for the first time, were explicitly measured; other information on persons not in the labor force was collected for

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the first time; the age cutoff for labor force definitions was raised from 14 years to 16 years; the definition of unemployment included for the first time a specific indication of jobseeking methods used and of the jobseekers' current availability for work.

The Gordon Committee report resulted in many technical changes in the way the statistics were compiled, but did not basically alter their underlying conceptual or methodological structure,[3] and did not end the continuing controversy about the definition cf unemployment. This controversy has many variations, but it really comes down to one basic issue: should the Government's figures on unemployment reflect only those persons with a strong attachment to the labor force who suffer significant economic hardship when unemployed (for example, family heads), or should the Government's figures reflect *all* those seeking work plus those who do not seek work because they believe none is available and those who are on involuntary part time. The Government's present definition is clearly in the middle of these extremes—it includes all those not working who are currently seeking work (during the last 4 weeks) and are available for work (regardless of the strength of their labor force attachment or the degree of hardship involved), but it does not include workers on involuntary part time or discouraged workers.

The Levitan Commission

Whenever unemployment rises, as it did twice in the 1970's, the figures become subject to more intensive examination and heightened controversy. The late Commissioner of Labor Statistics Julius Shiskin tried to defuse this criticism by publicizing alternative unemployment measures[4] and by calling for the creation of another review commission inasmuch as 15 years had passed since the Gordon Committee was appointed. Another development that made conditions ripe for the appointment of a new commission was emergence in the 1970's of a new use for unemployment figures—that is, as a basis for the allocation of funds to specific localities for training and reemploying the unemployed. Because the Current Population Survey (CPS), which provides the data base for national estimates, was never designed for this purpose, indirect estimation methods have had to be used in conjunction with CPS benchmarks. Officials in cities and States who believed their unemployment problems were greater than indicated by the official statistics were increasingly critical of the State and local unemployment data, and this criticism spilled over onto the national monthly unemployment data.

As a result of these pressures, in October 1976, the Congress enacted legislation (Section 13 of PL 94-444) which mandated the appointment of a review commission to examine "the procedures, concepts, and methodology involved in employment and unemployment statistics and suggesting ways and means of improving them." The commission was appointed by President Jimmy Carter in April 1978.

The 9-member commission, chaired by Sar Levitan of George Washington University,[5] deliberated for nearly 18 months and delivered its final report to the Congress and Secretary of Labor Marshall, who is responsible for its implementation, on Labor Day 1979. The Secretary of Labor, as required by law, reported to Congress last month as to his response to each of the commission's recommendations—whether he considers them desirable and feasible and, if so, what steps he has taken or plans to take to implement the recommendations.

The commission's report, entitled, *Counting the Labor Force* comprises more than 300 pages and represents a distillation of extensive public hearings, the testimony of a broad spectrum of users, the findings contained in 33 background papers sponsored by the commission, and lengthy discussions among the commission members themselves.[6]

The commission concluded that the available data are useful in appraising current labor market trends, particularly at the national level. At the same time, the commission's judgment was that the data could be improved in several respects. In particular, the commission noted that more information was needed on "the qualitative dimensions of labor market experience" and on the dynamics of labor market behavior. The commission expressed a need for more comprehensive reporting on the link between employment status, workers' earnings, and family income. And it was critical of the adequacy of available data used as a basis for the allocation of funds to States and areas. In this case, it found that the statistical agencies of the Government were in a difficult situation because the monthly data needed to satisfy legislative requirements for thousands of small areas can only be generated by estimation procedures yielding data of doubtful quality.

The commission made nearly 90 recommendations for changes in the entire system of U.S. employment and unemployment statistics. (See exhibit 1.) Most of the recommendations apply to BLS, but a sizable number were also directed to the Census Bureau, and a smaller number involved the Department of Labor's Employment and Training Administration, the Department of Commerce's Office of Federal Statistical Policy and Standards, and the Department of Agriculture's Economics, Statistics, and Cooperatives Services. A few of the recommendations are directed to the Congress and its legislation affecting the allocation of money under the Comprehensive Employment and Training Act and other programs.

Despite the large number of recommendations, a fair assessment would be that this review commission, like

Exhibit 1. Summary of recommendations of the National Commission on Employment and Unemployment Statistics

Recommendation	Program affected	Agency affected	Status
Defining the labor force			
Define discouraged workers to reflect job search in last 6 months, current availability, and desire for work.	CPS	BLS Census	Accepted. New method being tested.
Continue to exclude discouraged workers from the labor force count, but collect data on them monthly and tabulate separately.	CPS	BLS Census	Accepted on an interim basis. Final decision subject to evaluation of new data.
Count Armed Forces members stationed in the United States as employed for national statistics, but do not include them in local area statistics.	CPS	BLS Census Defense	Accepted. Data to be provided by the Department of Defense.
Calculate employment/population ratio using the Armed Forces in both the numerator and denominator.	CPS	BLS	Accepted.
Define program participants in institutional training who are not actively seeking work as not in the labor force (rather than unemployed) and those in work experience programs as employed (rather than unemployed).	CPS	BLS Census	Accepted.
Linking employment status with earnings and income			
Publish an annual report on measures of economic hardship resulting from low wages, unemployment, and involuntary part-time work.	CPS	BLS	Accepted.
Adding labor market information			
Collect information on volunteer work every 3 years through a special supplement to the CPS.	CPS	BLS Census ACTION	Accepted, depending on CPS workload and budget.
Test the feasibility of collecting information from unemployed persons in the outgoing CPS rotation groups on their reservation wage, earnings on prior job, and type of job sought.	CPS	BLS Census	Accepted for an annual supplement, depending on CPS workload and budget.
(1) Collect detailed labor market information on the new survey of Income and Program Participation (SIPP) sponsored by the Bureau of the Census and the Department of Health, Education and Welfare.(2) If SIPP does not prove to be a suitable vehicle, expand the CPS questionnaire for the outgoing rotation group to collect more detailed information on source of income.	SIPP CPS	Census HEW BLS	Part 1 accepted. Part 2 rejected.
Obtain monthly information on whether employed respondents have begun new jobs within the past month, and if so, whether it was through job changing, new hires, or other method.	CPS	BLS Census	Accepted for an annual supplement, depending on CPS workload and budget.
Ascertain each month the school enrollment status of 16 to 24 year olds, including whether attendance is on a full- or part-time basis.	CPS	BLS Census	Accepted. New questions being tested.
Expand the CPS sample to produce more reliable monthly data for blacks and Hispanics and annual estimates for Asian and Native Americans.	CPS	BLS Census	Accepted, depending on budget.
Identify race and ethnicity in the CPS in the same manner as in the decennial census.	CPS	BLS Census	Implemented.
Determine usual hours worked for all employed persons and the reasons for working fewer hours.	CPS	BLS Census	Accepted. New questions being tested.
Use a specific hours cutoff (35 hours of more versus less than 35 hours) to determine whether the unemployed are seeking full- or part-time work.	CPS	BLS Census	Accepted. New questions being tested.
Improving data for consistently defined rural areas should be a consideration in the CPS redesign.	CPS	BLS Census	Accepted, subject to solution of technical problems.
Measures of economic hardship should include specific measures for the rural population.	CPS	BLS Census	Accepted as part of BLS annual report, if rural area data can be developed.
Extend the occupational employment statistics program to all States on a regular basis.	OES	BLS ETA NOICC	Accepted, depending on budget.

Exhibit 1. Continued—Summary of the National Commission's recommendations

Recommendation	Program affected	Agency affected	Status
Have occupational projections for the Nation, States, and areas systematically reviewed by the responsible agencies to analyze forecast errors and improve future projections. Provide a range of forecasts based on alternate assumptions, as a guide to errors in projections. Research should be undertaken by the BLS on the response of occupational supply and demand to market factors such as wage changes.	OOS	BLS NOICC	Parts 1 and 2 being implemented. Part 3 accepted, subject to solution of technical problems.
Conduct pilot studies by State employment security agencies to determine feasibility and costs of developing local occupational unemployment rates.	Unemployment Insurance OES	BLS ETA	Accepted in principle, but technical problems are severe.
Collect occupational mobility data in a special supplement to the CPS to find out whether respondents changed occupations in previous year and, if so, what their occupations were.	CPS	BLS Census	Accepted, depending on budget.
Include question on occupation, industry and place of residence 1 year ago on mid-decade and 1990 census.	1985 and 1990 census	Census	Will consider in planning process.
Insure that the new Standard Occupational Classification codes are broadly comparable with historical CPS occupational statistics.	CPS	BLS Census	Implemented.
Use civilian codes for military personnel in occupations with a civilian counterpart and develop new codes for other military occupations.	CPS	BLS Defense	Accepted, in principle, if data can be provided by Department of Defense.
Test the feasibility of expanding the BLS Labor Turnover Survey to trade, service, and other industries and linking a few basic demographic characteristics with the turnover data.	LTS	BLS	Accepted, depending on budget.
A job vacancy statistics program is not recommended unless new evidence shows that useful data can be collected in a cost-effective manner.	Job vacancy statistics	BLS	Decision depends, in part, on outcome of BLS pilot tests.
Consider a farm operator as self-employed.	Quarterly Farm Employment Survey	ESCS	Accepted, depending on user reaction.
Study occupational differential in agriculture to develop more detailed and meaningful agricultural occupational classifications for the Standard Occupational Classification system.	Quarterly Farm Employment Survey	ESCS	Accepted.
Explore the possibility of including labor turnover questions in the quarterly agricultural establishment survey.	Quarterly Farm Employment Survey	ESCS	Prior research and testing required.
Current Population Survey			
In the post-1980 redesign of the CPS, design 50 State samples to improve the efficiency of the survey.	CPS	Census BLS	Accepted.
Conduct intensified research and analysis on bias in the CPS data with an explicit timetable for publication of a set of total error estimates for prominent labor force series.	CPS	Census	Underway or planned.
Investigate the role of sample rotation bias in estimates by studying a group of addresses for 16 months to determine the number of new families moving into the residences. Collect information on the characteristics of those who move out, those who move in, and those who fail to cooperate initially, but subsequently participate in the survey.	CPS	Census	Underway or planned.
Assemble more information on the characteristics of noninterviews to improve estimation procedures.	CPS	Census	Underway or planned.
Conduct a study to determine whether the differential effects of rotation group bias on the ratio and composite estimate make use of the composite estimate desirable. Explore alternate methods of estimation.	CPS	Census	Underway or planned.
Include estimates of the "uncounted population" in the population controls used for the national and State labor force estimates; that is, adjust the population totals for the undercount.	CPS LAUS	Census BLS	Decision must await further developments.
Conduct a study of biases in the measurement of labor force status that arises from the use of proxy respondents. The investigation should be disaggregated for various groups in the labor force.	CPS	Census	Underway or planned.

Exhibit 1. Continued—Summary of the National Commission's recommendations

Recommendation	Program affected	Agency affected	Status
Establish a separate national CPS sample of approximately 10,000 households for a 2-year period to collect detailed supplementary labor market information that cannot be collected in the regular CPS.	CPS	BLS Census	Accepted, depending on budget.
Nonagricultural Establishment Survey			
Expand the BLS-790 sample to provide 508 published industry series and current aggregate employment estimates for all Standard Metropolitan Statistical Areas and remaining areas of States.	CES	BLS	Accepted within framework of program redesign.
Complete documentation of the BLS-790 program for use in studying possible redesign of the establishment survey.	CES	BLS	Accepted.
Expand research on methods used to adjust for bias in the BLS-790 employment estimates.	CES	BLS	Accepted within framework of program redesign.
Study the quality and coverage of the benchmark employment data from unemployment insurance records.	CES	BLS	Accepted.
Benchmark the BLS-790 employment data annually.	CES	BLS	Accepted.
Where sampling is inadequate, delete certain industries from the monthly tables in *Employment and Earnings*, but publish them in the annual bulletin.	CES	BLS	Rejected. Preference is to improve samples.
Revise the Standard Industrial Classification codes on a gradual and continuing basis.	CES	BLS	Accepted in principle. Technical problems being addressed.
Institute a formal continuing quality control program for the BLS-790 and ES-202 program.	CES	BLS	Accepted within framework of program redesign.
Evaluate the number of cells and degree of sample stratification annually at the time of benchmark revision to improve the accuracy of hours and earnings statistics, as well as employment statistics.	CES	BLS	Accepted in principle. Technical problems being addressed.
Conduct research to determine if any bias exists in reporting hours and earnings. Publish an expanded and more thorough statement of imprecision and bias for all estimates.	CES	BLS	Accepted in principle. Technical problems being addressed.
Test the feasibility and cost-effectiveness of collecting data on work hours of nonproduction workers through the BLS-790 program.	CES	BLS	Accepted within framework of program redesign.
Agricultural Establishment Survey			
Continue efforts to identify the overlap of list and area samples of employees through direct inspection of the social security list. The feasibility of collecting employment identification numbers for this purpose should be tested.	Quarterly Farm Employment Survey	ESCS	Partly implemented.
Restore the quarterly agricultural establishment survey sample to its pre-October 1979 level.	Quarterly Farm Employment Survey	ESCS	Accepted, depending on budget.
Institute a regular program of field quality control checks.	Quarterly Farm Employment Survey	ESCS	Accepted.
Include livestock series (SIC 0751) in the Department of Agriculture survey only.	Quarterly Farm Employment Survey	ESCS	Accepted, with reservations.
Reinstate BLS coverage of Standard Industrial Classifications 08 (forestry, hunting, fishing) and 09 (trapping).	Quarterly Farm Employment Survey	ESCS	Accepted.
Use payroll counts of all workers without regard to occupation.	Quarterly Farm Employment Survey	ESCS	Judgment reserved because of technical problems.
Modify the Department of Agriculture's sample design to permit derivation of quarterly average employment estimates. Monthly estimates should be published where reliability standards permit.	Quarterly Farm Employment Survey	ESCS	Judgment reserved because of technical problems.
Publish thorough documentation of the Department of Agriculture's quarterly agricultural establishment statistics program.	Quarterly Farm Employment Survey	ESCS	Accepted.

Exhibit 1. Continued—Summary of the National Commission's recommendations

Recommendation	Program affected	Agency affected	Status
Unemployment Insurance Statistics			
Improve data comparability among States by analyzing differences in the qualifying requirements and duration provisions of State unemployment insurance laws that affect the insured unemployment rates.	Unemployment insurance	ETA	Accepted.
Continue to collect the ES–203 data on characteristics of the insured unemployed through a Federal-State cooperative program.	ES–203	ETA	Accepted in principle. Other data sources being explored.
Assign full responsibility for the ES–203 program to the Employment and Training Administration.	ES–203	ETA	Accepted in principle. Other data sources being explored.
Fund a quality control program to enhance the accuracy and timeliness of the ES–203 through appropriations to the Unemployment Insurance Service.	ES–203	ETA	Accepted in principle. Other data sources being explored.
Analyze the characteristics of claimants over the last 15 or 20 years.	ES–203	ETA	Accepted in principle. Other data sources being explored.
Reinstitute collection in the ES–203 reports of the basic characteristics of the insured unemployed who exhaust their benefits.	ES–203	ETA	Accepted in principle. Other data sources being explored.
Comparing data from different sources			
Develop a spendable earnings series based on the new CPS quarterly earnings data (if the data prove reliable) to replace the series based on establishment data.	CPS CES	BLS	Research being conducted on CPS-based series. Establishment-based series will be continued at this time.
Longitudinal data			
Resume publication of gross flow data, if current defects can be satisfactorily reduced. In the meantime, these data should be published occasionally, with an accompanying warning about their reliability. Prepare monthy gross flow data time series tapes for public use.	CPS	BLS Census	Accepted, subject to solution of technical problems.
Prepare public use tapes containing longitudinal CPS microdata.	CPS	Census	Accepted.
Seasonal adjustment			
Pending further advances in regression or other methods of seasonal adjustment, continue the X–11 and BLS–SF methods for seasonally adjusting labor force data.	CPS CES	BLS	Accepted.
Adjust unemployment rates and other important current labor statistics on a concurrent basis.	CPS	BLS	Rejected.
Continue to revise adjusted historical data once a year.	CPS	BLS	Accepted.
Use the X–11/ARIMA method for seasonally adjusting major labor force series that are characterized by rapidly changing seasonality.	CPS	Census BLS	Accepted.
Develop standard errors for seasonally-adjusted data.	CPS	BLS	Accepted.
State and local statistics			
Expand the CPS to provide a maximum expected 6.5-percent coefficient of variation in the annual average estimates of unemployment for States and SMSA's with a population of 1 million or more, 11 major central cities and the corresponding remainder of States and SMSA's.	CPS LAUS	Census BLS	Accepted in principle. Proposal modified to improve data for 125 SMSA's within same budgetary constraints. Implementation depends on budget.
To meet requirements for monthly or quarterly State and sub-State statistics, update immediately the handbook procedures for estimating employment and unemployment. Update past CPS estimates to the current month in ways that	LAUS CES 1985 census	BLS Census	Accepted, subject to solution of technical problems, and budget.

Exhibit 1. Continued—Summary of the National Commission's recommendations

Recommendation	Program affected	Agency affected	Status
will minimize both the size of annual revisions to the estimates and the distortion of monthly movements. Along with expanding the nonagricultural establishment survey to provide current employment data for all SMSA's and the corresponding remainder of States, collect labor force information on small areas in the mid-decade census, if the expense is not excessive.			
Review present statistical requirements pertaining to the allocation of funds to States and localities, including the frequency with which statistics are mandated and the use of allocation formulas that place a premium on the accuracy of estimates.	Grant allocation	Congress Labor Commerce	Accepted in principle. Implementation depends on the Congress.
Avoid using monthly data for allocation of funds to States and localities. Use graduated allocation formulas, when feasible.	Grant allocation	Congress	Accepted in principle. Implementation depends on the Congress.
Administration and presentation			
The Office of Federal Statistical Policy and Standards should be consulted during the initial stages of legislative formulation by any department regarding potential factors to be used in formula grant allocations.	Grant allocation	Commerce	Accepted.
A statistical reliability note should accompany all legislative proposals, submitted, including cost estimates for any new or expanded data collection requirements.	Legislation	Commerce ETA BLS Other	Accepted with reservations.
Allow the BLS sole funding authority for the BLS-790, BLS-1219, ES-202, Occupational Employment Statistics, and Local Area Unemployment Statistics programs.	Federal-State programs	ETA BLS	Funding arrangements being negotiated by the affected agencies.
Provide funds so that the BLS can establish a training program for workers in Federal-State statistics programs.	Federal-State programs	BLS	Accepted with reservations.
Expand the BLS regional staff to assist State and local agencies in their statistical work.	Federal-State programs	BLS	Judgment reserved.
Continue to insulate the BLS statistical program from partisan influence.	Various	BLS	Accepted.
The BLS advisory councils should adopt a more active role.	Various	BLS	Accepted.
Establish a new advisory council broadly representative of the data user community.	Various	BLS	Rejected.
Prior to instituting major changes affecting current statistical programs, the BLS should conduct broad public information programs to describe the contemplated changes and solicit comments. Where appropriate, advance notice of planned changes should be published in the Federal Register.	Various	BLS	Accepted.
Review the Nation's labor market information system at least once each decade.	Various	BLS ETA Agriculture Census	Accepted.
Review the present array of alternative unemployment measures in light of the conceptual issues addressed in the recommendations of the National Commission of Employment and Unemployment Statistics.	Various	BLS	Accepted.

NOTE: HEW = U.S. Department of Health, Education and Welfare.
OES = Occupational employment statistics.
ETA = Employment and Training Administration, U.S. Department of Labor.
NOICC = National Occupational Information Coordinating Committee.
OOS = Occupational outlook statistics.
LTS = Labor Turnover Survey.
ESCS = Economics, Statistics, and Cooperatives Services, U.S. Department of Agriculture.
LAUS = Local Area Unemployment Statistics.
CES = Current Employment Statistics.

its predecessor the Gordon Committee, did not call for a basic overhaul in any of the major statistical programs or of the specific concepts, methods, or procedures in use. Its recommendations for changes in definitions are minor. The commission considered but rejected recommending the development of an annual index of economic hardship, and instead called for the publication of an annual report on this subject. It also considered and rejected the possibility of counting "discouraged workers" as unemployed. The major thrusts of the recommendations were to call for: (1) the collection, processing, analysis, and reporting of more data about the employed, the unemployed, and persons not in the labor force; (2) the expansion and strengthening of samples now in use to provide more reliable area, demographic, industry, and occupational data; and (3) the intensification of research into a number of long-term methodological problems. Many of the commission's recommendations were, in effect, encouragement for the statistical agencies to pursue efforts already under consideration or under way for data development and data improvement. Nevertheless, taken as a whole, the recommendations of the commission should have considerable impact on employment and unemployment statistics programs over the next several years simply because of the added weight and support provided by a prestigious body to specific decisions and courses of action. Some of the major specific recommendations are summarized in the following discussion. Except as noted, the Secretary of Labor endorsed these recommendations.

Labor force definitions

The commission spent a great deal of time considering possible changes in labor force definitions. For example, it considered the desirability of introducing cutoffs based on hours of work or hours of seeking work as criteria for inclusion in the labor force; of raising the age cutoff from 16 to 18; and tightening the definition of jobseeking by ruling out some informal methods. In the final analysis, it rejected all these courses of action and left the basic definitions almost completely intact.

Discouraged workers. The most controversial definitional issue considered by the commission was that of discouraged workers. The present statistical practice, recommended by the Gordon Committee, defines discouraged workers as persons who want to work but are not seeking work because they believe none is available, and classifies them as not in the labor force. Information is compiled and published on the number and characteristics of discouraged workers on a quarterly basis. The commission recommended monthly publication and a change in the criteria for defining discouraged workers. But, it urged continuing the practice of classifying them as not in the labor force, rather than as unemployed. The new criteria would involve determining whether a person had sought work in the past 6 months, and whether he or she was currently available for and wanted work. Persons who meet these criteria would be defined as discouraged workers.

The Secretary of Labor accepted the change in the definition of discouraged workers, but indicated that the *final* decision on their classification as "unemployed" or "not in the labor force" should await the accumulation and study of data under the new definition. In the meantime, discouraged workers will continue to be classified as "not in the labor force."

At present, two versions of a specific set of questions which would implement this commission proposal are being tested in the Census Bureau's 3,200-household "Methods Development Survey." If this recommendation is proven feasible, a change in the method of defining discouraged workers, and monthly compilation and reporting of the data, could go into effect in January 1983.

Armed Forces. One significant definitional change recommended by the commission was to include members of the Armed Forces among the employed for purposes of national statistics (but not to include them in local area statistics), and to include them in the numerator and denominator in calculating the employment-population ratio.

This recommendation was accepted by the Secretary, with the understanding that the decision might be reconsidered if there should be a change in military personnel policy (a shift from an all-volunteer armed services to a military draft). In implementing this definitional change, data will continue to be obtained from the Department of Defense, rather than through the CPS.

Economic hardship

The commission deliberated extensively about the merits of recommending the development of specific measures of "labor market-related economic hardship." An early draft of the commission's report, circulated in January 1979 for public comment, contained a formulation of such measures synthesizing information on weeks and hours worked and weeks looking for work in the previous calendar year; workers' annual earnings; and the incomes of their families in relation to the poverty line, which in turn is adjusted for family size. The draft report also contained an extensive discussion of the conceptual and technical problems in developing such measures. The commission's final recommendation was for BLS to develop an annual report in which data would be provided and analyzed on three aspects of individual labor market hardship—low wages, unemployment, and insufficient participation in the labor force. The commission recommended that these data, which would pertain to individuals, should also be analyzed in the context of family income and composition.

Secretary Marshall commented that this was potentially one of the commission's most important recommendations because the annual report could enhance public understanding of the relationship between employment status and family income.

Additional information

The commission devoted a significant part of its report to a discussion of recommendations for the collection of new information on the labor market, and the extension of coverage of existing programs. Of the 23 recommendations in chapters 6 and 7, 13 relate mainly to the CPS. The more significant recommendations pertaining to the CPS are the following:

1. The sample should be expanded to strengthen the reliability of data for racial and ethnic minorities. This is one of the objectives of the Census Bureau and BLS in planning for redesign of the CPS after completion of the 1980 decennial census.

2. There should be some testing of the feasibility of collecting monthly or quarterly information on the unemployed with respect to the lowest wage they will accept (their reservation wage), earnings on prior jobs, and the occupation being sought. This type of information has been collected in the CPS on an ad hoc basis in the past, although nonresponse rates have been comparatively high. Both the BLS and the Census Bureau have a strong preference for an annual supplement to the CPS as the best way to collect this type of information.

3. Monthly data should be collected on new jobs obtained by the employed, and whether they were obtained through a job change, a recall from layoff, entry into the labor force, or some other method. (Again, the statistical agencies prefer an annual supplement to collect this data.)

4. Monthly data should be obtained on the school attendance of youth, and whether enrollment is full or part time. Such information presently is available only in October; in other months, proxy information is available from a question on major activity during the survey week, but this is a less satisfactory approach. Questions on school enrollment are included in the Methods Development Survey test panels.

5. Questions on usual hours of work, and reasons for working fewer hours, should be asked of all workers rather than only those working 1–34 hours as is done presently. These are also being tested in the Methods Development Survey.

6. Special supplementary inquiries should be conducted on occupational mobility and volunteer work.

Other programs which would be expanded by the commission are the Occupational Employment Statistics program which would cover all States, and the Labor Turnover Survey which would cover all industries.

The commission recommended against the further development of a job vacancy statistics program "unless new evidence is presented that useful data can be collected in a cost-effective manner."

Recommendations which involve (1) extension of sample coverage to additional population groups, States, or industries, or (2) the addition of questions to the CPS questionnaire, depend for their implementation on the availability of resources—both staff and financial—and on the resolution of some technical problems. The only controversial recommendation is that on job vacancy statistics. The commission recommended against collection of such data; however, the Secretary of Labor noted that a decision in this area must await the results of BLS testing activities.

CPS methodology

There are two major recommendations relating to sampling and estimation. The post-1980 redesign on the CPS should be based on 50 State samples to improve the efficiency of the survey. This has all along been one of the basic planning assumptions of the Census Bureau and BLS in the work on the redesign. The commission also recommended that estimates of the "uncounted population" be included in the population controls for the national and State labor force estimates. This is a very controversial recommendation because it affects the data used for many different government programs, and because estimation of the undercount below the national level is fraught with problems. The Census Bureau sponsored a special conference of academicians and policymakers in February 1980 to discuss the issues raised by the population undercount and the kinds of data and methods that might be used to adjust the census counts. A recommendation on this sensitive issue will be made by the Census Bureau to the Department of Commerce sometime during the next 12 months.

Other recommendations on methodology call upon the Census Bureau to intensify its research efforts into the various biases which have been long known to exist in the CPS.

BLS nonagricultural establishment survey

The commission presented several technical recommendations designed to improve the accuracy of the BLS industry employment statistics obtained through the monthly establishment survey. The commission also called for an expansion of survey coverage to additional industries and to all Standard Metropolitan Statistical Areas (SMSA's) and remaining areas of States. The latter was considered useful in its own right as well as for the purpose of improving the monthly employment estimates used in the calculation of the labor force and unemployment rates for local areas in the Local Area Unemployment Statistics (LAUS) program. The recommendations on improving the accuracy of these data are being considered by BLS within the framework of a multi-year redesign of the program of industry employment statistics.

Gross flow data. The commission considered gross flow data to be extremely important in providing insight into the dynamics of labor force behavior. The gross flow data provide the user with estimates of the total number entering the labor force (gross inflow), those leaving the labor force (gross outflow) each month, as well as gross shifts between employment and unemployment. These data have received increasing use, though still limited because they are known to be subject to several kinds of biases which cannot be readily measured. The commission does not offer a solution to this problem but urges the statistical agencies to reduce the defects in the data to an acceptable level, and to begin publishing them at least annually, with appropriate caveats.

Seasonal adjustment. The commission recommended that the seasonal adjustment of major labor force series be converted to the X-11 ARIMA method and that the seasonal adjustment be on a concurrent basis.[7] The X-11 ARIMA method (which includes a provision for forecasting the original series 1 year ahead) has been found to be particularly effective for series whose seasonal patterns are changing, and for identifying turning points in the business cycle. The concurrent method would involve developing seasonal adjustment factors for each month by using all the available data, including the current month, and then revising the entire series at the end of each year. However, the concurrent method would preclude the prior announcement of seasonal factors for future months. In January 1980, the BLS shifted to the X-11 ARIMA method but not to the concurrent method. There will be a recomputation and prior announcement of factors every 6 months, but revision of the entire series only once a year.

Local Area Unemployment Statistics (LAUS)

This program is discussed extensively in the commission's report. There are four basic recommendations:

- Expand the CPS sample substantially so that annual benchmarks for States and 35 large SMSA's will be significantly improved.
- Update and improve the so-called "handbook procedure"—a building-block approach to estimating unemployment by month by area, using unemployment insurance administrative data as its primary input.
- Collect labor force information in the mid-decade census in order to improve local area unemployment estimates.
- Have the Congress review and possibly modify the statistical requirements imposed by various legislative enactments.

The BLS and the Department of Labor endorsed the commission's proposal to interview a larger number of households each month to obtain more reliable data for States and metropolitan areas. However, the Department believes that it would be more desirable, within the same budgetary framework, to improve the data for the 125 largest SMSA's (containing about 62 percent of the Nation's population), sacrificing some of the proposed improvement for the 35 largest SMSA's. This alternative would provide for a much larger number of metropolitan areas benchmarked to the CPS and should lead to greater equity in the distribution of Federal money. In addition, this proposal would provide annual average data on the demographic characteristics of the employed and unemployed in these areas, which should be of substantial value in program planning and policy analysis.

The sample expansion is being incorporated into the planning for the CPS redesign. Implementation depends, of course, on the availability of financial resources.

The BLS is exploring the feasibility of various means of improving the handbook procedure and has let a contract with Mathematica Policy Research Corp. to develop an improved handbook-type methodology, including an investigation of regression techniques as recommended by the commission. However, it is too early to tell what the results of this research will yield. The fate of the other recommendations is also uncertain at this time.

Other recommendations

Presentation of data. The commission's recommendations in this area were not very extensive, calling for an improvement in the explanatory note to the press release (already implemented by BLS), and a review of the U_1–U_7 alternative measures of unemployment. These measures are being reviewed by BLS.

Administration. The commission made a variety of recommendations, involving such issues as the statistical requirements imposed by legislation, the funding of Federal-State programs, the training of State personnel, the utilization of advisory committees by the BLS, and a comprehensive review of the labor force data system at least once a decade. The commission offered a number of constructive suggestions which could impact the environment in which statistics are developed, but will have little short-term effect on the data themselves.

REACTIONS TO THE OVERALL thrust of the commission's recommendations have been largely favorable, although several agencies including BLS and the Census Bureau have expressed disagreement with one or more of the specific proposals. Implementation of many of the recommendations will involve a lengthy process and, in many cases, will depend on the availability of resources and the ability to solve some very difficult technical problems that have thus far defied solution. In any event, there will be another progress report to the Congress on implementation of the commission's proposals. The law requires the Secretary of Labor to submit a final report within 2 years after the commission's final report (that is, on or before September 3, 1981) detailing the actions taken with respect to the commission's recommendations. □

FOOTNOTES

[1] See John E. Bregger, "A new Employment Statistics Review Commission," *Monthly Labor Review*, March 1977, pp. 14-20.

[2] President's Committee to Appraise Employment and Unemployment Statistics, *Measuring Employment and Unemployment* (Washington, 1962) and Robert L. Stein, "New Definitions for Employment and Unemployment," *Employment and Earnings*, February 1967, pp. 3-27.

[3] John E. Bregger, "Unemployment statistics and what they mean," *Monthly Labor Review*, November 1971, pp. 22-29.

[4] Julius Shiskin, "Employment and unemployment: the doughnut or the hole?" *Monthly Labor Review*, February 1976, pp. 3-10.

[5] National Commission on Employment and Unemployment Statistics, *Counting the Labor Force* (Washington, Government Printing Office, 1979), 312 pp. See also National Commission on Employment and Unemployment Statistics, *Concepts and Data Needs, Appendix Volume I; Data Collection, Processing and Presentation: National and Local, Appendix Volume II* (forthcoming); and *Counting the Labor Force: Readings in Labor Force Statistics, Appendix Volume III*. For transcripts of hearings conducted by the commission, see *Public Hearings Before the National Commission on Employment and Unemployment Statistics, Volumes 1, 2, and 3* (U.S. Congress, Joint Economic Committee, 95th Cong. 2d sess. 1979, Committee Print). See also, *Interim Report of the Secretary of Labor on the Recommendations of the National Commission on Employment and Unemployment Statistics* (Department of Labor, 1980).

[6] In addition to Chairman Levitan, the commission's members were Bernard E. Anderson, University of Pennsylvania; Glen G. Cain, University of Wisconsin; Jack Carlson, U.S. Chamber of Commerce; Michael H. Moskow, ESMARK, Inc.; Rudolph A. Oswald, AFL-CIO; Samuel L. Popkin, University of California at San Diego; Mitchell Sviridoff, Ford Foundation; and Joan L. Wills, National Governors' Association.

[7] This approach was recommended by Estela Dagum of Statistics Canada based upon research and applications performed on labor force series at that organization. Dagum served as a consultant to the National Commission on Employment and Unemployment Statistics.

Frances Perkins, Isador Lubin, and the Bureau of Labor Statistics

As Commissioner of Labor Statistics, Isador Lubin worked closely with Secretary of Labor Frances Perkins to meet the urgent need for data stemming from the Great Depression

JOSEPH P. GOLDBERG

The memory of the first woman to be appointed to the Presidential Cabinet is being signally honored this month, with the designation of the Department of Labor Building in Washington, D.C., as the "Frances Perkins Building."[1] Frances Perkins' influence as Secretary of Labor was prominent in the New Deal program seeking to create employment to cope with the Great Depression, and with broad social legislation of lasting influence—the Fair Labor Standards Act, the Social Security Act, and the Wagner Act. Upon assuming office in the new administration of President Franklin D. Roosevelt, Perkins made clear her concern with the role of the Bureau of Labor Statistics by immediately initiating a review of the Bureau's statistics, and a search for a Commissioner of Labor Statistics. Her choice of Isador Lubin was an inspired one—resulting in a relationship which extended to concerns beyond the Bureau, and even the Department, for Lubin also became a trusted confidant of President Roosevelt.

In the process, the Bureau of Labor Statistics made its transition to a forward-looking agency, geared to the requirements of a wartime, and later, to a growth economy. This article deals with the Perkins-Lubin relationship as it determined the role of the Commissioner of Labor Statistics, and the development of the Bureau's programs.

Isador Lubin's death in July 1978, at the age of 82, terminated a long career, in which he had been Commissioner of Labor Statistics for a period of 13 years, from 1933 to 1946. He was the Bureau's fifth Commissioner. When he assumed the post, it was with a clear view, shared by Perkins, that he would seek to bring the Bureau into a position compatible with its established reputation, and the economic and social needs of the time. The New Deal concern with the status of workers, encouragement of labor organization, and development of collective bargaining accentuated the need for improved and modernized statistics and analyses of socioeconomic conditions. Lubin, with the active support of Perkins, and by his personality, experience, and expertise in labor economics, and his facility for dealing with and inspiring confidence in the varied groups with which he dealt, provided the impetus for the Bureau's growth. This forward-looking adaptation has persisted over the second-half century of the Bureau's existence.

BLS in the 1920's

Perkins and Lubin had dealt with Commissioner of Labor Statistics Ethelbert Stewart during the 1920's. When Perkins was New York State Industrial Commissioner, her agency had cooperated with the Bureau in the development and expansion of the Bureau's employ-

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ment series. Lubin, at the newly established Brookings Institution, was a leading participant in the economic advice and research provided by Brookings. He conducted studies of the effects of technological unemployment, and of British experience in dealing with unemployment. He was actively involved in the growing Congressional awareness of the need to identify the scope, characteristics, and ameliorative approaches to growing unemployment. He was loaned by Brookings in 1928 and again in 1930 to serve as economic counsel to Senate committees considering legislation to deal with unemployment, and with the establishment of a national economic council to aid in governmental economic planning. He worked closely with Senators Robert M. LaFollette, Jr. of Wisconsin, James Couzens of Michigan, and Robert Wagner of New York.[2]

Although BLS was recognized as a valuable and technically capable institution by technical experts and professional societies, the Bureau's opportunities to modernize and improve its work were restricted during the 1920's by appropriations which, though doubling in the 25 years to 1930, had only kept pace with increases in salaries and the cost of field work. Even when the Congress called for improvements in the scope and coverage of employment statistics, the appropriations followed late and were either threatened or eliminated.

Support for expansion in Federal statistical programs in the 1920's was determined by the influence associated with farmers and businessmen in the prevailing economic climate. During the administrations of Presidents Warren Harding, Calvin Coolidge, and Herbert Hoover, the economic plight of farmers resulted in support for expanded agricultural statistics, if more direct aid was not received. As Secretary of Commerce for 8 years, Hoover encouraged the provision for adequate statistics to business, "because businessmen were making the most important economic decisions."[3]

Stewart's proposals for increased appropriations were met with frequent Congressional reactions suggesting reductions instead, in the interest of economy. Asking for increases to base the semiannual cost-of-living index on expanded and modernized expenditure patterns of wage earners, he was pressed instead to justify the greater costs involved in field visits, rather than mail schedules, in the conduct of industry wage studies and the pricing for the cost of living index.[4]

The analytical reports of the Bureau adapted to the changing economic and social scene, continued during the 1920's, despite budgetary limitations. Wage and hour studies of individual industries were scheduled at 5-year intervals, with such new industries as motor vehicles and airplanes, along with the previously initiated studies of coal mining, meatpacking, and textiles. Productivity studies in individual industries were developed during the 1920's, reflecting interest in the impact of new technologies. Bureau work in industrial accidents and hygiene continued to be prominent.

The continuing concern in the 1920's over the state of employment, and the absence of adequate unemployment information, provided the Bureau with resources, albeit limited and lagging, to expand its work in the employment field. The study of employment and payrolls had begun in 1915, gaining momentum when the downturn of 1921–22 resulted in awareness of the uncertainty of unemployment information. President Harding's Conference on Unemployment in 1921, chaired by Hoover, included a variety of unemployment estimates. The Department of Labor's U.S. Employment Service estimated unemployment at 3.5 million, while BLS reported an employment shrinkage of 5.5 million. With so many wide-ranging guesses, the conference "merely voted to announce to the country that the number unemployed was between 3.5 million and 5.5 million, numbers startling enough to challenge attention."[5]

The conference resulted in increased appropriations to the Bureau to expand its coverage of manufacturing industries, and continued study by the American Statistical Association's Committee on Governmental Labor Statistics. The committee's recommendations called for the BLS to be the coordinating center for the States and any other Federal agencies gathering employment data. BLS was called upon to expand its industrial coverage from manufacturing and first class railroads, to include mining, communications, building construction, wholesale and retail trade, and agriculture.[6]

Unemployment increases

In 1928, concern with growing unemployment was again prominent in Congress. Increased appropriations permitted the Bureau to expand coverage to nonmanufacturing industries. Both Stewart and Lubin were involved in the landmark Senate hearings in 1928–29, chaired by Couzens on the bills introduced by Wagner, covering comprehensive unemployment measures.

Ethelbert Stewart testified on the "shrinkage of employment," and, as he did over the years, stressed that the Bureau's employment index was not an unemployment measure. Lubin, who had been involved in a Brookings Institution study of the absorption of "dispossessed" or discharged workers by industry, was loaned to the Senate Committee as economic adviser.

Lubin's analysis of the witnesses' testimony and of the Brookings study were important contributions to the committee. The Brookings study, he pointed out, had shown that most displaced workers have great difficulties in finding new lines of employment. Lubin supported Stewart's expression of the need for a census of unemployment for benchmarking purposes, approved of the efforts underway to expand the reporting sample, and agreed that coverage of part-time employment be added. In a period of Federal laissez-faire in regard to unemployment, Lubin's assessment that "unemployment is the result of industrial organization, and not of individual character," would receive catastrophic confirmation in the forthcoming Great Depression.[7]

With the onset of the crash of 1929, and the attendant depression and unemployment, statistics became a focus for approaches to the problems in the labor market. The continuing controversy over the extent of unemployment was reflected in the debate surrounding Hoover's press conference release in early 1930 announcing an increase in employment. Perkins, New York State Industrial Commissioner, responded that these statistics were questionable. She noted that these had not been attributed to the Bureau of Labor Statistics, whose estimates were viewed as honest and reliable on the basis of long association. Further, the New York State experience showed a decline in employment. Perkins' estimate was confirmed with the release of the official BLS report on employment.[8]

In the remaining period of Stewart's stewardship, the employment statistics remained a sore point. Secretary of Labor Doak and Stewart differed in early 1932 on the interpretation of the statistics. When newspapermen checked with Stewart, Doak publicly rebuked the Commissioner. Subsequently, at age 74, with 45 years of government service, with more than a year remaining for completion of his term, Stewart was not included by President Hoover on the list of those for whom extensions were requested beyond mandatory retirement age.[9] Charles E. Baldwin was named acting commissioner for the balance of Stewart's term.

The statistical ambience

The longtime experience of Perkins as New York State Industrial Commissioner provided an awareness of the role of the Bureau of Labor Statistics in economic policy. She was equally aware of the need for obtaining support to modernize that role to meet the requirements of the social and economic policies required to cope with the depression conditions of 1933. It was crucial to her concerns that the new Commissioner meet the challenge of changed requirements. The breadth of Lubin's interests and experience was known to her, and she expected that he would provide broad economic and social perspectives in dealing with the statistical programs of the Bureau. As her biographer states: "When Perkins offered him the post, she told him he had been chosen because she thought he would remember that statistics were not numbers but people coping or failing to cope with the buffetings of life. She evidently stressed this point to Roosevelt, for he later repeated it to Lubin."[10]

The conjoint interests of Perkins and Lubin went to both the improvement of the Departmental statistical program and to ensuring the effective coordination of the statistical programs of the Federal Government. Upon her appointment, Perkins immediately invited the president of the American Statistical Association to confer and advise "regarding the methods, adequacy, usefulness, and general program of the Bureau of Labor Statistics." Immediately following his appointment as Commissioner, Lubin became involved directly in both the work of the Advisory Committee to Perkins, and in the broader efforts toward establishing a central statistical board. Lubin welcomed the advice and counsel of this committee of technical experts. Its members included Ewan Clague and Aryness Joy, who later served together as Commissioner and Deputy Commissioner of BLS. The review of the Bureau's programs continued for more than a year.

Lubin and Perkins agreed on the role of the Central Statistical Board, in that it would ensure consistency in approaches on the part of Government agencies, avoidance of duplication, and attainment of economies. But a centralized statistical agency was opposed, for as Lubin stated: "In terms of the usefulness of statistics, it probably is cheaper in the long run, despite the additional cost of duplicated overhead, to have smaller decentralized units collecting data which are of maximum usefulness in formulating policies and solving problems, than it would be to have a centralized and consolidated statistical agency collecting data on a series of unrelated subjects, which data do not have the realism necessary to give them effective usefulness."[11]

Lubin's role in the formation and functioning of the Central Statistical Board was persistent, and he urged Perkins to actively participate. He was among an unofficial committee which proposed its establishment to members of the Roosevelt Cabinet, and then served on it as the Department of Labor representative.[12] He obtained Perkins' endorsement for a permanent Board. The legislation subsequently made the Board the joint responsibility of a Cabinet-level Central Statistical Committee, consisting of the Secretaries of Labor, Commerce, Treasury, and Agriculture. Lubin urged Perkins to press with President Roosevelt her claim to be chairperson. Perkins was designated chairperson of the Cabinet-level Central Statistical Committee, with Lubin serving as vice-chairperson of the Central Statistical Board.

Lubin and Perkins were active in using the Board to meet the threat of duplication by the statistical activities of the National Recovery Administration (NRA) to the longstanding activities of BLS and other established agencies. Perkins wrote to Roosevelt and to Hugh Johnson, Director of the NRA, citing the duplication as resulting in refusals by some employers to continue to submit reports to Government agencies. Attention was called to investigations conducted by the Central Statistical Board, and to a Board resolution calling for an Executive Order rectifying the situation.[13]

Controversial order issued

The Administrator for Industrial Recovery responded by issuing an order requiring industries under codes to furnish data directly to the Bureau of Labor Statistics, and Federal and State agencies working in cooperation with the Bureau. Some representatives of industry associations questioned the order, so Lubin met with trade association executives to explain why the direct Government collection was necessary for uniform and timely reporting.[14] In meeting with representatives of State labor departments and interested Federal agencies on the broad authority under the NRA order, Lubin cautioned on the need for care in maintaining and improving existing reporting relationships based on established voluntarism and confidentiality. While "under this order we have for the first time legal authority to secure these data," Lubin cautioned, "We don't want to use that power though, we would rather it would be a cooperative venture . . . . These data are confidential and not to be used for enforcement purposes."[15]

Perkins encouraged Lubin's broader role including his participation in economic meetings at the White House. He prepared economic analyses for Perkins directly, and for the Cabinet-level Central Statistical Committee, of which she was chairperson. Lubin was elected by the committee to serve as secretary, and to prepare for the committee a periodic economic analysis and report, which would also be abstracted for presentation to the National Emergency Council. Perkins wrote Roosevelt, that the "value of this arrangement would obviously be enhanced by Dr. Lubin's membership in the National Emergency Council. May I recommend and request that you designate him?"[16]

Lubin was soon called upon by the White House in a variety of situations. He participated in the discussions held by Roosevelt with business, labor, and government policy officials in meeting the recession of 1937 and soon after, Lubin was the first witness called at congressional hearings on unemployment.[17] In June 1938, when the Temporary National Economic Commission was approved by Joint Congressional Resolution, following a Presidential message, a letter from the President called on Lubin to cancel a commitment to lecture at the Summer School of the University of California. Roosevelt requested, "In view of the passage of the Wage and Hour Bill and of the Congressional resolution providing for an investigation into monopoly conditions in American industry, I think it would be helpful if you could arrange to remain in Washington until such time as the Monopoly Commission can formulate its agenda and the preliminary organization necessary for the administration of the Wage and Hour Bill can be set in motion."[18]

The culmination of Lubin's partial association with the White House occurred in May 1941, when he was appointed as special statistical assistant to President Roosevelt.

Lubin as Commissioner

Lubin's primary goal for the Bureau, with Perkins' encouragement, was the development of a professionally-staffed organization prepared to meet the requirements of the rapidly evolving New Deal policies affecting the status of workers. Not only were the ongoing statistical activities of the Bureau, particularly in employment and prices, to be improved and modernized; appropriate analytical treatment would be given to these statistical reports. The Bureau's programs in the field of labor-management relations were to be expanded to meet the requirements of new policies. These goals were intensified by the many special activities in which Lubin himself and the Bureau were involved, as social and economic concerns of the Department of Labor under Perkins were broadened to meet the burst of New Deal legislative development.

The Bureau expanded substantially under Lubin's direction, but the process was slow and uneven. When he took over in 1933, the Bureau's budget had just been cut from $580,400 to $450,000, with the staff reduced from 240 to 211, as part of overall economy measures. Emergency funds compensated for part of a further reduction the following year, with the staff increasing to 318. In succeeding years, the regular budget had more increases than decreases, and was supplemented by funds transferred from other agencies for special studies. By 1940–41 the regular budget had increased to about $1.1 million, and the staff to more than 800 (690 in Washington and 120 in the field).

The annual report for the Bureau initially bearing Lubin's imprimatur stressed that professionalization of staff and interpretation and analysis were to go hand in hand. The program needs in the price area were expressed in terms of consumer information needed to cope with the unwarranted increases allegedly due to the National Industrial Recovery and Agricultural Adjustment Acts. Employment data required expansion to permit assessment of the effects of industrial revival. Studies of industrial wages and hours required expansion and greater currency to meet the code-formulating activities of the National Recovery Administration (NRA). In summary, the report stated, "Not only must raw data be improved but the Bureau must be enabled more fully to analyze the material it now has, so that evidence may be available as to where the recovery program is having the greatest effect and where it is falling down. The Bureau is not at present in a financial position to employ the economic analysts necessary for such interpretations."[19]

The need for improvising to meet the gargantuan demands of the emergency situation, and particularly of the NRA, was stated by both Perkins and Lubin at appropriation hearings in December 1933. With BLS assuming responsibility to provide information for the codes, personnel were detailed from inside and outside the Department. As Perkins stated, "The Bureau of Labor Statistics has turned itself out in order to get this information and to make it available in a form that was easily understood and readily used by people who had the responsibility of taking some action." Lubin added that every labor group involved in any NRA code had had to go to the Labor Department for information.

Lubin indicated the lengths to which ingenuity had had to be applied to meet pressing needs, absent adequate resources: "I do not want to appear to boast, but I think I am one of the few officials who have actually gone out and borrowed people from other departments of the Government and put them to work during their spare time getting materials for which we would otherwise have to pay."[20]

Efforts take effect

By mid-1935, it could be reported that improvements in organization and working methods had proceeded efficaciously. An industrial relations division had been established, and a survey of employer-employee relationships was underway. Statistical reporting had been improved with more commodities and communities covered in retail food reporting. The cost-of-living index, as it was then called, had been placed on a quarterly basis, from its former semiannual appearance, and reflected improvements in weighting and food price coverage. The monthly employment report continued to receive improvements. Benchmark adjustments to the Census of Manufactures were introduced for the first time—with coverage now extended for 50 percent of the wage earners of the country, including nearly complete coverage for employment resulting from Federal appropriations. Efforts were being made to include in the regular industry wage surveys such matters as age of workers, length of service, annual earnings, occupational descriptions, and personnel policies. An investigation of the expenditures of employed wage earners in 1934 was expanded during 1935–36 to a broad investigation in which the Works Progress Administration, the Department of Agriculture, and the National Resources Commission collaborated with the BLS in the study of consumer purchases, which presented consumption estimates for all segments of the population, both rural and urban. These provided the basis for the introduction of a comprehensively revised consumers' price index in 1940.

By the recommendation of an advisory committee to the President, an occupational outlook section was established in the Bureau in 1939, but its initial intent to provide career guidance was not to be effectuated until after the war. Instead, it was absorbed in projections of manpower supply and needs for defense industries. In this, Lubin's specifications for the office and the duties of its chief were anticipatory of the defense and wartime role of this service.

Lubin was ever on the alert for capable staff. A. Ford Hinrichs was brought in as chief economist, Sidney Wilcox had already been employed as chief statistician, and Aryness Joy joined the BLS staff as a senior economist. Young economists seeking employment in government received ready encouragement from Lubin. He was readily accessible to staff, and stimulated interest in the expanding role of the Bureau. Before the American Economic Association, he proselytyzed for the role of government economists. He contrasted the limited and circumscribed environment of the academic researcher with the opportunities offered by "Federal economic research, with its ramifications into the political and sociological aspects of virtually every problem that comes within the public eye, and has a great opportunity to break down these barriers," between economics, sociology, and political science.[21]

The burdens confronting the Bureau during the NRA period slowed up the process of reorganization. Added to this were the special tasks assigned to the Bureau, and to Lubin himself by Perkins. For almost 3 years, as chairman of a Labor Advisory Board to the Public Works Administration (PWA), he dealt with questions relating to the referral of union and nonunion workers to construction projects, job opportunities for black skilled workers in view of their exclusion from building trade unions, observance of arbitration awards, and predetermination of wages. A trying situation in which Secretary Ickes of the Interior Department was concerned that black workers should be issued work permits on certain PWA projects in Chicago, was personally mediated by Lubin. He obtained agreement for black employment of at least 13 percent of unskilled workers and 3 percent of skilled workers, the proportions shown in various crafts in the 1930 census.[22] Criticized for making a wage determination of 40 cents an hour for unskilled labor in the South as excessive, Lubin responded that Congress had mandated a standard of living of decency, not an "economic wage," as contended by the contractors.[23]

Lubin served as chairperson of a board to settle a strike of citrus workers in Florida. The report of the board called on Secretary Henry Wallace to have the Department of Agriculture insist on inclusion of a code for labor-management relations in the market agreement approved for the citrus industry by the Agricultural Adjustment Administration. The subsequent failure to set such minimum labor conditions despite the urgency of the situation, was noted by Lubin.[24]

Lubin was designated by Perkins as chairperson of a departmental committee to look into the promotion of U.S. membership in the International Labor Organization (ILO). Following U.S. entry into the ILO in August 1934, the United States was represented for the first time at an ILO Governing Body meeting in January 1935, with Lubin as the Government delegate. The Bureau was given responsibility for the administrative arrangements for the permanent Geneva representation, including requests for appropriations in its budget.[25] Lubin continued to attend these meetings, particularly those involving planning for international instruments on statistical standards and hours of work.[26]

The mutually supportive relations between Lubin and Perkins were often explicitly recognized in stressful situations. When a resolution of Congress called on the Secretary of Labor to make a study of the economic needs of migratory labor, which Lubin indicated the Bureau would undertake, Perkins' reaction was "I have the feeling that everything that is difficult gets to you." Shortly thereafter, preparing suddenly to go on vacation, Perkins not having had time to say goodbye to Lubin, wrote: "I want to thank you sincerely for all that you have done to make the work of the Department a success and to tell you how much it means to me personally to realize the loyalty, interest, and integrity with which you are carrying on the work of your Bureau."[27] In his turn, when the U.S. Employment Service was transferred from the Department of Labor to the Federal Security Administration, with a like possibility for the Children's Bureau, Lubin urged that "all of us should use every means to keep constantly before the President the fact that transfer is inimical to the interests of American labor . . . . "[28]

External relationships

Lubin's ability for effective relationships was crucial to the workings of the Bureau in a period of substantial changes in the role of government. His straightforward, direct approach with representatives of labor organizations, of major companies and trade associations, and the press, made him influential in all these areas. This was evident even as he analyzed the Bureau's data, and as he indicated his views on major economic issues.

Early in his administration, Lubin called a meeting of labor union research staff members, to meet with the BLS and the Advisory Committee to the Secretary of Labor. Reporting on the committee's statistical review, and the rapid introduction of accommodating changes by the Bureau, Lubin stated: "The ultimate purpose is to provide statistics which will do for the wage earner of this country what the Department of Agriculture is doing for the farmer, that is, supply laboring people with information as to what is happening in such detail that they can make their own plans and develop their own programs." The institution of the Labor Information Service, in the form of a monthly bulletin was also announced, for "the attention of local officers and the intelligent members of locals, so that these people will know what is happening. . . . in the country as a whole as well as in his own particular industry."[29] Relations with the trade union research staff members continued on an informal basis until June 1940, when a formal and continuing advisory relationship was established.

Salutary relationships with management, as extensively as possible, had been an inherent requirement for the Bureau's conduct of its activities, particularly in wage studies and employment data collection. Lubin contributed greatly by maintaining personal relationships with many corporate executives, in which he candidly exchanged views on major issues. He was intimately involved in resolving issues which might threaten the Bureau's activities, and generally, his directness and persuasiveness kept such occurrences minimal.

Sensitivities developed, but were overcome, over a Bureau study on the delicate subject of company unions, of interest to Perkins, Lubin, and Francis Biddle, chairperson of the National Labor Relations Board. This study, in 1934, was intended to obtain a proper picture of these organizations to meet the needs of the two labor agencies. At an estimated cost of $15,000, Perkins' proposal for a joint study was accepted in short order.[30] David Saposs, who had just completed a study on the subject for the Twentieth Century Fund, was hired as director of the study. At an informal meeting of BLS with American Federation of Labor representatives, the latter expressed some uncertainties over such a study, suggesting emphasis on the study of collective bargaining agreements, rather than what was viewed as merely "an arm of management."[31]

In September 1935, Lubin reported to Perkins on the interest stimulated among union officials in the study, and their requests to have the report issued as soon as possible. "Somehow or other a rumor has been spread that this bulletin may be suppressed."[32] The preliminary report in the *Monthly Labor Review* stirred up a temporary tempest.[33] A communication from the National Association of Manufacturers advised Lubin that some member firms of the association, some of which had participated in the survey, now felt that the conclusions might be misleading as to the employee representation plans. The opportunity to discuss the matter was offered, and immediately accepted by Lubin, who responded: "If members of the NAM feel that our study on company unions attempts to establish standards of employee representation plans which may result in misleading conclusions as to their functions and operations, I want very much to secure their full and unbiased opinions."[34] Immediately thereafter, the Journal of Commerce was to report: "Although resentment in industrial circles against the recent study on company unions prepared by the BLS continues high, it now seems doubtful an organized boycott will result."[35]

The relations between the automobile industry and BLS also underwent a period of difficulty. In January 1936, the Automobile Manufacturers Association advised the Bureau that information for individual companies in the industry would no longer be furnished directly to the Bureau, and that individual plants would not be identified, except by a code to make monthly comparisons for individual plants. Lubin wrote the association that he viewed this "as a one-way proposition, with the Bureau being placed in the position where it can have only what the association says it should have and not what it feels it needs for its own use. . . . I frankly cannot continue in the uncomfortable position I find myself in of warding off questions concerning our automobile figures." Lubin continued to press the matter, and it was finally resolved in late 1937, when the Manufacturers Committee of the Automobile Manufacturers Association authorized the forwarding of individual reports to the Bureau.[36]

Lubin was constantly concerned with the press' understanding of the Bureau's work, and with stressing clarity and style in the presentation of Bureau data. A critical editorial on the style of a Bureau press release resulted in the formulation of principles to ensure effective use of Bureau reports. These guidelines included: "Ideally, (a) technically competent persons should always be able to detect from the record any possible shortcomings in our work, and (b) others who follow us should be able to determine from the printed record exactly what we have done."[37]

Economic analysis stressed

Lubin's interests in labor economics in an institutional setting, and in related areas such as industrial prices, unemployment, and social security, were actively pursued throughout his direction of BLS. His emphasis on analysis along with the improvement and extension of the Bureau's statistical programs was apparent in his activities and public statements. He was called upon to represent the Bureau, the Department of Labor, or both, in a number of landmark Congressional hearings. Lubin would make statistical presentations that went to the heart of the matter and would draw on his extensive experience and perception to comment on the policy questions involved. His ready, direct, and stimulating responses raised no doubt about his objectivity and impartiality. Nor was there ever any question regarding his political independence as Commissioner.

Several basic themes were apparent in Lubin's public expressions during his commissionership. Shortly after his appointment, while he was not in sympathy with the price-fixing and production-restricting aspects of the National Industrial Recovery Act, he found important justification in it based on the single maxim, that the welfare and profits of no private business shall interfere with the welfare of the nation as a whole. . . . With NRA setting the rules for industry, competition was not eliminated, and "employers with a social conscience are assured that they will no longer be compelled to conform to the standards of competitors with blunted social sensibilities," Lubin said. Further, he saw the greatest contribution of NIRA to social progress as lying "in the guarantee it gives workers to organize and bargain collectively through representatives of their own choosing."[38]

Complementary was his view that underconsumption resulting from inequitable distribution of income in the 1920's had been a major contributory factor in the Great Depression. These views were expressed in his testimony at the hearings on the Fair Labor Standards Bill in 1937 and in his extensive presentation in opening the Temporary National Economic Committee hearings in 1938.

Calling attention to the evidence of the consumer expenditure survey of 1936–37, that 54 percent of the 29 million families in the United States, had incomes below $1,250 per year, Lubin said, "A more equitable distribution of income is more than an ethical problem. . . . To me it is a problem of keeping the gears of the economic machine constantly in mesh."[39]

Lubin and the Bureau staff were prominent in the work of the Temporary National Economic Committee (TNEC) from 1938 to 1941. Lubin was designated as the Department of Labor representative, with A. Ford Hinrichs as alternate. Lubin played a major role in planning the work of the committee, and as analyst of trends utilizing data and analyses prepared by the Bureau staff and occasional outside consultants. He made recommendations to the committee as an expert labor economist representing the Department of Labor. Aryness Joy directed the Bureau's staff work for the TNEC, which included the preparation of monographs reflecting analytical and case study approaches Lubin had viewed as essential to the role of the Bureau.

The economic climate changed with the defense preparations underway after the start of World War II. The TNEC hearings and Lubin's periodic testimony in 1939 and 1940 reflected the new circumstances. But again, the basic concerns in Lubin's ideas were reformulated in order to set long-term goals which drew on past experience and continuing socioeconomic trends. In an incisive analysis of the factors affecting the productivity of labor, he pointed out that the effects of technological change would be moderated as the economy absorbed more employees. Calling attention to the costs directly borne by displaced workers, in contrast to the tax treatment of obsolescence of machinery, he urged the committee "to give consideration to the feasibility of a compulsory dismissal wage to be tied up in some way or other with the unemployment insurance system."[40]

Lubin, who had been the leadoff witness at the TNEC hearings in 1938, was also one of the final witnesses appearing in March 1941. He was now an official of the Office of Production Management, as well as a member of the TNEC and a representative of the Department of Labor/Bureau of Labor Statistics. He pointed to the major changes which had occurred between 1932, and even between 1938, and 1941: "In 1941 we are strong. In 1932 our morale was pitifully low. The assumption of responsibility for the welfare of individual citizens by the Government in the intervening years has been partly responsible for this change." He urged the TNEC to sift out the practical aspects of the problems presented, to formulate a program to ensure "that never again does a catastrophe occur like that which overwhelmed us in the 1930's. . . . "—a program fitting, "into our traditions of private enterprise and private ownership."[41]

The war years

Lubin's full-time direction of the Bureau came to an end in June 1940, although he remained as Commissioner on leave until January 1946. On June 15, 1940, Perkins announced that at the request of Sidney Hillman of the National Defense Committee, Lubin had been assigned to serve as an assistant to Hillman, but was to retain his position as Commissioner. In a memorandum to A. Ford Hinrichs, designated as Acting Commissioner, Lubin stated, "In general you are authorized on your own responsibility and without reference to me to represent the Bureau of Labor Statistics in any matters which may arise and to make any decisions that may be necessary either with reference to policy or internal administration." However, he would continue to be available to Hinrichs "on all matters of fundamental policy."[42]

The next year, President Roosevelt called for Lubin's assignment to the White House. On May 12, 1941, Perkins wrote to Roosevelt that: "I am very glad to comply with your request to assign to your office and for your assistance Mr. Isador Lubin . . . while Mr. Lubin will, I know, give you great assistance, his entire staff in the Department of Labor will be at his disposal to assist him in the inquiries he will make for you."[43]

There were continuing calls for advice from Lubin by Perkins during the war years. She called upon him for his views on coordinating the activities of the BLS with those of the Bureau of Employment Security in the War Manpower Administration. His response was to oppose any intimation of the possibility of the transfer of any work from BLS.[44] He was also called upon for planning in connection with the ILO Conference in Philadelphia in 1944.

Lubin's White House assignments as economic and statistical adviser were varied. Immediately, he was involved in analyzing the economic effects of shifts in production to lend-lease requirements, and in discussions relating to economic stabilization. He went to London temporarily to assist W. Averill Harriman, coordinator of U.S. supplies to Britain. In March 1945, he was designated associate U.S. representative on the Allied Commission on Reparations, and spent much time examining conditions abroad at the end of the war.[45]

Lubin resigns as Commissioner

Giving personal obligations as his reasons for leaving public service, Lubin resigned in January 1946. (Perkins had resigned as Secretary of Labor in 1945.) President Harry S. Truman accepted his resignation as Commissioner of Labor Statistics, but stated that he would continue to regard him "as a public servant whom I shall feel free to call upon whenever the occasion warrants. . . . For 13 years you have without hesitation given of your time and energy to the service of your government. You built up the Bureau of Labor Statistics into an institution that has commanded the respect of all recognized leaders in the field of economics and statistical science, as well as of labor and management throughout the country."[46]

Lubin expressed his own assessment of the role of the Bureau on the occasion of the Bureau's 70th anniversary in 1954. He observed that the "Bureau's data have always played an important part in the formulation of Federal policy," reinforcing the constant recognition by the Bureau of the need for continuing "improvements in collection procedures and technical standards and in willingness to have its work periodically reviewed." But he expressed concern for the need for continued emphasis "of the considered analytical studies which have marked its work in the past."[47]

In 1966, Lubin wrote a eulogy for David Saposs, in honor of his 80th birthday. The eulogy is equally applicable to Lubin: "Everything that he has undertaken to do he has done with real distinction. His interest in the various fields in which he has been engaged has not been that of an intellectual. It has been the outgrowth of a deep feeling for needs of mankind and the conviction that things could be improved in this world of ours."[48] ☐

FOOTNOTES

[1] The centennial of the birth of Frances Perkins, appointed as Secretary of Labor by President Franklin D. Roosevelt in 1933, was observed on Apr. 10, 1980. She died in 1965.

[2] Lewis Lansky, *Isador Lubin: The Ideas and Career of a New Deal*

Economist, 1976, Case Western Reserve (microfilm), pp. 97–102. U.S. Congress, Senate Committee on Manufacturing, Hearings on S6215, *Establishment of a National Economic Council,* 72nd Congress, 1st Session, 1931, p. 736.

[3] Joseph W. Duncan and William C. Shelton, *Revolution in United States Government Statistics, 1926–1976,* U.S. Department of Commerce, 1978, p. 137.

[4] Stewart testimony, Department of Labor Appropriation hearings, 1928, January 1927, p. 27.

[5] Ralph Hurlin and W. Berridge, *Employment Statistics for the United States,* 1926, p. 30.

[6] *Employment Statistics,* pp. 3–19. Charles E. Baldwin, BLS Chief Statistician, and Royal Meeker were among the members of the committee with Mary Van Kleeck of the Russell Sage Foundation as chairperson.

[7] Senate Committee on Education and Labor, Hearings on S. Res. 219, *Unemployment and Systems for Prevention and Relief,* 1928–29; together with Senate Report 2072, 70th Congress, 1st Session, 1929, pp. 179–187, 491–510.

[8] Public Papers of President Herbert Hoover, News Conference of Jan. 21, 1930, p. 28; *The New York Times,* Jan. 23, 1930, p. 11; Feb. 20, 1930, p. 24.

[9] *The New York Times,* July 3, 1932, p. 15.

[10] George Martin, *Madam Secretary: Frances Perkins* (Houghton Mifflin Co. Boston, 1976.) p. 303.

[11] Lubin to LaDame, Nov. 16, 1938 (Perkins' Files, National Archives).

[12] DOL Appropriation Hearings, 1935, December 1933, p. 57; Duncan and Shelton, *Revolution in U.S. Government Statistics.*

[13] Perkins to the President, Aug. 23, 1933; Perkins to Hugh Johnson, Aug. 7, 1933; Resolution of the Central Statistical Board, Aug. 14, 1933 (Perkins' Files, National Archives).

[14] Roscoe Edlund, Association of American Soap and Glycerine Producers, Inc. to Isador Lubin, Mar. 22, 1934; Lubin to Edlund, Apr. 4, 1934 (BLS Files, National Archives).

[15] Transcript of meeting May 19, 1934 (BLS Files, National Archives).

[16] Perkins to Roosevelt, Mar. 30, 1936 (Perkins' Files, National Archives).

[17] *The New York Times,* Nov. 9, 11, 14, 1937; Jan. 4, 5, 1938.

[18] Roosevelt to Lubin, June 16, 1938 (BLS Files, National Archives).

[19] *Department of Labor Annual Report for Year Ending June 30, 1933,* p. 41.

[20] Appropriation Hearings, 1935 Bill, held Dec. 13, 1933, pp. 11, 50.

[21] Isador Lubin, "Government Employment as a Professional Career in Economics," *American Economic Review,* Vol. XXVII, No. 1, Supplement, March 1937.

[22] Lubin to Frances Jay, Oct. 25, 1935 (BLS Files, National Archives).

[23] Lubin to Turner W. Battle, Oct. 31, 1933 (BLS Files, National Archives).

[24] Lubin letters to Wallace, Mar. 26, Apr. 13 and 16, 1934 (BLS Files, National Archives).

[25] Lubin to Perkins, Nov. 22, 1933 (BLS Files, National Archives); *The New York Times,* Aug. 21, 1934; Jan. 30 and 31, 1935. This continued for 12 years, until a separate Bureau of International Affairs was established in the Department in 1946.

[26] *The New York Times,* Oct. 10, 1937, *The New York Times,* Aug. 5, 1939.

[27] Perkins to Lubin, July 11, 1936; July 21, 1936 (BLS Files, National Archives).

[28] Lubin to Perkins, May 5, 1939 (BLS Files, National Archives).

[29] Minutes of meeting of labor union statisticians, Department of Labor (mimeo), May 18, 1934.

[30] Perkins to Biddle, Jan. 10, 1935; Biddle to Perkins, Feb. 7, 1935 (Perkins' Files, National Archives). Perkins commenting on a report by the National Industrial Conference Board, which found greater numbers of workers in company or independent unions than in the AFL, said: "The significance of the report lies in the fact that no attempt has been made to define company unions. As you know, there are thousands of little associations of workers in individual plants throughout the country, any of which, since they are sponsored by employers might be considered as company unions. If, however, one is to define a company union as a collective bargaining unit, it is doubtful whether we would find anywhere near the large number of such organizations as is implied in the report of the NICB."

[31] Hinrichs to Lubin, Apr. 2, 1935 (BLS Files, National Archives).

[32] Lubin to Perkins, Sept. 3, 1935 (BLS Files, National Archives).

[33] "Extent and Characteristics of Company Unions: Preliminary Report," *Monthly Labor Review,* October 1935, pp. 865–876.

[34] Noel Sargent, Secretary, NAM to Lubin, Oct. 11, 1935; Lubin to Sargent, Oct. 14, 1935 (BLS Files, National Archives).

[35] *Journal of Commerce,* Oct. 15, 1935.

[36] Lubin to Andrew Court, Apr. 13, 1936; Lubin to Stephen DuBrul, General Motors, Apr. 13, 1936. DuBrul, General Motors to Lubin, July 28, 1937; Lubin to DuBrul, July 30, 1937. Court to Lubin, Aug. 17, 1937; Lubin to Court, Aug. 21 and Sept. 11, 1937. Lubin to W. J. Cronin, Dec. 2, 1937 (BLS Files, National Archives).

[37] Lubin memo to Division Chiefs, Mar. 1, 1940 (BLS Files, National Archives).

[38] Isador Lubin, Social Implications of NRA, *Progressive Education Journal,* Oct. 1933.

[39] Temporary National Economic Committee, Investigation of Concentration of Economic Power, Dec. 1, 1938, p. 79; *The New York Times,* Dec. 21, 1938.

[40] Ibid, Part 30, Technology and Concentration of Economic Power, 1940, pp. 17258–17263.

[41] Ibid, *Final Report and Recommendation of the T.N.E.C.,* Document No. 35, 77th Congress, 1st Session, Mar. 1941, pp. 517–538, 542, 551–554.

[42] Lubin to Hinrichs, July 1, 1940 (BLS Files, National Archives).

[43] Perkins to Roosevelt, May 12, 1941 (Perkins' Files, National Archives).

[44] Lubin to Perkins, May 6, 1942 (Perkins' Files, National Archives).

[45] *The New York Times,* May 22, 1942; Sept. 4, 1942; Dec. 9, 1942; Mar. 16, 1945.

[46] *The New York Times,* Jan. 26, 1946.

[47] Isador Lubin, "The BLS Program—A Review and Some Suggestions," *Monthly Labor Review,* January 1955, pp. 31–33.

[48] Jack Barbash, "The Labor Movement: A Re-Examination: A Conference in Honor of David J. Saposs," The University of Wisconsin, 1966, p. iii.

Frances Perkins' interest in a new deal for blacks

The black-oriented programs of the Nation's first female Cabinet member may seem modest by today's standards; however, in her time she was a pioneer, who made the welfare of blacks a priority of the Department of Labor

HENRY P. GUZDA

As Secretary of Labor from 1933 to 1945, Frances Perkins adhered to the principles of equality for all. A former social worker, Perkins conceived the Department of Labor to be the listening post for the Government, "the place where the poor people of the Nation could come with their complaints and obtain assistance."[1]

She made it quite clear that no one would be denied assistance because of race, creed, or religion. Blacks, in particular, needed help during the Depression, and Perkins offered assistance, although critics claimed her programs were simple tokenism. Yet, as one author stated, "It was all tokenism, perhaps, but blacks hadn't been able to get even tokens in the past."

By making social welfare the No. 1 priority of the Department of Labor, Perkins ran afoul of traditional values. Her appointment, by the nature of her sex, was opposed by many labor leaders who viewed the Labor Department as their own.

Of President Franklin D. Roosevelt's circle of advisers, Perkins was not the only member considered a champion of black causes. Black leaders also turned to Works Project Administrator Harry Hopkins and Secretary of Interior Harold Ickes. Together, this troika would often pool its efforts to advance the social progress of blacks, calling on Eleanor Roosevelt for additional help.[2]

First experience—a lasting one

The social awakening of Frances Perkins began when, as a student at Mount Holyoke College, she visited the grimy factories that dotted the landscape of the Connecticut River Valley. Another strong impact was Jacob Riis's exposé of urban slum life in *How the Other Half Lives.*[3] Riis's descriptions and photographs seared Perkins' imagination, and throughout her life the impact of that book remained.

As a young social worker, she dealt directly with poor blacks for the first time when she secured a job with the Philadelphia Research and Protective Association. Both immigrant and black girls traveled to Philadelphia searching for employment in the booming city. They were met at the boat piers or railroad terminals by unsavory agents who offered them lodging and employment as prostitutes. The Philadelphia Protective Association assigned Perkins and two black assistants to meet the new arrivals and direct them to reputable boardinghouses and employment agencies. Perkins was instrumental in the closing down of several of the disruptable agencies. City officials, drawing upon recommendations from the Protective Association, eventually required licensing for lodging houses.[4]

'New deal' or raw deal?

"Will the New Deal be a Square Deal for the Negro?" asked Jesse Thomas, a field representative for

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the National Urban League. Would President Roosevelt simply pay lip service to blacks and ignore them after the elections? Black leaders had every right to be skeptical about the "New Deal." Roosevelt had served under President Woodrow Wilson and Navy Secretary Josephus Daniels in the early 1900's "with no visible discomfort," and both men were segregationists. And, as governor of New York, Roosevelt demonstrated little interest in civil rights.

Civil rights leaders, however, had no doubts about Perkins, his choice for Secretary of Labor. Oswald Garrison Villard, former executive secretary of the National Association for the Advancement of Colored People, said, "When I think of Frances Perkins' point of view, it seems to me that she will be an angel at the Cabinet table. . . ."[5] Will Alexander, a respected white civil rights leader from the South, commented that Perkins was committed to the principle that black Americans had the right to all the opportunities enjoyed by other Americans.[6]

If there were any doubts concerning Perkins' position on equal rights, they quickly dissipated. Soon after taking office, the Secretary received complaints from some Southern white employees that black clerical workers were eating lunch in the "whites only" cafeteria. The previous policy kept facilities segregated under the guise that one was for blue-collar workers and manual laborers and one was for white-collar workers. Perkins replied that the black clerks were white-collar workers, and therefore, violated no rules by eating where they did. Shortly afterwards, she abolished dual facilities altogether.

One of the reasons behind this incident was the increase in employment of blacks at the department. Previously, blacks, with few exceptions, worked as messengers, custodians, and in similar positions. Between 1933 and 1936, however, the department added 129 black employees, many in clerical positions.

Perkins revived the U.S. Employment Service and added 78 blacks there. She insisted that the U.S. Employment Service treat all citizens with impartiality regardless of race, color, or creed. In States with a high percentage of blacks in the population, she saw to it that blacks were represented on the U.S. Employment Service staff. The special Negro Placement Service in the employment offices surveyed the conditions of blacks and the prevailing racial attitudes of the local community. U.S. Employment Service officials used the data to determine the size and movement of the local black population, and the available job opportunities.[7] Progress came slowly, and while the number of appointments and placements left much to be desired, it was a beginning.

During the Depression, many employers fired black workers, replacing them with whites. At the Labor Department, several black elevator operators told Secretary Perkins of their impending dismissal to create jobs for unemployed whites. (Perkins knew some of the operators personally, because she used the public elevators, rather than her private one.) She ordered the building contractor to keep the black operators, arguing that blacks had held those jobs since the 1920's when no one else wanted them.[8]

Integrating cafeterias and protecting the job security of elevator operators were noble gestures, but they did little to help the majority of black Americans. Blacks suffered particularly hard during the Depression. The National Urban League said that black unemployment was 30 to 60 percent greater than white unemployment. The Government did not systematically collect statistics on joblessness for any group until about 1940, but the Bureau of Labor Statistics estimated that in 1933, the worst year of the Depression, about 25 to 35 percent of the civilian labor force was out of work.

Black leaders petitioned their friends in Washington, including Eleanor Roosevelt, Secretary of the Interior Ickes, and Labor Secretary Perkins, to initiate special programs for destitute black Americans. Ickes appointed Clark Foreman, a white civil rights leader, as Adviser for Negro Relations to the Interior Department; however, Foreman acted as adviser to the entire executive branch.

At Foreman's suggestion, Frances Perkins regarded the welfare of the black worker as special to the Labor Department: she appointed her own adviser for Negro affairs, took steps to study the problems of black workers, and arranged for employment bureaus for blacks. The Women's Bureau gave special attention to black women workers and, similarly, the Children's Bureau became concerned with black child labor.

Perkins once stated that one of the best ways to protect the interest of the workers needing the most protection was to "look, see, and report."[9] By publicizing the facts of discrimination against blacks, she hoped to stimulate reform. The Bureau of Labor Statistics reported the proceedings of an immense conference of civil rights leaders and their recommendations on solving black unemployment problems and also published the findings of Robert Weaver, the highest ranking black in the Government, which refuted the theories that the overrepresentation of blacks on the relief roles was from a lack of initiative or innate inferiority.

Other studies conducted by the Department of Labor corroborated Weaver's findings. With unemployment so high, white workers accepted jobs which paid marginal wages, often replacing black workers. The department also found that very few blacks worked in the skilled trades because union locals barred them and controlled apprenticeship for entry into the trades. When the government passed legislation beneficial to organized labor, it often penalized those few blacks in the skilled trades because the majority of a craft or class determined representation. In addition, Labor Department researchers found that 25 percent of all employed blacks worked as domestics and, as the Depression worsened and strained everyone's budget, were among the first to lose their jobs.[10]

Division of Negro Labor. Black leaders had been urging the Secretary of Labor to appoint an adviser to coordinate activities in the department that dealt with the special problems of Negro labor. Assistant Secretary Edward McGrady represented Perkins at several conferences on Negro labor. She appointed another white, George Arthur of the Rosenwald Foundation (a civil rights organization), to the National Advisory Committee of the U.S. Employment Service. Perkins also established a committee, composed of the chiefs of the Women's Bureau, Children's Bureau, and the Bureau of Labor Statistics, to study how the Government could improve the health and welfare of blacks. These actions did not appease civil rights groups; they wanted a member of their own race to represent them in the Department.

Early in 1934, Perkins appointed Lawrence Oxley, a commissioner of conciliation for the department, as director of the newly formed Division of Negro Labor. The Division of Negro Labor functioned as Perkins' personal advisory agency on the problems of black workers. Oxley was responsible for coordinating the activities of the various bureaus which were concerned with blacks, and representing the Secretary in all labor affairs concerning blacks. The Division of Negro Labor was a remnant of the Division of Negro Economics, set up by Secretary of Labor William B. Wilson to handle interracial manpower problems during World War I. (Wilson had tried to make the Division of Negro Economics permanent, but Southern congressmen refused to appropriate funds.) A major difference between the two was that the Division of Negro Labor commissioner had some influence in alleviating unemployment of blacks through use of the U.S. Employment Service. (Oxley was made an adviser to the director of the U.S. Employment Service.)

Public construction projects. A landmark program cosponsored by the Departments of the Interior and Labor provided employment for black workers in Public Works Administration (PWA) projects. Local PWA administrators and U.S. Employment Service agents set aside a percentage of funds to hire black workers on public construction projects in areas predominantly populated by blacks. (In the early 1970's, such programs—the Philadelphia Plan, for one—would be hailed as a major innovation in the promotion of equal employment opportunity.)

Organized labor approached the arrangement with less than enthusiasm. The Washington Building Trades Council argued against using nonunion labor on public construction projects. Lawrence Oxley countered that few blacks belonged to unions and that despite the affirmation of the American Federation of Labor to erase the color line, many local trade organizations still debarred blacks. The Department of Labor ordered U.S. Employment Service agents to secure work permits for unaffiliated black workers to ensure them representation on construction projects. Several projects failed to meet the obligation of such arrangements, but most sites complied.

The blue eagle strikes

The National Recovery Administration (NRA) brought hopes of a new era for most Americans. The NRA suspended antitrust laws so that industries could agree on "fair trade" codes intended to lessen competition and raise wages; recognized labor's right to bargain for workers; and got employers to agree to a 35- to 40-hour workweek and to pay minimum wages of $12 to $15 a week. Establishments adhering to these codes displayed a blue eagle, the NRA symbol.

Black Americans, at first, rallied around the blue eagle, little realizing that for some of them it was about to become a bird of prey. The black press called the program "a lifesaver to the colored American." New Dealers thought stimulation of the economy by consumer purchasing power was a key to ending the Depression and that the NRA would provide that stimulus.

In a short time, black leaders began to see the NRA in less glowing tones. Southern employers were using the codes to replace blacks with whites or were writing new codes which allowed a regional differential by which workers in the South would receive considerably less than workers in the North. (Most of the time these were racial, rather than geographical, differentials.) Southern employers defended their discriminatory differentials, saying that blacks in the South traditionally received lower wages because they were inefficient and innately lazy, and that if there were no differentials, they would have to replace their black workers with white ones.

When Perkins testified before Congress on the National Recovery Administration, it was clear her sympathies were with the blacks. The purpose of the NRA, she stated while testifying before a hearing on "fair trade" codes in the iron and steel industry, was to revive the purchasing power of the wage earners. Supplied with information gathered by Oxley, she argued that regional wage differentials should be dictated by the cost of living. "The low rates for the Southern districts are presumably based on the predominance of Negro labor in those districts," she said, "but Negroes are also consumers. Their cost of living is not lower than the living costs of the whites; it is rather that they live differently on a lower standard."[11] The codes for the steel industry on a racial basis were denied, and instead a geographical differential was adopted for all workers.

Southern employers appealed for special exemptions, arguing that obsolete and inefficient plants would be closed if they had to pay blacks at the same level as whites. Perkins ordered an investigation into one of the most publicized cases, that of the Southland Manufacturing Co. The 300 blacks employed at the plant were paid $9 a week. Company executives told the appeals board that they could not operate if they had to pay the extra $3 a week as prescribed in the codes. However, investigators found no legitimate reason for an exemption, and the board ordered Southland to pay $6,100 in back wages. Three months later, Southland's parent company, Reliance Manufacturing, closed the plant.

The NRA investigated the case. The president of Reliance Manufacturing claimed that the plant had operated in the red, "on account of the characteristics of the people who have not had the experience and background, and their racial characteristics."[12]

Perkins assigned Esther Peterson of the Women's Bureau to work with Oxley on obtaining the facts on Southland. They found that other Reliance Manufacturing plants had records no better than Southland, that the Southland plant had a notoriously long record of using convict labor, operating under sweatshop conditions, and employing blacks to keep out organized labor, and that the assertions of Negro inefficiency were false. They also provided figures showing that the Southland plant did not operate in the red and that it made a profit.[13] The NRA denied the exemptions for a second time. Black leaders and Perkins breathed easier, but 300 blacks had lost their jobs. And, in many areas throughout the South, blacks lost their jobs because employers refused to pay them the same wages as whites.

Stepping stone for young men

One of the most disturbing problems of the Depression was unemployed youth. After Roosevelt took office, he sought to harness some of that young manpower and at the same time refurbish the Nation's eroded and scarred landscapes. Frances Perkins testified in favor of his plan before Congress. It passed, and the Civilian Conservation Corps was born.

The administration of the corps was interdepartmental. The Deparment of Labor selected the young men for the program through the U.S. Employment Service; the War Department fed, clothed, housed, and conditioned them; and the Agriculture and Interior Departments chose the work projects. The young men lived in camps and planted trees in virtually every section of the country. They received $1 a day, a good portion of which went home to their parents.

Oscar De Priest, the only black congressman, had attached a rider to the bill which stated "that no discrimination shall be made on account of race, color, or creed." However, selection of young men for the corps had barely started, when Perkins received complaints from civil rights leaders that in many sections of the South, U.S. Employment Service agents were excluding blacks from the Civilian Conservation Corps.

Among the most flagrant discriminators were agencies in the State of Georgia. And, it was only after Perkins threatened to suspend the program for the entire State, that Georgia Governor Eugene Talmadge unenthusiastically agreed to enroll blacks.

But Georgia violated the agreement frequently, and U.S. Employment Service Director Edward Persons wanted to suspend Civilian Conservation Corps activities in the State. He drafted a letter to that effect, but Perkins discouraged him from sending it to Talmadge. She knew that the President needed the support of Southern politicians for many of his programs and would not embarrass Roosevelt if she could help it.[14]

The Department of Labor experienced similar difficulties in other Southern States, though never so major as in Georgia. Persons succeeded in persuading many areas to enroll blacks, although not as many as he felt was justified. Alabama, for example, placed 776 Negroes, the highest number, while Mississippi, with the largest population of blacks in the South, placed only 46.

A critical point for the Civilian Conservation Corps came in the summer of 1935 when unrest among white communities over black camps reached a tender stage. California, Arkansas, and, especially, Texas wanted a halt in black placements. Civilian Conservation Corps Director Robert Fechner told Persons that the situation in Texas posed a special problem and that suspension of black enrollment might be a good idea. Persons adamantly opposed suspension, and wrote to Perkins,

> The CCC has never adequately fulfilled its opportunities for the selection of colored enrollees. For us now to expressly deny the right would be an indefensible procedure.

Perkins agreed that the black camps should not be suspended. However, President Roosevelt perused the reports submitted by both sides and termed the situation "political dynamite,"[15] and the Department of Labor bowed to political pressure.

Even the harshest critics of the New Deal admitted that blacks benefited from the Civilian Conservation Corps. Of the 2.5 million men enrolled during its 9 years of existence, 200,000 were black. Almost 87 percent of the black enrollees participated in an education program. And, while the education they received did not open all the doors of opportunity, it was a forward step.

Colorblind assistance

Perkins had lobbied long and hard for passage of the Social Security Act of 1935 and was disappointed that the Department of Labor did not administer all its provisions. The act grew out of the many changes in the American experience. It set up bulwarks against new kinds of economic insecurity which threatened Americans during the Depression. The act protected people who were too young or too old or were physically handicapped. It authorized Federal grants to enable States to broaden and extend regular allowances for needy mothers, the blind, and the aged. It also provided grants for child welfare, crippled children, and physically handicapped people with potential for useful work. The provisions for child welfare were especially beneficial in rural areas of the South, where a good number of the children were black.

THE BLACK-ORIENTED PROGRAMS and policies initiated under Perkins' direction seem modest by today's standards. The fact that she would forgo her social beliefs to protect the President from political embarrassment might seem hypocritical. But, the programs she started left a legacy for programs of the 1960's and 1970's. ☐

FOOTNOTES

[1] David Mac Eachron, "The Role of the U.S. Department of Labor," Ph. D. dissertation, 1953, p. 60.

[2] Nancy Weiss, *The National Urban League* (New York, Oxford University Press, 1974), p. 272.

[3] Jacob Riis, *How the Other Half Lives* (New York, Charles Scribner's Sons, 1890), p. 52.

[4] George Martin, *Madam Secretary* (Boston, Mass., Houghton Mifflin Co., 1976), pp. 65–68.

[5] Oswald Garrison Villard, "Issues and Men: And a Woman," *Nation*, Mar. 8, 1933, pp. 253–54.

[6] Will W. Alexander, "A Strategy For Negro Labor," *Opportunity*, April 1934, p. 103.

[7] Correspondence from Lawrence Oxley to Albert Hinrichs, Bureau of Labor Statistics, Jan. 30, 1935, Hinrichs file; *Report of the USES on Division of Negro Labor*, Dec. 23, 1936, Oxley file; correspondence from Edward Young, U.S. Employment Service, to Oxley, June 6, 1936; and correspondence from Oxley to Samuel Gompers, Jr., U.S. Department of Labor, Apr. 28, 1936, National Archives and Records Service, General Services Administration.

[8] Correspondence from Frances Perkins to Lawrence Oxley, Division of Negro Labor, Jan. 2, 1934, Oxley file, National Archives and Records Service, General Services Administration.

[9] Mac Eachron, "The Role of the U.S. Department of Labor," p. 60.

[10] "Washington Conference on the Economic Status of the Negro," *Monthly Labor Review*, July 1933, pp. 42–43; See also, "Relative Efficiency of Negro and White Workers," *Monthly Labor Review*, February 1935, pp. 335–38.

[11] *Testimony of Frances Perkins before the NRA on the codes for the iron and steel industry*, U.S. Department of Labor, 1933.

[12] Raymond Wolters, *Negroes and the Great Depression* (Westport, Conn., Greenwood Publishing Corp., 1970), pp. 125–27. Correspondence from Isador Lubin, Bureau of Labor Statistics to Oxley, Apr. 11, 1935, and from Oxley to Lubin, Dec. 5, 1934, Lubin file, National Archives and Records Service, General Services Administration.

[13] Correspondence from Mary Anderson and Esther Peterson to Oxley, Oct. 9, 1934, Oxley file, and from Labor Advisory Board to Perkins, Oct. 23, 1934, Lubin file, National Archives and Records Service, General Services Administration.

[14] John Salmond, *The Civilian Conservation Corps* (Durham, N.C., Duke University Press, 1964), pp. 90–100 and George Martin, *Madam Secretary*, p. 297.

[15] Salmond, *The Civilian Conservation Corps*, p. 98.

Establishing a reputation

When Al Smith became Governor of New York in 1918, he appointed Frances Perkins to the State Industrial Commission despite strong opposition from manufacturers' associations. Smith's confidence was quickly rewarded when, in 1919, he sent her to mediate a violent strike of copper mill workers in Rome, N.Y. On arriving, she found troops patrolling the city's streets. After talking with representatives of labor, business, and the community, Perkins advised that a public hearing be held before the State Industrial Commission. She firmly believed in the persuasive power of public opinion, and the subsequent hearings quickly led to direct negotiations and a settlement of the strike. The workers gained higher wages and union recognition; Frances Perkins gained a reputation. Manufacturers who had complained when Smith sent a woman to deal with a labor problem sent word after the strike: "Do us a favor and ask the Governor where he got that woman."

—GORDON BERG
"Champion of Labor Law in a
Tricorn Hat," *Worklife*, October
1976, p. 169.

Changes in unemployment insurance legislation during 1979

Concern for financing of unemployment insurance payments was evident in 1979; changes generally involved extending disqualification periods, restricting eligibility, and increasing tax rates

VIRGINIA A. CHUPP

No major Federal unemployment insurance legislation was enacted in 1979. However, Congress did extend the National Commission on Unemployment Compensation for an additional 6 months. The Commission, created under the Unemployment Compensation Amendments of 1976, is to examine the unemployment insurance program and make recommendations for changes. A report is due by July 1.

Most of the amendments in unemployment compensation undertaken by State legislatures during the year were designed to provide financial backing for programs. Several notable trends emerge from a State-by-State analysis of changes: increasing eligibility requirements, tightening disqualifications, and revision of tax schedules to produce additional income for unemployment insurance funds.

Benefits and requirements

Fewer claimants may be eligible for benefits in 1980 because of the increased amount of high-quarter or base-period wages needed to qualify. For example, Arizona, New Hampshire and South Dakota increased the amount of high-quarter wages a claimant needs to qualify for benefits. In Arizona, $625 is needed ($725 in August), up from $375 last year; New Hampshire requires $600 in two high quarters (formerly $300) and South Dakota, $600 (formerly $400). To qualify for benefits in Iowa, a claimant's base-year wages must be 1-1/4 times his or her high-quarter wage; in Maine, base-period wages must double the State's annual average weekly wage; and in Montana, a claimant must have worked 20 weeks or more, averaging $50 weekly.

Maximum weekly benefits increased in only eight States:

	Old maximum	*New maximum*
Arizona	$85	$90
Mississippi	80	90
Florida	82	95
Missouri	85	105
Nebraska	60	106
New Hampshire	102	114
Tennessee	95	100
Virginia	115	122

Changes in eligibility and disqualifications provisions tended to be toward more restrictive requirements for claimants to meet in order to collect benefits. North Dakota, South Dakota, Montana, and Nevada amended their laws to require strictly duration disqualifications for the three major causes: voluntarily leaving work without good cause, refusal of suitable work, and discharge for misconduct. Under such a disqualification, a claimant is denied benefits for the duration of the unemployment, and until he or she earns a specified amount of wages in subsequent work. In addition, two States, Maryland and North Dakota, now restrict good cause for leaving work to that attributable to the work or the employer, and no longer recognize good personal cause.

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In Iowa, Maine, and Montana, and definition of "suitable work" now changes, by law, with the length of a claimant's unemployment. Previously, "suitable work" was redefined by a procedure or regulation.

Generally, States are changing fraud from a penalty specified in the State's unemployment insurance law to a criminal act, punishable under the State's penal code. Six States made such changes in 1979.

Following is a summary of some significant changes in State unemployment insurance laws in 1979:

Arizona amended its benefit charging provisions so that benefits paid subsequent to a labor dispute will not be charged to a base-period employer, if the payment is a result of the labor dispute.

Arkansas lifted the disqualification for quitting work to attend school or become self-employed, although the individual must continue to meet the able-to-work and available-for-work requirements. The voluntary quit disqualification no longer applies if the claimant had a leave of absence because of pregnancy and was not rehired after the termination of the pregnancy. However, pregnancy is among the nondisqualifying causes for leaving work if the claimant made reasonable efforts to preserve her job rights.

California changed the time for which temporary disability insurance benefits can be paid on account of pregnancy from a period of 3 weeks before and 3 weeks after childbirth to any 6-week period during the pregnancy.

Colorado will use average earnings in all industries covered by the law, rather than selected ones, in computing the State maximum weekly benefit amount. Full benefits will be allowed if the worker quits because of harassment by the employer, not related to job performance. Pension payments will not be deducted from the claimant's weekly benefit if the pension payment is made in a lump sum comprising only contributions made by the claimant.

The following were added to the list of reasons for disqualification or reduced award: excessive tardiness or absenteeism; sleeping or loafing on the job; failure to meet established job standards for reasons other than inability to do the work; and voluntarily quitting work for unknown reasons or for personal reasons.

A seasonal industry was redefined to include an industry customarily operating for 25 (formerly 24) weeks or less in a year.

Connecticut's claimants who received benefits to which they were not entitled, even though not because of fraud, are liable to repay those benefits or have them deducted from future benefits. However, deductions may not exceed half of an individual's weekly benefit.

Because of experiences in the winter of 1979, the law was amended so that employers are not charged for benefits resulting from damage to a place of employment caused by severe weather conditions. The maximum disqualification for fraud was increased from 20 to 39 weeks following the offense.

Delaware's maximum tax rate increased from 3.0 to 5.0 percent of employer's payroll. The period in which an employer's account must be chargeable before he or she can qualify for other than the standard 2.7-percent rate was reduced from 4 to 3 years.

Florida limited the maximum tax rate to 0.1 percent a year. To be charged for benefits, an employer must pay at least $100 (formerly $40) in base-period wages.

The disqualification period for the three major causes was changed from the duration of the unemployment and until the worker earns 10 times the weekly benefit amount to duration plus earnings of 17 times the weekly benefit. A disqualification was added for discharges for gross misconduct if the worker was terminated for violation of a criminal law punishable by imprisonment, or for any dishonest act. The disqualification period continues for up to 52 weeks or until the individual is reemployed and earns 10 times the weekly benefit amount. Also, disqualifying income now includes retirement payments made for service in the U.S. Armed Forces.

Hawaii changed the penalty for fraud from a fine of up to $200 or 30 days' imprisonment, or both, to either a misdemeanor or a felony under the State criminal code.

Idaho's provision denying benefits to school personnel between school years or terms now applies only to those wages earned for work performed for educational institutions.

Indiana will deny benefits to temporary employees of the General Assembly or of a legislative committee who work between legislative sessions only.

Iowa has dramatically changed its benefit system. An individual's weekly benefit amount will be computed, in steps, at 1/19 to 1/23 of the high-quarter wages up to 58 to 70 percent of the State average weekly wage, depending on the number of dependents claimed by the worker. In addition, the proportion of base-period wages used to compute the duration of benefits was reduced from one-half to one-third and maximum duration was reduced from 39 to 26 weeks. Base-year wages of 1-1/4 times the high-quarter wages are needed to qualify for benefits, in addition to the previous requirement of $400 in the highest quarter and $200 in a quarter outside the high quarter.

The amount of benefit charges to a succeeding employer's account is limited to those based on wages earned with that employer and, if the claimant remains unemployed 10 weeks after those wage credits have been charged, any benefits paid after the 10 weeks.

All three of the major causes of disqualifications were amended. Disqualification for any of the three causes now continues for the duration of the claimant's unemployment and until he or she has earned wages in covered work equal to 10 times the weekly benefit amount. In addition, discharge for gross misconduct will result in a cancellation of all wage credits earned prior to discharge.

Work is considered suitable if the weekly wage offered bears the following relationship to the claimant's high-quarter weekly wage: (1) during the first 5 weeks of unemployment, 100 percent; (2) from the 6th through the 12th week; 75 percent; (3) from the 13th through the 18th week, 70 percent; (4) after the 18th week, 65 percent. However, no individual is required to accept a job paying less than the Federal minimum wage.

Kansas increased the percentage of highest quarter earnings used to determine weekly benefits from 4 to 4.25 percent. The maximum contribution rate remains at 6.6 percent for 1980, but will increase to 3.8 percent for 1981 and 1982, and to 4.0 percent in 1983 and subsequent years. In addition, a new maximum rate of up to 4.3 percent can be implemented under certain conditions.

Maine's claimants must meet these requirements to be eligible for benefits: (1) wages must equal twice the State's annual average weekly wage in each of two quarters in the base year, and (2) total base-year wages must equal 7 times the State annual average weekly wage.

The suitable work definition was amended to disregard prior earnings if an individual has been unemployed for 12 consecutive weeks and the work offered pays wages at least equal to the State's average weekly wage. Services of certain musicians are excluded, if they are performed under terms of a contract between the musicians and the employer.

Maryland changed its voluntary leaving provision so that only a cause directly attributable to or connected with the work will be considered good cause for leaving work. The period in which prosecution may be brought for fraud in connection with the collection of benefits was extended from 2 to 3 years. A claimant's current employer will not be charged for benefits paid for unemployment caused by a shutdown for retooling; instead, the employer causing the shutdown will be charged.

Michigan preserved an individual's right to receive benefits during continuous involuntary disability if the claimant submits a timely request for such preservation. Benefits are not payable after 156 weeks after the beginning of the claimant's benefit year.

Minnesota changed it disqualifications for voluntary leaving and discharge for misconduct to exclude separations because of completion of an apprenticeship program or terminations occurring after the employee gave notice of intent to quit work. The latter continues only through the week of the intended termination. Benefits cannot be paid for any week in which the individual received a salary equal to his weekly benefit.

An individual will not be disqualified for any acts occurring after separation from employment. The penalty for disqualification because of fraud will expire 104 weeks after the week in which the fraud determination was made.

Benefits paid after an individual fails, without good cause, to accept an offer of reemployment will not be charged to the employer if the refusal was due to the distance of the work from the claimant's residence, serious illness, or the claimant's other employment at the time of the offer.

Mississippi law was amended to increase the standard and the maximum contribution rate from 2.7 to 4.0 percent and the minimum rate from 0 to 0.1 percent. Also benefits will not be charged to an employer's account if paid after an employee is fired before a 90-day trial work period because he or she is unable to perform the work.

Service performed as a "sitter" at a hospital is excluded from coverage if the "sitter" is employed by the individual.

Missouri decreased slightly the percentage of highest quarter earnings used to determine the weekly benefit amount. The taxable wage base will increase from $6,000 to $6,600 if, during the preceding year, the balance in the unemployment compensation fund dropped below $125 million. The maximum tax rate was increased from 4.1 to 6.0 percent, and the fund balance triggers that determine the rate schedule were changed from a percentage of payrolls to a cash balance requirement.

The maximum period of disqualification for a misconduct discharge was increased from 8 to 16 weeks. An individual will not be disqualified for voluntary leaving if he or she retired pursuant to a contract between the employer and a duly-elected union.

Montana claimants must have at least 20 weeks of work at an average weekly wage of $50 to qualify for benefits, effective July 1, 1980. At the same time, minimum weekly benefits will change from $12 to an amount equal to 15 percent of the State's average weekly wage and weekly benefits will be computed at 50 percent of an individual's average weekly wage, up to the maximum which is currently computed at 60 percent of the State's average weekly wage. The period for which benefits are payable was reduced from 12 to 8 weeks.

The taxable wage base increased from $6,000 to $7,400 for 1979 and, beginning in 1980, will be recomputed annually at 75 percent of the State's average annual wage. The minimum contribution rate was decreased from 0.5 to 0.2 percent, and the maximum rate was increased from 3.1 to 4.4 percent.

The experience rating system, used to determine an employer's rate, was changed from a system which measures the decline in an employer's annual payroll to a system which uses all factors—benefits, contributions, and the employer's payroll.

Excluded from coverage is casual labor not in the course of the employer's trade or business, unless the quarterly wages paid are $50 or more and the service is not done by a regular employee hired specifically for those services.

The voluntary leaving disqualification will continue for the duration of an individual's unemployment and until he or she earns 6 (formerly 4) times the weekly benefit amount. The requirement which permitted requalification for benefits after 7 weeks of otherwise compensable unemployment was repealed. However, the law now permits purging the disqualification if the individual regularly attends an accredited school for at least 3 consecutive months.

Claimants discharged for misconduct will now be disqualified for the duration of their unemployment and until they earn 8 (formerly 6) times the weekly benefit amount. Here, too, the alternative requirement permitting benefits to be paid after the claimant has served 8 otherwise compensable weeks of unemployment was repealed.

Suitable work was redefined: for the first 13 weeks of unemployment, suitable work is that which meets the criteria established by law and that which offers the areawide prevailing wage for the claimant's customary occupation; after 13 weeks, suitable work will include work that offers 75 percent of the prevailing wage.

The benefit charging provisions were amended to specify that no employer's account will be charged for Federal-State extended benefits, or for benefits paid to an individual who voluntarily left work without good cause or was discharged for misconduct.

Nevada tightened disqualification for misconduct discharges from a variable period with no earnings required to the duration of claimant's unemployment and until the claimant earns the weekly benefit amount in each of 1 to 15 weeks.

New Hampshire extended coverage to certain local government employees and enacted legislation denying benefits to school personnel between terms, professional athletes between seasons, and certain aliens. In addition, a new disqualification applies to an individual who leaves self-employment and will continue until the claimant earns wages in each of 3 weeks equal to 120 percent of the weekly benefit amount.

The provision was repealed which prohibited application of the labor dispute disqualification if the stoppage of work is due to a lockout or the employer's failure to live up to an employment contract. However, the labor dispute disqualification will not apply if the claimant became unemployed and entitled to benefits prior to the dispute and his or her connection with the employer has been totally severed.

Disqualification for disciplinary layoff now applies for the life of the layoff. A lump sum payment (other than accrued vacation pay) from an employer going out of business now affects a claimant's eligibility for benefits.

New Mexico decreased the maximum number of weeks in a year that benefits can be paid from 30 to 26. The circumstances under which a labor dispute disqualification will be imposed were changed from a work stoppage existing because of the dispute to a labor dispute in progress at the claimant's place of employment.

North Carolina amended its fraud penalty so that instead of a fine or jail or both, the individual is guilty of a misdemeanor. Also, the time needed to qualify for experience rating is no longer limited to 12 months.

North Dakota changed from a minimum weekly benefit amount of $15 to a flexible minimum computed annually in July at 18 percent of the State average weekly wage. This change results in a flexible qualifying requirement because the State requires wages in two quarters and 40 times the weekly benefit amount to qualify for benefits. Minimum duration of benefits was reduced from 18 to 12 weeks and the computation of duration is no longer based on the relationship of base-period wages and weekly benefits but is based on the ratio of base-year wages to high quarter wages.

The wage base is now computed at 70 percent of the State's average annual wage for the 12 months ending June 30. Formerly, this computation occurred only if the fund balance failed to meet a specified level and the amount of the increase in the wage base was limited to $100 in any year. The maximum contribution rate increased from 4.2 percent of the employer's total payroll to 6.0 percent and the minimum rate from 0.2 to 0.3 percent. The method of determining fund requirements for triggering rate schedules was changed from a percentage of payrolls to a multiple of the highest benefit cost in 1 of the preceding 5 years.

An individual's weekly benefit will be reduced by half the amount of the pension he or she receives if at least half the cost of the pension was provided by a base-period or chargeable employer, and by the entire cost of the pension if the pension was wholly financed by such an employer.

Only a cause directly attributable to the employer is considered a good reason for voluntarily leaving work. In addition, the period of disqualification for voluntary leaving was reduced from the duration of the claimant's unemployment and until he or she earned 10 times the weekly benefit amount to duration plus 5 times the weekly benefit amount.

The alternative requalifying requirement was deleted for those claimants denied benefits because of one or more of the three major causes of disqualifications.

Oregon law now specifies that individuals claiming benefits must submit information regarding qualifications, training, and experience if requested to do so by the State employment service.

Rhode Island's taxable wage base will be determined as 70 percent of the State's average annual wage in covered employment during the preceding year. In addition, the minimum contribution rate was increased from a range of 1.0-3.0 percent to 3.0 percent and the maximum rate was increased from 4.0 percent to 6.0 percent. Employers are required to pay a balancing tax, ranging from 0.7 percent to 1.5 percent, depending on the tax schedule in effect in a year. In addition, the maximum rate at which a new employer can be taxed was increased from 2.7 percent to 4.2 percent.

South Dakota increased the maximum contribution rate from 4.1 percent to 7.0 percent.

The amount needed to qualify for benefits was increased to 20 times (formerly 10) the weekly benefit amount outside the highest quarter, and the minimum amount of high-quarter wages required was increased to $600 (formerly $400). The State further restricted conditions under which partial benefits will be paid by changing the definition of partial unemployment to a week in which the claimants earned less than half (formerly 1-1/2 times) the weekly benefit amount and by deducting three-quarters (formerly one-half) of a claimant's part-time earnings from his or her weekly benefits.

The penalty for fraud was changed from a variable period of 1 to 52 weeks to either a misdemeanor or a felony under the State's criminal code.

School employees will be denied benefits during established, customary vacation or holiday periods.

Disqualification for the three major causes was changed from a variable period to the duration of the claimant's unemployment and until he or she has been reemployed in covered work for 6 weeks and has earned wages in each of those weeks equal to the weekly benefit.

The criteria for determining whether a voluntary quit was with good cause now include considerations of the claimant's health and the employer's conduct. Disability payments are no longer deductible.

Tennessee repealed the exclusion from the automatic denial of benefits to hourly paid nonprofessional school personnel between school terms.

Utah will reduce a claimant's weekly benefit by 100 percent (formerly 50 percent) of his or her weekly retirement benefits. The formula used to compute benefits for a week of partial unemployment was changed so that now the weekly benefit is reduced by the amount of earnings in excess of 30 percent of the benefits. Formerly, the amount disregarded was that in excess of 50 percent of the weekly benefit amount, or $12, whichever was less.

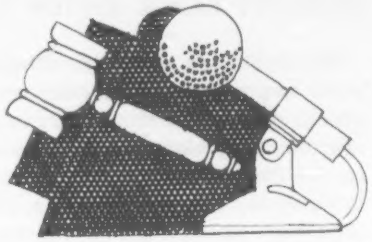
A claimant is required to make an active effort to secure work. Disqualifications for the three major causes were changed, so that now the claimant is ineligible for the duration of his or her unemployment and until he or she earns 6 times the weekly benefit amount in covered work.

Disqualification because of fraud continues for 13 weeks for the first week in which fraud is committed plus 6 weeks for each week of commitment thereafter, but not more than a total of 49 weeks of disqualification. In addition the claimant must pay back twice the amount fraudulently received. Formerly, disqualification continued for 52 weeks and until the fraudulently received benefits were repaid.

Virginia now denies benefits to part-time and substitute school employees. In addition, the State extended the between-terms denial during customary and established vacation periods. Quitting work to accompany or join a spouse in a new locality is no longer considered a good cause for leaving work. Also, an individual is disqualified while incarcerated.

West Virginia increased the percentage of the State's average weekly wage used to compute the maximum weekly benefit amount from two-thirds to 70 percent. A claimant is required to have earned wages in two calendar quarters to be eligible for benefits.

To be considered available for work, an individual must do what a reasonably prudent person in similar circumstances would do to seek work. Employees on vacation at the employer's request now are not considered unemployed and, thus, are ineligible for benefits. ☐



Conventions

Arbitration and the rights of mentally handicapped workers

BENJAMIN W. WOLKINSON AND DAVID BARTON

In the last few years, there has been a growing awareness of the vast extent and cost of mental illness at the work site. It has been estimated, for example, that emotional problems are responsible for approximately 20 to 30 percent of employee absenteeism, that one-fourth of any large work force is in serious need of help for psychological or social problems, and that at least 65 percent of all discharges result from personal factors rather than technical incompetence.[1]

The widespread and frequent occurrence of mental disability suggests that managers are often faced with sensitive decisions about how to accommodate both the needs of afflicted employees and the economic interests of the firm. The Rehabilitation Act of 1973 places new constraints on organizations that receive Federal funds, requiring them to accommodate physically or mentally handicapped employees.[2] Equally important but less well appreciated are the rights and protections afforded mentally disabled employees by the just-cause disciplinary provisions of collective bargaining agreements. As this report will demonstrate, the industrial common law that has evolved from grievance proceedings has established definite restraints on management's ability to penalize workers afflicted by mental illness. Furthermore, this industrial common law appears to impose on employers some duty to accomodate the specific needs of affected workers.

Protection of job rights

Between 1947 and 1978, there were 38 reported arbitration decisions involving the discharge or denial of reinstatement to employees with mental disabilities.[3] In only 10 of these cases was management's decision upheld. Apparently, arbitrators impose a stiff evidentiary burden on employers seeking to terminate a mentally handicapped worker. Only when a mental disability exposes the employee or others to serious risks of injury or harm or, alternatively, prevents the employee from performing his duties was the discharge upheld. In 7 of the 10 cases where termination was upheld, the arbitrator found that the employer had demonstrated through competent medical testimony that the grievant could not safely or successfully perform his or her job.[4]

In five of the approved terminations, there were additional findings that the worker's disability precluded the performance of any job in the bargaining unit.[5] One case involved an employee with 16 years of service; following brain surgery, he was no longer able to function efficiently, and the company reluctantly terminated him. The arbitrator concluded that the employer had acted properly: it had consulted the union, had given the employee additional time to recuperate, and had demonstrated that all other positions in the bargaining unit entailed the same level of skill and difficulty.[6] Several other cases concerned employees diagnosed as psychotic with histories of violent outbursts on the work floor, and who posed a danger to customers, fellow employees, and the employer's property.[7]

Although employers may terminate a worker on the basis of compelling evidence of disability, they cannot discipline an employee solely because of previous confinement or treatment for a diagnosed mental disability. In one case,[8] a firm was ordered to reinstate with back pay a worker hospitalized and successfully treated for mental illness. Similarly, a worker suspended pending a psychiatric examination was awarded full back pay. As a result, an employer's authority to suspend a worker pending the results of a mental examination may be limited to cases where there is some basis to conclude that the individual is suffering from a disability.[9]

Furthermore, an employee who has undergone mental treatment may not be denied reinstatement because of management's unverified or unsubstantiated fears of coworker or community disapproval. Thus, a successfully treated sexual psychopath was ordered reinstated in a case where management fears of community disapproval had not been verified.[10] Such fears were considered especially misplaced because the grievant's job did not require contact with anyone other than coworkers.

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In some cases, the onset of mental illness may be acute and noticeable. In other cases, it may be evidenced only by subtle changes in behavior. Considerable time may elapse before a recognizable pattern of mental illness develops. Despite this inherent difficulty in discerning either the nature or commencement of an employee's illness, arbitrators have generally maintained that the firm is responsible to thoroughly investigate and consider a worker's emotional problem before imposing discipline. This requirement is particularly relevant when dealing with a long-term employee who has an otherwise satisfactory work record and whose behavior as a result of mental stress or breakdown is radically or suddenly altered.

One firm discharged an employee who assaulted a supervisor during an argument over an open plant window. The discharge was voided, however, because management had failed to discover that the worker was under medical treatment for hypersensitivity and that prior to the incident had spent the previous night searching for his missing son.[11]

At the same time, employees confronted by management for explanation of rule infractions may be obliged to communicate the nature of their emotional problems or mental disability where it has influenced the questioned conduct. The dismissal of a mentally depressed employee for excessive absenteeism was upheld in one case, because of the employee's repeated refusal to reveal to management the reasons for his absence, which included treatment and hospitalization for his illness.[12] Without knowledge of mitigating factors, the arbitrator ruled, the employer had no alternative but to exercise its normal disciplinary policy.

Under mental stress, some employees have suddenly departed from the job, informing management that they were quitting. When they subsequently sought reinstatement, their requests have often been denied on the grounds that, by voluntarily quitting, they had terminated their seniority rights and employee status. Although recognizing that ordinarily employees lose seniority and job rights by quitting, arbitrators have made exceptions if, when "quitting," the employee lacked the necessary mental capacity to make a meaningful decision. For example, one arbitrator ruled that management had acted "precipitiously and prematurely" in terminating as a voluntary quit an employee who during a screaming rage assaulted a supervisor and abruptly quit after being denied a leave of absence.[13] Because the employee's action was not the result of a considered judgment but rather an emotional outburst of a sick man, the arbitrator found that management should have placed the grievant on sick leave.

Seniority rights are also typically broken when an employee has been absent without prior notice. Although dismissal for such conduct may be sanctioned by past practice or authorized by agreement, arbitrators have been reluctant to apply such standards to the mentally disabled. Dismissals of mentally handicapped workers for violating such reporting provisions have usually been overturned on the grounds that their application is unfair and unreasonable.[14]

A duty to accommodate

The Rehabilitation Act of 1973 requires organizations that receive Federal funds to accommodate handicapped persons; has a parallel responsibility been generated by just-cause provisions of collective agreements? The nature of management's required accommodation has generally focused on two important questions: (1) when a mentally disabled worker can no longer perform his job, is management required to seek out and transfer the employee to other jobs for which he or she can qualify? and (2) where the evidence indicates that the mentally ill employee cannot perform any job in the bargaining unit, is management obliged to place the worker on leave until he or she undergoes successful treatment permitting reinstatement?

In many cases, the mentally disabled employee is unable to perform any job, so that transfer is not an alternative. This may occur with a psychotic employee predisposed to violent outbursts. At other times, however, the stress of a particular job may precipitate a breakdown, and transfer to a different job may enable the employee to return to employment. Whether employers are obliged to accommodate a mentally ill employee through job transfers is the subject of conflict among arbitrators.

The strongest statement of management's duty to accommodate appears in the following excerpt from a 1972 case:[15]

> Arbitrators are reluctant to uphold a discharge for such [emotional] disability unless the employer can show that not only can the disabled employee no longer perform his own job adequately, but that there is no other job available that he can do. There is a degree of callousness involved in turning out a senior employee because of disabilities (physical or emotional) if he is capable of doing a less demanding job satisfactorily.

The worker was ordered reinstated to a less demanding job that he had previously performed without difficulty.

Other arbitrators have also indicated that employers must do everything possible to enable the mentally handicapped employee to adjust to normal work life, including transfer to other jobs.[16] Supportive of this approach is a case in which a discharge of an emotionally unstable employee who handled explosives was voided. Instead, the grievant was placed on suspension pending a joint management-union review to determine whether there were other jobs that the grievant could safely handle.[17] Similarly, in a 1964 case, a worker was ordered reinstated to an available job which was least likely to produce stress or irritation.[18] Although these cases involved workers' reinstatement because of management's failure to accommodate, it is also significant that in 5 of the 10 cases where a worker's dismissal was upheld, the arbitrator determined that the grievant was unable to perform any job in the facility.[19]

A small minority of arbitrators have been reluctant to impose upon management the duty to consider a mentally disabled employee for other less stressful jobs once evidence indicates an inability to perform the most recent job. For example, in a 1948 case, an arbitration board ruled that in the absence of any express or implied provision in the agreement entitling employees to transfer, management had full discretion to fill vacancies and maintain its policy of no interdepartmental transfers.[20] As a result, an employee suffering from a serious disorder was barred from obtaining a position his psychiatrist felt he could satisfactorily perform; he was terminated for unsatisfactory performance in his current position.

More recently, an arbitrator upheld the contention that management is not obliged nor is an arbitrator empowered to move a mentally handicapped employee to other jobs. It was suggested in that case that such an approach would be tantamount to the creation of a disability retrogression clause in agreements.[21] Significantly, however, this strict constructionist approach has been taken by only a small number of arbitrators.

Just as arbitrators have been divided over the transfer rights of a mentally disabled employee to a less strenuous job, they have also split over a firm's obligation to place a mentally ill worker on leave until recovery. In some cases, dismissals have been upheld on evidence that the worker is presently incapacitated and there is reason to believe that additional treatment would not be very helpful.[22] For example, in one case, the grievant had a history of mental illness and treatment, including hospitalization and drug therapy. Nevertheless his condition deteriorated, and based on the likelihood of worsening symptoms, the discharge was upheld.[23]

Some arbitrators, however, have ignored the issue of future employability, upholding a dismissal solely on the basis of the worker's present mental condition.[24] Thus, no concern may be given to the possibility that the individual might be rehabilitated through professional treatment. Although hoping that a grievant would obtain medical treatment, one arbitrator refused to require management to give the employee the opportunity to become rehabilitated before finalizing a dismissal.[25]

Other arbitrators, however, have been inclined to order reinstatement if prior to the hearing the grievant had successfully undergone treatment and was reemployable. In cases where the grievant's illness was found to be in a state of remission,[26] reinstatement has been conditioned on continued receipt of medical treatment[27] or satisfactory completion of a trial period.[28]

Significantly, an increasing number of arbitrators have ruled that a mentally ill employee's inability to perform his or her job or other jobs in the facility does not constitute just cause for dismissal. The imposition of the discharge penalty has been viewed as signifying egregious fault on the part of the worker, and the element of fault has been considered inopposite when dealing with individuals who have no control over their actions.[29] Furthermore, there has been a growing sentiment to treat mental illness like any other physical illness or disability. This approach would give the mentally ill employee the opportunity to seek treatment and to be reemployed upon recovery. An arbitrator in a 1977 case strongly affirmed this view by placing on sick leave a psychotic employee dismissed for an unprovoked assault upon a coworker:[30]

> . . . [A] person's mind is no less a part of his body than any other portion of his anatomy. Simply stated, a person who cannot be kept on the active payroll because his mind is abnormal is, in fact, disabled from work and sick just as a person who is unable to work due to a broken arm, unduly high blood pressure, or any other physical ailment, is sick and disabled from work. Thus, there is no reasonable basis for distinguishing between a disability due to a physical illness and one due to a mental disorder.

Following this approach, many arbitrators have voided the discharge of employees proved to be mentally incompetent to perform any job. Instead, they have allowed management only to temporarily remove the employee from the work site, with reinstatement rights upon reasonable assurance from medical authorities that the employee no longer constitutes a risk to himself or others.[31] Typically, the employee has been placed on sick leave[32] or, alternatively, on a medical leave of absence without pay.[33] Additionally, a dismissal may be overturned if the amount of leave extended is viewed as unreasonably deficient. Following a 3-month leave to undergo psychiatric treatment, a worker was discharged for dangerous horseplay conduct. The discharge was overturned, however, because the amount of leave was less than afforded other employees.[34]

In requiring employers to accommodate the mentally ill employee, arbitrators have been keenly aware of the tragic impact that dismissal may have on a worker's future employment opportunity.[35] Once stigmatized as mentally incompetent, such employees may face permanent exclusion in the job market even after successful treatment. Consequently, although recognizing management's right to protect plant safety and efficiency, many arbitrators have found that the proper balance between such interests and employee job rights is better struck through the mechanism of temporary removal rather than outright dismissal.

Appropriate medical evidence

A central issue in grievances involving the mentally ill is the employee's capacity to perform. Here arbitrators have typically relied on the expert opinion of qualified medical authorities. Thus, when medical experts testified that the grievant was seriously ill and the prognosis for future rehabilitation was minimal, the dismissal was almost always upheld.[36] Conversely, when medical evidence indicated that the grievant's condition had improved and permitted satisfactory job performance, the dismissal was normally overturned.[37] With insufficient medical evidence upon which to evaluate the grievant's employability, arbitrators have directed the parties to jointly select a competent psychiatrist to examine the grievant and provide an opinion. For example, one arbitrator required an employer to allow a worker to be reexamined before deciding the reinstatement issue, because it had been a year since the grievant's last psychiatric examination.[38]

At times, arbitrators have been confronted with conflicting medical opinions. As illustrated in the following excerpt from a 1961 case,[39] such conflict occurs more frequently in mental disability cases as opposed to physical handicap cases.

> The resolution of such cases where actual physical disability is involved is a clear-cut fact situation which is easily subject to expert medical testimony and experiences resultant from long years of medical knowledge of the various disabilities. In the field of mental disability, a more nebulous and complex area of medical knowledge and experience is involved. Two equally expert medical men can easily arrive at opposite conclusions on any given case because of lack of concrete medical knowledge concerning mental illness and the subjective nature of such illness.

Presented with conflicting medical reports, arbitrators have used common sense notions in determining the weight given particular testimony. For example, when faced with conflicting medical evidence based on examination of the grievant undertaken at two different times, one arbitrator gave more consideration to the more recent opinion.[40] Similarly, another arbitrator relied more on a medical opinion based on a series of interviews with, and psychological testing of, the worker as opposed to a different judgment formed by one doctor after a single meeting with the grievant.[41] Alternatively, an arbitrator has given more weight to a medical opinion corroborated by a second doctor rather than the opinion of a single physician.[42] At times, a conflict in medical testimony has been settled in favor of the grievant because an adverse decision would result in dismissal.[43]

Arbitrators usually have not attempted to determine whether one doctor is more qualified than another. In a 1972 case, the employer argued that its physician's opinion should be given more weight because he was a diplomat of the American Board of Psychiatrists and the union's doctor was not. However, the arbitrator reasoned that because the union's physician practiced psychiatry he had all the legal and professional credentials necessary.[44] In another case, a medical opinion based on the individual's full file (work history, medical records) combined with other physicians' examinations was given more consideration than the opinion of the doctor who did not have this additional information.[45] Similarly, the company doctor's opinion was held to outweigh that of an outside psychiatrist who had based much of his opinion on a falsified work history supplied by the grievant.[46] Finally, when the medical evidence appears evenly divided, the arbitrator may resolve the dilemma by reinstating the grievant for a trial period. This solution was used where the company doctor had recommended dismissal because of his concern that remission of the grievant's medical disorder was not likely to last, but the employee's psychiatrist had favored reinstatement because of the worker's present satisfactory condition and the possibility that the remission would continue.[47]

Available remedies

In 11 cases where employees were suspended, dismissed, or denied reinstatement, back pay and reinstatement were ordered. Outright unconditional reinstatement with back pay was usually ordered when management failed to demonstrate that the grievant posed a danger to safety or operating efficiency.[48]

When the grievant had been guilty of some impropriety, an employer's back pay liability was often reduced. For example, in a 1964 case, a worker was discharged for carrying weapons onto his employer's property. Finding the employee's conduct to be caused by mental illness for which he was successfully treated, the arbitrator ordered the worker reinstated. However, because of the misconduct, back pay was ordered only from the date of the hearing.[49] When no credible evidence supported a suspension, the employer's back pay liability has run from the date of discharge to date of reinstatement.[50] Employees who have been successfully treated and subsequently denied reinstatement have received back pay from the date of the employee's request for reinstatement,[51] or the company's receipt of a psychiatric report indicating the worker's reemployability.[52]

Conditional reinstatement with back pay was ordered in four cases. This remedy was implemented when the individual still required treatment and there was some doubt concerning his employability. With a conditional reinstatement, special restrictions or requirements have been imposed on the worker. In a pair of cases more than 20 years apart, a worker was placed on a 6-month trial period, during which management was permitted to discharge the individual if unable to perform.[53] In another pair of cases, reinstatement was conditioned on the worker receiving medication and seeing a psychiatrist periodically.[54]

Conditional reinstatement reflects the efforts of arbitrators to accommodate both the job rights of the employees and the legitimate business interests of the firms. It suggests that although companies would prefer to receive absolute assurances that the grievant can be reemployed without problems, such assurances are difficult to communicate and rarely provided. Moreover, the absence of such iron-clad assurances is not an appropriate basis for the denial of reinstatement if competent medical authorities are reasonably assured that with continued treatment the grievant is employable. Employer doubts are not dismissed, but are considered and acted upon by conditioning reinstatement on the completion of a probationary period or the grievant's continued treatment, or both. At times, back pay has been denied because the discharge was considered reasonable at the time the decision was made or because the employer had acted in good faith and upon the advice and recommendation of company doctors.[55]

A final remedial approach has been used in cases where the grievant was presently unemployable. As discussed earlier, a significant number of arbitrators have viewed discharge as inappropriate, reasoning instead that the grievant be placed on some type of leave (sick leave if the worker is entitled or, alternatively, leave without pay) until recovery. For example, in one case, an employee with a 22-year record of satisfactory performance developed a serious manic depressive condition with no clear prognosis for recovery. The grievant was ordered placed on sick leave until recovery or until he reached retirement age.[56] Similarly, a psychotic individual was ordered placed on leave with a right to reinstatement upon evidence that he could be reemployed without risk to himself or others.[57] These cases appear to reflect the view that mentally disabled employees may be rehabilitated with proper care; and even though it may not be the firm's responsibility to provide for or fund treatment, the individual should have the opportunity to obtain it without suffering permanent job loss. When an arbitrator has voided the discharge of an individual judged unemployable, however, back pay has not been awarded.[58] Back pay has been an issue only when an employable person has been denied the opportunity to work.

Mitigating factors

In 10 of 27 dismissal cases where the grievance was upheld, the employee's previous satisfactory performance operated as a mitigating factor.[59] For many arbitrators, evidence of meritorious past performance may suggest the individual's capacity to function effectively following successful treatment. Consequently, upon recovery, such an individual has been reinstated. The following excerpt from a 1964 case illustrates this perspective:[60]

> . . . [T]his service record (9 years without discipline) clearly entitles the grievant to an opportunity to show that he can continue to serve the company in the same acceptable fashion as in the past . . . this long favorable past record obligates the company to afford such an opportunity to the grievant.

The discharge of an employee with a long record of satisfactory service has been nullified when management failed to investigate the circumstances surrounding the individual's sudden incapacity to function.[61] Moreover, accommodation to the needs of mentally ill employees has often been required when the employee has had many years of meritorious service. In a pair of cases,[62] the employers were ordered to find alternative jobs for mentally handicapped employees with many years of seniority.

At the same time, past performance alone has not necessarily immunized the mentally ill employee from dismissal. The dismissals of long-term employees have been upheld where the individual was unable to perform any job and the prognosis for recovery was poor.[63] A few arbitrators have upheld the dismissal of a long-term employee solely on the basis of present unemployability, without considering whether future treatment may be beneficial. Thus, one arbitrator upheld a worker's dismissal, although noting that it was entirely probable that the grievant's mental disability was temporary.[64]

Another consideration that has influenced arbitrators' decisions is an employer's past practice. Where past practice suggested that mentally ill individuals have been afforded time off to obtain medical treatment, the sudden dismissal of a mentally ill worker regardless of his present unemployability has usually been overturned.[65] The case against dismissal under such circumstances has also been strengthened by evidence that others hospitalized for mental illness were reinstated successfully.[66]

Past practice, however, has also been used to justify an employer's refusal to accommodate. In a 1948 case, an employee being treated for mental illness had sought transfer to a job his doctor had felt he could better handle. Management's rejection of the transfer request was upheld because the contract implied that the company could determine how vacancies would be filled, and past practice showed no deviation from the employer's established policy of barring inter-departmental transfers.[67]

Yet a rigid policy of no accommodation has been overtuned, notwithstanding past practice. Despite an alleged policy of never reemploying individuals who have been confined for mental illness, a firm was ordered to reinstate an employee who had been successfully treated and was able to resume work.[68] Thus, the policy of no reinstatement under any circumstances was considered unreasonable and modified.

Emerging equity through arbitration

Mentally disabled employees pose unique and difficult problems for those in the employment relationship. Employers must consider plant efficiency and safety, unions must protect the job security of their membership, and all parties face the difficulty of the uncertain and unpredictable nature of mental illness, which makes diagnosis and prognosis problematic.

There is an apparent trend among arbitrators to view discipline as an inappropriate mechanism by which to compel the mentally ill employee to adhere to work rules and production norms. Discipline is normally meted out to those who should have been aware and nevertheless ignored, or who knowingly violated, reasonable plant rules and policies. Given this framework, the discipline of an employee whose mental illness deprived him of the capacity to satisfy appropriate standards of conduct is improper. As a result, the dismissal of mentally ill employees for infractions such as excessive or unreported absences, insubordination, or assault has been increasingly viewed as a breach of contractual just-cause provisions.

Although arbitrators have split over management's duty to accommodate, a growing number have required firms to examine whether the employee could perform other jobs in the bargaining unit. Even when there has been no other job available, there was a reluctance to uphold dismissal when there was some hope that through treatment the mentally ill employee could become reemployable.

The expanded reach that many arbitrators have given to the just-cause provisions of contracts parallels the protections of the Rehabilitation Act of 1973, requiring employers to make a "reasonable accommodation" to handicapped applicants and employees. This congruency between Federal law and industrial jurisprudence should facilitate the informal settlement of grievances of the handicapped, an outcome favored by U.S. Department of Labor regulations enforcing the statute.[69] Under regulations implementing Section 503 of the law, a complainant who works for a Federal contractor must first attempt to resolve the issue through the employer's grievance procedure when one is available. Only when no agreement satisfactory to the grievant has been reached after 60 days may the Office of Federal Contract Compliance Programs begin an investigation.

The settlement of employment disputes involving mental disability through grievance adjustments and arbitration provides the employee with a more expeditious avenue of relief than would otherwise be available through resort to the Government's compliance process under the 1973 statute. The remedies available under Sections 503 and 504 include the withholding of progress payments, termination of Federal contracts, and debarment from the receipt of future contracts. Although these are powerful remedies, experience with similar enforcement measures for antibias requirements suggests that the likelihood of their implementation to enforce rights of the handicapped is minimal.[70] Furthermore, although injunctive relief is available under Section 503,[71] to date it has not been sought in any case. Consequently, arbitration remains an important tool to protect the employment opportunities of mentally disabled employees.

Recently, there have been significant questions raised concerning the relevance of arbitration in areas which are becoming increasingly subject to Federal regulation.[72] A review of arbitration decisions involving the mentally handicapped shows that, although overlap may exist between external law and contractual adjudication, arbitration serves as an important mechanism for preserving workers' rights. In an era of ever-increasing administrative backlogs and clogged court dockets, reliance on informal methods of dispute resolution is a healthy phenomenon that should be encouraged. ☐

FOOTNOTES

[1] Lawrence N. Loban, "Mental Health and Company Progress," *Management Review*, December 1966, p. 29.

[2] The duty to make "reasonable accommodation" is the result of Office of Federal Contract Compliance Programs regulations enforcing Sec. 503 (a) of the Rehabilitation Act of 1973. The nature and duty of a Federal contractor's accommodation are defined in C.F.R. 60-741.6(d) (1977).

[3] These decisions represent all 34 dismissal cases published by the Bureau of National Affairs in its *Labor Arbitration* series between 1947 and 1978 and 4 cases that were published by Commerce Clearing House in its *Labor Arbitration Award (ARB)* during that time.

[4] Whitin Machine Works, 10 LA 707 (1948); Gulf Oil Corp., 34 LA 80 (1960); Maremont Automotive Products, Inc., 37 LA 175 (1961); Hiller Chevrolet Cadillac, Inc., 37 LA 629 (1861); Fischer Scientific, 45 LA 559 (1965), U.S. Steel Corp., 46 LA 545 (1966); Cheyenne Pipeline Co., 59 LA 726 (1972). Three cases did not fall in the above category: dismissal was upheld in Husky Oil Co., 65 LA 47 (1975), because of the employee's excessive absenteeism; in Wolpin Co., 69 LA 589 (1977), because of the employee's violation of a probationary period following an earlier dismissal; and Kellogg Co., 71 LA 494 (1978), because the employee was found to have voluntarily quit.

[5] Whitin Machine Works, 10 LA 707 (1948); Maremont Automotive Products, 37 LA 175 (1961); Hiller Chevrolet, 37 LA 629 (1961); Fischer Scientific, 45 LA 559 (1965); and Cheyenne Pipeline Co., 59 LA 726 (1972).

[6] Cheyenne Pipeline Co., 59 LA 726 (1972).

[7] Hiller Chevrolet-Cadillac, 37 LA 629 (1961); Maremont Automotive Products, 37 LA 175 (1961); and Fischer Scientific, 45 LA 559 (1965).

[8] Alcas Cutlery Co., 38 LA 297, at 299 (1962).

[9] Caterpillar Tractor Co., 36 LA 104 (1961). See also Jamestown Telephone Co., 73-1 ARB ¶ 8229 (1973).

[10] International Harvester Co., 24 LA 229, 231 (1955).

[11] Brown and Williamson Tobacco Corp., 60 LA 17 (1972).

[12] Husky Oil Co., 65 LA 47, at 58-59 (1975).

[13] General Tire and Rubber Co., 51 LA 206, at 208 (1968). See also Hervoss Corp., 70 LA 497 (1978), and Kellogg Corp., 71 LA 494 (1978).

[14] See, for example, Spavering Fibre Co., 21 LA 58 (1953); U.S. Steel Corp., 41 LA 461 (1963); American Can Filler, 63 LA 1277 (1974); and Springday Co., 76-1 ARB ¶ 8295 (1976).

[15] American Smelting and Refining Corp., 59 LA 722, 725 (1972).

[16] Whitin Machine Works, 10 LA 707, 712 (1948).

[17] Silas Mason Co., 59 LA 197 (1972).

[18] Dayton Malleable Iron Co., 43 LA 959, 963 (1964).

[19] See footnote 5.

[20] Package Machinery Corp., 10 LA 154, 156 (1948).

[21] Commonwealth Gas Co., 76-2 ARB ¶ 8494 (1976).

[22] See, for example, Maremont Automotive Products, Inc., 37 LA 175 (1961), and Cheyenne Publishing Corp., 59 LA 726 (1972).

[23] Hiller Chevrolet-Cadillac, 37 LA 629 (1961).

[24] See, for example, Whitin Machine Co., 10 LA 707 (1948).

[25] Fisher Scientific, 45 LA 559, 560 (1965).

[26] Dayton Malleable, 43 LA 959 (1964), National Steel Corp., 66 LA 533 (1976), Springday Corp., 76-1 ARB ¶ 8295 (1946).

[27] Commonwealth Gas Co., 76-2 ARB ¶ 8494 (1976).

[28] National Steel Co., 66 LA 533, 539 (1976).

[29] See, for example, Consolidated Foods Corp., 58 LA 1285 (1972).

[30] B. F. Goodrich, 69 LA 922 (1977). See also General Telephone Co. of Indiana, 61 LA 867 (1973), where arbitrator Julius Getman ruled that an employer must provide disability pay to a worker absent because of mental illness, under a contractual provision mandating such pay for illness. Getman found no basis for distinguishing between mental and physical illness, even though company practice may have been to extend benefits only in cases of physical disability.

[31] See, for example, Chrysler Corp., 26 LA 295 (1956); Foster Wheeler Corp., 57 LA 1171 (1971); Consolidated Foods Corp., 58 LA 1285 (1972); Brown and Williamson Tobacco Co., 60 LA 17 (1972); John Mansville Perlite Corp., 67 LA 1255 (1977); B. F. Goodrich, 69 LA 922 (1977); and Ocean Spray Cranberries Inc., 71 LA 161 (1978).

[32] General Tire and Rubber Corp., 51 LA 206 (1968); Consolidated Food Corp., 58 LA 1285 (1972); B. F. Goodrich, 69 LA 922 (1977); and Ocean Spray Cranberries Inc., 71 LA 161 (1978).

[33] John Mansville Perlite Corp., 67 LA 1255 (1977).

[34] Foster Wheeler Corp., 57 LA 1171 (1971).

[35] John Mansville Perlite Corp., 67 LA 1255, at 1260 (1977). This concern is very real. One study has shown that two-thirds of all disabled employees who were not reemployed by their company could not achieve gainful employment in the succeeding 5 years. Conversely, if rehired by the original firm, the employee was found to be "assured of relative success in the future labor market": A. J. Jaffee and others, *Disabled Workers in the Labor Market*, (New Jersey, Bedminster Press, 1964), pp. 73, 75-76.

[36] See, for example, Hiller Chevrolet-Cadillac, Inc., 37 LA 629 (1961), Fischer Scientific Corp., 45 LA 559 (1965), Cheyenne Pipeline Co., 59 LA 726 (1972).

[37] See, for example, Alcas Cutlery, 38 LA 297 (1962), U.S. Steel Corp., 41 LA 461 (1963), Philco Corp., 43 LA 569 (1964).

[38] U.S. Steel Corp., 46 LA 545, 549 (1966). See also General Electric Co., 71 LA 161, 164 (1978), Hervoss Corp., 70 LA 497, 500 (1978).

[39] Hiller Chevrolet-Cadillac, Inc., 37 LA 629, at 632-633 (1961).

[40] Union Camp Corp., 59 LA 127, at 133 (1972).

[41] Maremont Automotive Products, Inc., 37 LA 175, at 176 (1961).

[42] Union Camp Corp., 59 LA 127 (1972).

[43] City of Hartford, 69 LA 303, 306 (1977).

[44] Union Camp Corp., 59 LA 127 (1972). See, however, General Electric Co., 71 LA 161, 164 (1978), where arbitrator James Stern did not credit the grievant's medical release as sufficient evidence of his employability because the grievant's doctor was not a psychiatrist.

[45] Maremont Automotive Products, Inc., 37 LA 175, at 176 (1961).

[46] U.S. Steel Corp. 46 LA 545, at 549 (1966).

[47] National Steel Co. 66 LA 533, at 534-536 (1976).

[48] See, for example, Caterpillar Tractor Co., 36 LA 104 (1961); Alcas Cutlery, 38 LA 297 (1962); U.S. Steel Corp., 41 LA 460 (1963); American Smelting and Refining Corp., 59 LA 722 (1972); Union Camp Corp., 59 LA 127 (1972); Midwest Telephone Co., 76-1 ARB ¶ 8203 (1976); and Jamestown Telephone Co., 73-1 ARB ¶ 8229 (1973).

[49] Philco Corp., 43 LA 568 (1964). See also Marion Power Shovel Co., 69 LA 339 (1973).

[50] Union Camp Corp., 59 LA 127 (1972); and Caterpillar Tractor Co., 36 LA 104 (1961).

[51] See American Smelting and Refining Corp., 59 LA 722 (1972).

[52] See Alcas Cutlery Corp., 38 LA 297 (1962).

[53] International Harvester Co., 24 LA 229 (1955), and National Steel Co., 66 LA 533 (1976).

[54] Dayton Malleable Iron Co., 43 LA 959 (1964), and Commonwealth Gas Co., 76-2 ARB ¶ 8494 (1976).

[55] Commonwealth Gas Co., 76-2 ARB ¶ 8494 (1976); International Harvester Co., 24 LA 229 (1955); Dayton Malleable Iron Co., 43 LA 959 (1964); and National Steel Co., 66 LA 533 (1976).

[56] Consolidated Food Corp., 58 LA 1285, at 1289 (1972).

[57] Chrysler Corp., 26 LA 295 (1956). See also cases listed in footnote 31.

[58] See footnote 31.

[59] Foundry Equipment Co., 28 LA 333 (1957); U.S. Steel Corp., 41 LA 461 (1963); Dayton Malleable Iron Co., 43 LA 959 (1964); General Tire and Rubber Co., 51 LA 206 (1968); Consolidated Food Corp., 58 LA 1285 (1972); Silas Mason Co., 59 LA 197 (1972); American Smelting and Refining Corp., 59 LA 722 (1972); Brown and Williamson Tobacco Corp., 60 LA 17 (1972); John Mansville Perlite Corp., 67 LA 1255 (1977); Marion Power Shovel Co., 69 LA 339 (1973).

[60] Philco Corp., 43 LA 568 (1964).

[61] Brown and Williamson Tobacco Co., 60 LA 17 (1972); General Tire and Rubber Co., 51 LA 206 (1968).

[62] Silas Mason Co., 59 LA 1972, at 200 (1972), and American Smelting and Refining Corp., 59 LA 722, at 726 (1972).

[63] Whitin Machine Works, 10 LA 707 (1948); Maremont Automotive Products, 37 LA 175 (1961); and Cheyenne Pipeline Co., 59 LA 726 (1972).

[64] See footnote 41.

[65] Foster Wheeler Corp., 57 LA 1171, at 1174 (1971).

[66] Philco Corp., 43 LA 568 (1964).

[67] Package Machinery Corp., 10 LA 154 (1948).

[68] Alcas Cutlery 38 LA 297 (1962).

[69] 41 C.F.R. Sec. 60-741.28(c), (d), and (e), (1977).

[70] As of June 15, 1977, the U.S. Department of Labor had debarred only 13 companies since 1965 when the Executive Order mandating affirmative action by Federal contractors was first issued. Statement, Donald Elisburg, Assistant Secretary for Labor, in *U.S. Commission on Civil Rights, The Federal Civil Rights Enforcement Effort - 1977* (Washington, D.C., 1977), p. 142.

[71] 41 C.F.R. Sec. 60-741.28(b) (1977).

[72] See, for example, David E. Feller, "The Impact of External Law Upon Labor Arbitration," in *The Future of Labor Arbitration in America*, Benjamin Ana and others, eds. (New York, American Arbitration Association, 1976), pp. 83-113.

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Marital and family characteristics of the labor force, March 1979

BEVERLY L. JOHNSON

The rising number of multi-earner families has been one of the most important socioeconomic developments of the 1970's. In March 1979, a record 3 out of every 5 married-couple families reported having had at least two members who were earners during the previous year. Since 1970, the number of such families has increased by more than 3 million, reaching 28.4 million.[1] (See table 1.)

Almost exclusively responsible for the rising number of multi-earner families have been the steep annual increases in the number and proportion of working wives. (See table 2.) Year after year, married women have continued to record spectacular gains in labor force participation. Since March 1970, the number of wives in the work force has increased by one-third, rising from 18.4 million to nearly 24 million. More than half of this gain (54 percent) was among wives 25 to 34 years old.

The labor force participation rate of married women had risen to 49.4 percent by March 1979, an increase of nearly 9 percentage points since 1970. (See table 3.) In contrast, the participation rate of husbands has been in a long-term decline. At 81.4 percent in March 1979, the rate for husbands had dropped by more than 5 percentage points since 1970—a reduction greater than that recorded during the preceding 2 decades.

Continuing its upward trend, the rate for white wives rose significantly over the year ending in March 1979, reaching 48.5 percent. The participation rates for black (59.7 percent) and Hispanic wives (46.3 percent) registered no significant change from a year earlier but have also risen considerably since the mid-1970's. Reflecting the higher labor force participation rate of black wives, the proportion of black families with 2 earners or more during 1978 was higher than that for white or Hispanic; 64.5 percent of black married-couple families, compared with 59 percent of white and Hispanic families, had more than one earner.

There was little year-to-year change in the labor force participation of husbands whether white, black, or Hispanic. However, both the rates for white and black husbands have drifted down over the decade, to 81.5 and 80.0 percent. The rate for Hispanic husbands (87.4 percent) was at the same level in early 1979 as at mid-decade (when separate data for this ethnic group first became available).

Family income

Working wives made substantial contributions to their families' economic welfare. In 1978, they contributed about 26 percent to family income, a proportion that varied considerably by the extent of their work experience. When wives worked 50 to 52 weeks full time they contributed an average of 40 percent to family income; when they worked full time 27 to 49 weeks, they contributed about 30 percent; and when they worked up to a half year full time or 1 to 52 weeks part time, their share was approximately 11 percent. These proportions have remained relatively unchanged throughout the 1970's. One factor accounting for this is that there has been very little change in the occupational distribution of wives; that is, they have not yet gained full access to many of the high skill, high paying jobs. It is largely because of this that the basic ratio of women's to men's earnings has not changed much for years.[2]

The impact of wives' earnings on family income is clearly shown by the income differences between one-earner and multiple-earner families. In 1978, median family income for white multi-earner families was $23,300, 37 percent higher than families with one earner. For black families with two earners or more, median family income was $19,500, 66 percent higher than that of families with only one earner. Hispanic multi-earner families had an average annual income of $17,900, 59 percent higher than that of families with only one earner. Because of this, married-couple families with multiple earners have an exceedingly low incidence of poverty.[3] For white families with more than one earner, fewer than 2 percent were living below the poverty level, compared with 6 percent of the families with only one earner and 16 percent of those families with no earners. For black and Hispanic multi-earner families, only about 5.5 percent were living below the poverty level. However, as among the white population, the

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Table 1. Number of earners in previous year, by type of family in March 1970 and March 1979 and by race, March 1979

Item	All families				White		Black	
	March 1970		March 1979		March 1979		March 1979	
	Number (in thousands)	Percent distribution	Number (in thousands)	Percent distribution	Number (in thousands)	Percent distribution	Number (in thousands)	Percent distribution
Families, total	51,237	.....	57,804	.....	50,910	.....	5,906	.....
Married-couple families, total	44,436	100.0	47,692	100.0	43,636	100.0	3,244	100.0
No earners	3,022	6.8	5,101	10.7	4,777	10.9	276	8.5
1 earner	16,268	36.6	14,173	29.7	13,054	29.9	875	27.0
Husband only	15,133	34.1	12,194	25.6	11,320	25.9	664	20.5
Wife only	797	1.8	1,477	3.1	1,294	3.0	161	5.0
Other relative only	339	.8	502	1.1	441	1.0	50	1.5
2 earners or more	25,145	56.6	28,418	59.6	25,805	59.1	2,092	64.5
Husband and wife [1]	20,327	45.7	24,253	50.9	21,948	50.3	1,858	57.3
Husband and other, not wife	4,517	10.2	3,563	7.5	3,379	7.7	154	4.7
Husband non-earner	302	.7	582	1.2	478	1.1	79	2.4
Other families, total	6,801	.....	10,113	.....	7,273	.....	2,662	.....
Maintained by women [2]	5,573	100.0	8,458	100.0	5,918	100.0	2,390	100.0
No earners	1,194	21.4	1,964	23.2	1,213	20.5	712	29.8
1 earner	2,468	44.2	4,114	48.6	2,909	49.2	1,147	48.0
2 earners or more	1,911	34.3	2,380	28.1	1,796	30.3	531	22.2
Maintained by men [2]	1,239	100.0	1,655	100.0	1,355	100.0	272	100.0
No earners	121	9.7	189	11.4	151	11.1	35	12.9
1 earner	520	41.9	746	45.1	602	44.4	131	48.2
2 earners or more	598	48.2	719	43.4	602	44.4	105	38.6

[1] May also include sons, daughters, or other family members.

[2] Maintained by divorced, separated, widowed, or never-married persons.

NOTE: Due to rounding, sums of individual items may not equal totals.

poverty rate among these minority groups was 4 times higher for families with only one earner and 8 to 9 times higher for those married-couple families with no earners in the home.

Married-couple families with children under 18 were far more likely to have two earners or more than were those families with no children—63 percent, compared with 51 percent in March 1978.[4] This reflects both greater economic pressures of families raising school- and preschool-age children, as well as the comparatively higher concentration of older, often retired, husbands and wives among families with no children. About 51 percent of wives with no children under 18 were age 55 and older, compared with only 2 percent of the married mothers with children under 18.

Working mothers. The labor force commitment of all mothers showed unusual strength in the 1970's and by March 1979, 16.6 million, or 54 percent, of the women with children under 18 were working or looking for work. (This compares with 12 million or 42 percent in 1970, and 8 million or 30 percent in 1960.) Most working mothers were married but nearly 1 of 4 (23 percent) was divorced, separated, widowed, or had never been married. Partly reflecting the sharp decline in birth rates[5] during the 1970's, and consequently fewer children for families to care for, the labor force participation rate of married mothers zoomed upward—from 39.7 percent in March 1970 to 51.8 percent. (See table 4.) Divorced mothers remained far more likely than other mothers to be working or looking for work—79 percent did so in March 1979.[6]

The tremendous influx of mothers into the 1970's work force occurred both among those with school-age as well as those with preschool-age children; in March 1979, 62 percent of mothers with children 6 to 17 years old and 45 percent of those with children under age 6 were working or looking for work. Comparable rates for 1970 were 52 and 32 percent.

Black mothers are still more likely than white or Hispanic mothers to be in the labor force. However, the sharpest increase in participation during the late 1970's has been registered by white mothers. As a result, the difference in labor force participation between black and white mothers has narrowed considerably. From March 1975 to 1979, the rate for white mothers rose from 46.0

Table 2. The civilian labor force, by sex and marital status, March 1970 and 1979

[Numbers in thousands]

Sex and marital status	Civilian labor force			
	March 1970		March 1979	
	Number	Percent	Number	Percent
Both sexes, total	81,693	100.0	101,579	100.0
Men, total	50,460	61.8	58,608	57.7
Never married	9,421	11.5	14,895	14.7
Married, wife present	38,123	46.7	38,756	38.2
Married, wife absent	1,053	1.3	1,599	1.6
Widowed	672	0.8	570	0.6
Divorced	1,191	1.5	2,789	2.7
Women, total	31,233	38.2	42,971	42.3
Never married	6,965	8.5	11,006	10.8
Married, husband present	18,377	22.5	23,832	23.5
Married, husband absent	1,422	1.7	1,808	1.8
Widowed	2,545	3.1	2,358	2.3
Divorced	1,927	2.4	3,967	3.9

Table 3. Civilian labor force participation rates of persons 16 years and over, by race, Hispanic origin, marital status, and sex, March 1979

[Numbers in thousands]

Marital status and sex	All persons		White		Black		Hispanic	
	Number	Labor force participation rate	Number	Labor force participation rate	Number	Labor force participation rate	Number	Labor force participation rate
Both sexes, total	101,579	63.2	89,507	63.5	10,144	60.4	4,795	63.6
Men	58,608	77.0	52,297	77.8	5,246	70.2	2,936	81.1
Never married	14,895	70.9	12,874	72.7	1,760	51.8	786	70.1
Married, wife present	38,756	81.4	35,474	81.5	2,585	80.0	1,852	87.4
Other marital status	4,957	66.2	3,948	66.6	900	64.5	298	78.9
Married, wife absent	1,599	76.5	1,134	79.1	405	69.0	162	86.7
Widowed	570	29.3	438	27.5	116	37.6	22	(¹)
Divorced	2,789	80.9	2,375	81.9	379	75.8	114	84.9
Women	42,971	50.7	37,210	50.4	4,899	52.6	1,859	47.4
Never married	11,006	62.7	9,296	65.2	1,502	50.7	502	56.0
Married, husband present	23,832	49.4	21,391	48.5	1,920	59.7	1,026	46.3
Other marital status	8,133	43.1	6,523	42.2	1,477	47.0	330	40.8
Married, husband absent	1,808	58.8	1,136	58.9	632	58.9	117	40.4
Widowed	2,358	22.6	1,988	22.0	322	25.0	58	22.2
Divorced	3,967	74.0	3,400	75.3	523	66.8	154	60.2

[1] Percent not shown where base is less than 75,000.

NOTE: Due to rounding, sums of individual items may not equal totals.

to 53.5 percent; for black mothers, it went from 56.0 to 61.3 percent; and for Hispanic mothers, the rate increased from 39.5 to 44.8 percent.

Children of working women. In March 1979, the number of children under 18 whose mother was in the labor force was 30.1 million, a gain of 4.6 million from 1970. (See table 5.) A smaller proportion of white (49 percent) than of black children (61 percent) in two-parent families had working mothers. However, when there were no fathers in the home, white children were more likely than black to have mothers in the labor force—67 and 53 percent, respectively. Among Hispanic children, 43 percent of those in two-parent families had

Table 4. Labor force status of women 16 years and over, by marital status, and presence and age of youngest child, March 1979

[Numbers in thousands]

Marital and labor force status	Total	No children under 18 years	With children under 18 years						
			Total	6 to 17 years only			Under 6 years		
				Total	14 to 17 years, none younger	6 to 13 years	Total	3 to 5 years, none younger	Under 3 years
Women, 16 years and over, total	84,686	54,204	30,482	17,164	5,392	11,772	13,317	5,312	8,006
In labor force	42,971	26,355	16,616	10,570	3,288	7,281	6,046	2,775	3,272
Labor force participation rate	50.7	48.6	54.5	61.6	61.0	61.9	45.4	52.2	40.9
Unemployment rate	6.6	6.1	7.3	5.7	4.7	6.1	10.0	8.2	11.6
Never married	17,564	16,651	913	300	21	279	613	228	385
In labor force	11,006	10,513	493	190	10	180	303	121	182
Labor force participation rate	62.7	63.1	54.0	63.4	(¹)	64.5	49.4	53.0	47.2
Unemployment rate	9.7	9.2	20.7	19.0	.....	20.0	21.8	17.2	25.0
Married, husband present	48,239	23,474	24,765	13,655	4,333	9,323	11,110	4,227	6,883
In labor force	23,832	10,974	12,858	8,064	2,534	5,529	4,795	2,089	2,706
Labor force participation rate	49.4	46.7	51.9	59.1	58.5	59.3	43.2	49.4	39.3
Unemployment rate	5.1	3.7	6.2	4.9	3.9	5.3	8.5	7.2	9.5
Married, husband absent	3,075	1,396	1,679	909	235	674	770	355	414
In labor force	1,808	807	1,001	592	145	447	409	212	197
Labor force participation rate	58.8	57.8	59.6	65.2	61.7	66.3	53.1	59.5	47.5
Unemployment rate	9.8	6.3	12.6	8.8	5.7	9.8	18.2	12.1	24.7
Widowed	10,450	9,756	694	605	306	300	89	66	23
In labor force	2,358	2,015	344	311	164	148	33	27	6
Labor force participation rate	22.6	20.7	49.5	51.4	53.6	49.3	36.5	(¹)	(¹)
Unemployment rate	5.2	4.6	9.0	8.2	10.9	5.2	(¹)	(¹)	(¹)
Divorced	5,359	2,928	2,431	1,694	498	1,196	736	436	300
In labor force	3,967	2,047	1,920	1,412	435	977	508	327	181
Labor force participation rate	74.0	69.9	79.0	83.4	87.4	81.7	68.9	74.9	60.3
Unemployment rate	6.1	4.8	7.6	6.5	6.4	6.6	10.4	8.4	14.0

[1] Rate not shown where base is less than 75,000.

NOTE: Due to rounding, sums of individual items may not equal totals.

working mothers, compared with 39 percent of those in families maintained by the mother.

One-parent families

Among the most striking changes that occurred during the 1970's was the sharp rise in the number of working women who had the principal responsibility for the maintenance and welfare of their own families. About 1 of every 9 women in the March 1979 labor force (5 million) maintained her own family and was divorced, separated, widowed, or had never been married. Mainly because of the rising incidence of marital breakup,[7] the number of families maintained by women increased substantially over the decade, so that in March 1979 these families totaled 8.5 million, or 1 of every 7 families.

Children under 18 were present in about 5.3 million families maintained by women. (See table 6.) In fact, most of the over-the-decade gain in the number of families maintained by women occurred among families with children. From March 1970 to 1979, the number of single-parent families maintained by women rose by 80 percent, while those maintained by men increased by more than 70 percent.[8]

One-parent families are largely those of female householders and face economic difficulties rarely encountered by families with male householders. In 1978, 42 of every 100 single-parent families maintained by the mother had incomes below the poverty level, compared with 15 of every 100 maintained by the father and 6 of every 100 two-parent families.[9]

Accompanying the large increases in the numbers of mothers maintaining their own families have been unprecedented gains in the number who are working. In March 1979, 65.9 percent of mothers maintaining their own families were in the labor force, compared with 59.4 percent in 1970. As might be expected, the labor force participation rates of mothers in one-parent families varied by the age of the youngest child, with those having school-age children being far more likely than those with their youngest child under 6 years to be in the labor force—72 percent, compared with 56 percent. Women who are divorced, separated, or widowed often experience substantial declines in their family income. In 1978, the median income of families maintained by the mother was only 34 percent that of two-parent families. However, when the single parent was a father, the rate jumped to 71 percent.

Several factors contributed to these income differences. First, families maintained by the mother are far more likely to have no earners in the home than are other families. Approximately 28 percent of families maintained by mothers, compared with 9 percent of those maintained by fathers and only 1.6 percent of two-parent families, had no earners in the home. Second, single-parent families maintained by the mother were less apt to have 2 earners or more—only 19 percent had 2 earners or more, compared with 28 percent of one-parent families maintained by the father and 64 percent of two-parent families. Furthermore, a very high

Table 6. Labor force status of divorced, separated, widowed, or never-married women and men maintaining families, by presence and age of own children under 18, March 1970 and March 1979

[Numbers in thousands]

Presence and age of children[1]	March 1970			March 1979		
	Population	Labor force	Labor force participation rate	Population	Labor force	Labor force participation rate
Women maintaining families	5,573	2,950	52.9	8,456	5,033	59.5
With children under 18 years	2,924	1,736	59.4	5,288	3,486	65.9
With children 6–17 years	1,813	1,215	67.0	3,362	2,406	71.6
With children under 6 years	1,111	521	46.9	1,926	1,080	56.1
With no children under 18	2,649	1,214	45.8	3,168	1,547	48.8
Men[2] maintaining families	1,239	893	72.1	1,654	1,218	74.2
With children under 18 years	333	304	91.3	569	496	87.1
With children 6–17 years	262	237	90.5	435	375	86.2
With children under 6 years	71	67	([3])	134	121	90.3
With no children under 18	906	589	65.0	1,085	722	66.5

[1] Children are defined as "own" children of husband-wife families or of women or men maintaining families. Included are never-married sons, daughters, stepchildren, and adopted children. Excluded are other related children such as grandchildren, nieces, nephews, cousins, and unrelated children.

[2] Includes a few male members of the Armed Forces living off post or with their families on post.

[3] Percent not shown where base is less than 75,000.

NOTE: Due to rounding, sums of individual items may not equal totals.

Table 5. Children under 18 years old, by age, type of family, and labor force status of mother, March 1970 and March 1979

[Numbers in thousands]

Item	Total children under 18		Children 6 to 17		Children under 6	
	March 1970	March 1979	March 1970	March 1979	March 1970	March 1979
Children total[1]	65,755	58,537	46,149	41,556	19,606	16,981
Mother in labor force	25,544	30,105	19,954	22,940	5,590	7,166
Mother not in labor force	39,550	27,503	25,627	17,849	13,923	9,654
Married-couple families	58,399	47,786	40,479	33,347	17,920	14,439
Mother in labor force	21,982	24,063	17,035	18,161	4,947	5,902
Mother not in labor force	36,417	23,724	23,444	15,186	12,973	8,538
Families maintained by women[2]	6,695	9,822	5,102	7,442	1,593	2,380
Mother in labor force	3,562	6,043	2,919	4,779	643	1,264
Mother not in labor force	3,133	3,779	2,183	2,663	950	1,116
Families maintained by men[2]	661	929	568	768	93	161

[1] Children are defined as "own" children of husband-wife families or of women or men maintaining families. Included are never-married sons, daughters, stepchildren, and adopted children. Excluded are other related children such as grandchildren, nieces, nephews, cousins, and unrelated children.

[2] Includes only divorced, separated, widowed, or never-married persons.

NOTE: Due to rounding, sums of individual items may not equal totals.

proportion of mothers in single-parent families had not completed high school—4 out of 10 in March 1979—and low educational levels are usually associated with low labor force participation, high unemployment, and low pay.

Even when the mother was in the labor force, family income was likely to be considerably lower than that of either two-parent families with working mothers or single-parent families maintained by working fathers. Average income in 1978 of single-parent families with working mothers ($8,900) was only 40 percent that of two-parent families with working mothers ($22,200) and 54 percent that of one-parent families maintained by working fathers. ☐

FOOTNOTES

[1] This report is the latest from an annual series based primarily on information from supplementary questions in the March Current Population Survey. The most recent report on this subject, containing data for March 1978, was published in the *Monthly Labor Review*, April 1979, and reprinted as Special Labor Force Report No. 219.

The data in this report relate to the noninstitutional population 16 years and over, including those male members of the Armed Forces living off post or with their families on post (824,000 in March 1979). Sampling variability may be relatively large in cases where numbers are small, and small differences between estimates or percentages should be interpreted with caution.

[2] Janet L. Norwood and Elizabeth Waldman, *Women in the Labor Force: Some New Data Series*, Bureau of Labor Statistics Report 575. Also see, *The Earnings Gap Between Women and Men*, U.S. Department of Labor, Office of the Secretary, Women's Bureau, 1979.

[3] Families are classified as being above or below the low income level according to the poverty index adopted by a Federal interagency committee in 1969. The poverty thresholds are updated every year to reflect changes in the Consumer Price Index. Thus, the poverty threshold for a nonfarm family of four was $6,662 in 1978, 7.6 percent higher than the comparable 1977 cutoff of $6,191. For further details, see *Characteristics of the Population below the Poverty Level: 1977*, Current Population Reports, Consumer Income, Series P-60, No. 119 (Bureau of the Census) 1979, p. 206.

[4] Latest data available from special computer run for March 1978.

[5] The birth rate declined from 18.4 per thousand population in 1970 to 15.3 per thousand in 1978. See *Monthly Vital Statistics Reports*, Vol. 27, No. 13, August 13, 1979 and Vol. 23, No. 13, May 30, 1975, U.S. Department of Health, Education, and Welfare, Public Health Service.

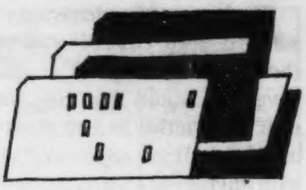
[6] For a detailed discussion on working mothers during the 1970's, see Elizabeth Waldman and others, "Working mothers in the 1970's: a look at the statistics," *Monthly Labor Review*, October 1979, pp. 39-49.

[7] *Monthly Vital Statistics*, Vol. 27, No. 13, p. 10.

[8] Beverly L. Johnson, *Single-Parent Families*, a speech presented to the U.S. Department of Agriculture Conference on Outlook of the 80's, Released 10:45, November 7, 1979.

[9] *Consumer Income Report*, Series P-60, No. 120, November 1979.

Research Summaries



Workers' expectations about losing and replacing their jobs

CHARLES N. WEAVER

How secure do workers feel about keeping their jobs? How confident are they that they could find another job?

Two recent nationwide surveys indicate a high degree of confidence on both counts, despite relatively high unemployment. In 1977 and in 1978, only a few of the workers surveyed feared the loss of their jobs, and a majority thought they could find comparable work without much difficulty. (In 1977, the national unemployment rate was 7 percent and in 1978, 6 percent.)

The results indicate considerable variations, however, among various categories of full-time workers. Certain workers, including blacks, those with less education, lower earnings, and lower skilled jobs, tended to experience greater insecurity of employment. They were more likely to fear the loss of their jobs or of being laid off within the next 12 months and were more likely to anticipate difficulty in finding a comparable job. Similarly, workers with more education, higher earnings, and higher skilled jobs typically experienced a greater sense of security in their present jobs and were more likely to believe that finding a comparable job would be easy.

The data were taken from the 1977 and 1978 General Social Surveys conducted by the National Opinion Research Center at the University of Chicago, with funds from the National Science Foundation.[1] Expectations about losing one's job and about finding another job were measured by responses to the following questions:

> **Thinking about the next 12 months, how likely do you think it is that you will lose your job or be laid off—very likely, fairly likely, not too likely, or not at all likely?**
>
> **About how easy would it be for you to find a job with another employer with approximately the same income and fringe benefits you have now? Would you say very easy, somewhat easy, or not easy at all?**

When both sets of expectations are considered, several important dimensions of worker attitudes toward job security become apparent (table 1). For instance, blacks were not only almost twice as likely as whites to expect to lose their jobs or be laid off within the next 12 months, but were also significantly less likely than whites to believe that finding another job would be easy. Additionally, older workers were less likely to expect that they would lose their jobs or be laid off within the next 12 months (probably due to seniority), but they were more likely to believe that it would be difficult to find a job with similar earnings and fringe benefits.

Table 1. Workers who expect to lose their jobs and those who think they could find another job without much trouble

[In percent]

Characteristics	Expect to lose job	Could find another job
Overall	7.7	59.2
Sex:		
Male	7.7	60.5
Female	7.7	57.6
Race:		
White	7.0	60.2
Black	13.2	50.3
Age:		
18-29	11.1	67.9
30-39	8.5	62.3
40-49	5.2	59.5
50-59	4.5	46.7
60 and over	3.4	24.4
Education:		
Grade school	9.0	48.8
High school	8.8	56.9
Some college	9.0	68.4
College degree	2.7	62.2
Graduate work	1.3	72.3
White-collar workers:		
Professional-technical	3.2	67.4
Administrative-managerial	5.4	65.4
Salesworkers	3.6	58.9
Clerical workers	8.0	61.4
Blue-collar workers:		
Craftworkers	9.3	63.1
Operatives	13.7	45.8
Laborers	15.1	41.1
Service workers	8.2	54.0
Personal income:		
Less than $5,000	12.7	65.1
$5,000-$6,999	8.1	59.9
$7,000-$9,999	9.5	57.2
$10,000-$14,999	7.4	55.2
$15,000-$19,999	6.8	55.6
$20,000 and over	1.0	63.8

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Workers with elementary school, high school, or some college education were much more likely than those with a college or graduate school education to believe they would lose their jobs or be laid off within the next 12 months, and workers with an elementary school or high school education were less likely than those with higher education to believe that it would be easy to find a similar job.

In contrast to blue-collar workers, white-collar workers were only half as likely to believe they would lose their jobs or be laid off within the next 12 months, and were significantly more likely to believe that finding another job would be easy. However, expectations of losing and finding employment varied considerably within the white- and blue-collar occupational categories. Professional-technical and administrative-managerial workers had the lowest expectations about losing their jobs or being laid off, and had the most confidence about finding another job. On the other hand, salesworkers also had low expectations about losing their jobs or being laid off but were least confident (among white-collar workers) about finding another job. And, compared with other white-collar workers, clerical workers had the highest expectations about losing their jobs or being laid off but had moderately high expectations about the ease of finding another job. Among blue-collar workers, operatives and laborers felt most insecure about their jobs, and were most skeptical about finding a similar job. Service workers were the least concerned about blue-collar workers losing their jobs but did not believe that finding a similar job would be easy. Craftworkers had moderately high expectations about losing their jobs, but had the highest expectations (among blue-collar workers) that finding another job would be easy.

Workers whose annual salaries were less than $5,000 had the highest expectations that they would lose their jobs or be laid off within the next 12 months, but they also had the highest expectations that it would be easy to find a similar job with another employer. Workers in the highest salary category, over $20,000, had the lowest expectations that they would lose their jobs or be laid off and had highest expectations that it would be easy to find a similar job. Workers whose salaries ranged in categories between $5,000 and $20,000 had approximately the same expectations about both losing their jobs and about finding similar jobs with other employers.

Knowing the characteristics of workers who expect to lose their jobs and of those who believe that they could easily find other jobs should be important for the following reasons. Because job security and job satisfaction are correlated,[2] those interested in improving morale should benefit from having knowledge of the conditions under which worker expectations about losing their jobs are most intense. And, because unemployment is correlated with jobseeker discouragement,[3] those interested in increasing employment should benefit from having knowledge of the conditions associated with fluctuations in worker expectations about finding another job. Furthermore, having knowledge of the conditions associated with *both* of these sets of expectations for the *same* workers should increase understanding of the attitudes of workers toward their overall employment security. □

FOOTNOTES

[1] Only persons age 18 and older who reported in the face-to-face interviews that they were employed full-time (35 hours or more per week) were included in this study, and the two groups were pooled into a single sample of 1,463 for analysis.

[2] F. Herzberg, B. Mausner, R. O. Peterson, and D. F. Capwell, *Job Attitudes: Review of Research and Opinion* (Pittsburgh Psychological Service of Pittsburgh, 1957).

[3] Carol M. Ondeck, "Discouraged workers' link to jobless rate reaffirmed," *Monthly Labor Review*, October 1978, pp. 40–42.

Hours and earnings of production or nonsupervisory workers, 1968–78

HOWARD DAVIS

Average hourly earnings of production or nonsupervisory employees on private, nonagricultural payrolls increased between 1968 and 1978 at an annual rate of 7.2 percent.[1] Average weekly hours dropped by 2 hours, from 37.8 to 35.8.

All industry divisions exhibited hourly declines except mining, as shown in table 1. Rising from a low of 41.9 hours in 1974 and 1975, mining reached a decade-high of 43.4 hours in 1977 and remained the same in 1978 under the stimulus of strong gains in coal mining and oil and gas extraction. The largest 11-year drops occurred in retail trade (−3.7 hours), services (−1.9 hours), and wholesale trade (−1.3 hours). Average weekly hours did not increase in any of these three industries after 1969. This was also true for hours in the finance, insurance, and real estate industry, although the total decline was only 0.6 of an hour.

A general cyclical pattern appears in mining, manufacturing, construction, and transportation and public utilities. Decreases in the number of hours in these industries occurred after the peak of economic expansion and either stopped descending or increased within the year following the recession low.[2]

The persisting decline of hours in trade and services

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is related to the marked increase in part-time employment in these sectors. The average workweek for the private sector would have been 37.4 in 1978, rather than 35.8 hours, if the number of hours in each industry division in 1968 had been the same in 1978. The general decline within the various divisions would have reduced the average workweek by only 0.4 of an hour as a result of changes in compositional employment. The drop in hours paid for in the retail trade and service divisions amounted to 83 percent of the remaining decrease of 1.6 hours. Thus, much of the apparent long-term decline in weekly hours in the private sector is due to the pronounced shift of employment toward these rapidly expanding divisions.

As in the case of hours, divergences exist in the tempo of average hourly earning increases among industry divisions over the 11-year period. And for any given year, there is considerable variance among the year-to-year changes. While the overall pace of increase in average hourly earnings was 7.2 percent per year, the annual rate of change for individual industry divisions ranged from a high of 8.6 percent for mining to a low of 6.0 percent for the finance, insurance, and real estate industry. As shown in table 2, average hourly earnings in mining rose from 118 percent of the overall average for 1968 to nearly 135 percent in 1978, while earnings in retail trade dipped from 76 to 74 percent of the overall average. Nevertheless, the rankings among the industry divisions evidenced considerable stability over the 11-year period.

Earnings in mining exhibited the largest relative improvement, while those in finance, insurance, and real estate posted the largest slippage. In retail trade, earnings eased off slightly, remaining the lowest among the industry divisions. Average hourly earnings in the transportation and public utility industry also increased significantly, rising from 120 percent to almost 133 percent of the overall average.

Table 1. Average weekly hours and average hourly earnings of production or nonsupervisory workers on private nonagricultural payrolls, 1968 and 1978

Industry division	Average hourly earnings		Annual rate of growth	Hours		Change in hours
	1968	1978	1968–78	1968	1978	1968–78
Total	$2.85	$5.69	7.2	37.8	35.8	-2.0
Mining	3.35	7.67	8.6	42.6	43.4	+.8
Construction	4.41	8.65	7.0	37.3	36.9	-.4
Durable goods, manufacturing	3.19	6.58	7.5	41.4	41.1	-.3
Nondurable goods, manufacturing	2.74	5.53	7.3	39.8	39.4	-.4
Transportation and public utilities	3.42	7.55	8.2	40.6	40.0	-.6
Wholesale trade	3.05	5.88	6.8	40.1	38.8	-1.3
Retail trade	21.6	4.19	6.9	34.7	31.0	-3.7
Finance, insurance, and real estate	2.75	4.90	6.0	37.0	36.4	-.6
Services	2.42	4.99	7.5	34.7	32.8	-1.9

Table 2. Average hourly earnings, by industry division, as percent of total private nonagricultural payrolls, 1968 and 1978

Industry division	1968	Rank	1978	Rank
Mining	117.5	7	134.8	8
Construction	154.7	9	152.0	9
Durable goods, manufacturing	111.9	6	115.6	6
Nondurable goods, manufacturing	96.1	3	97.2	4
Transportation and public utilities	120.0	8	132.7	7
Wholesale trade	107.0	5	103.3	5
Retail trade	75.8	1	73.6	1
Finance, insurance, and real estate	96.5	4	86.1	2
Services	84.9	2	87.7	3

The slow pace of earnings growth in retail trade doubtlessly reflects the increase in the number of part-time workers, who are generally paid about the minimum wage. Voluntary part-time employment amounted to 26.1 percent in retail trade in 1968; by 1978, the proportion was 29.4 percent. The trend of yearly increase in average hourly earnings picked up slightly in manufacturing and trade after the cyclical peak in 1973, reflecting the discontinuation of wage and price controls on May 1, 1974. The annual rate of growth in durable manufacturing jumped from 6.4 in 1968–73 to 8.6 percent in 1974–78 and in nondurable manufacturing from 6.2 to 8.4 percent. In wholesale trade, earnings rose 5.9 percent and 7.6 percent. Similarly, in retail trade, the annual pace jumped from 6.2 to 7.6 percent.

Construction, in contrast, was the only industry division displaying a slowing in the annual rate of increase of earnings. After 1971 and the imposition of wage controls, the pace slowed to 6.1 percent compared with the 8.9 percent prevailing from 1968 through 1971. However, the tempo of increases in these 3 years was sharply above those in any of the other divisions.

Pronounced jumps in earnings occurred in the transportation and public utility industry in 1971, and in mining in 1972. In both cases, the increases were the aftereffect of strikes by railroad workers and coal miners. Earnings in mining rose again, and with vigor, in 1974, 1975, and 1978. These wage increases followed strike activity in 1974 (after economic controls were lifted), and again in 1978. Coal mining and construction accounted for a significant proportion (41 percent) of the workers involved in walkouts, and of all days lost to strikes in 1974 (35 percent). There was a 25.5-percent increase in mining earnings over the years 1974 and 1975. This is the largest consecutive 2-year increase recorded in any industry between 1968–78. □

FOOTNOTES

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[1] Hours referred to are paid but not necessarily worked, for example, paid holidays.

[1] The cyclical peaks and troughs are as defined by the National Bureau of Economic Research.

Occupational earnings in auto dealer repair shops

Average straight-time earnings of journeymen mechanics in auto dealer repair shops ranged from $7.42 in Memphis to over $10 an hour in Houston, San Francisco–Oakland, and Detroit, among 23 areas surveyed by the Bureau of Labor Statistics in June 1978. Earnings for lubricators, usually the lowest-paid group of workers among eight occupations studied in repair and parts departments, ranged from $3.38 in Philadelphia to $7.52 in Los Angeles–Long Beach. Painters ($6.24–$14.34) and body repairers ($7.72–$11.53) generally had the highest average hourly earnings among the surveyed jobs. Other groups surveyed and their salary ranges were: service mechanics ($4.80–$9.44), new-car get-ready workers ($4.01–$7.54), parts clerks ($4.76–$8.82), and service salesworkers ($5.61–$10.01).

Earnings in San Francisco–Oakland, Houston, and Detroit were typically among the highest reported; those in Boston, Memphis, Philadelphia, and Pittsburgh were generally among the lowest. The following tabulation illustrates the pay level relationships for the 23 areas studied (New York average equals 100), based on the combined averages for six of the repair shop occupations which were common to all areas:

Area	*Relative pay level*
San Francisco–Oakland	125–129
Houston	120–124
Detroit	115–119
Chicago, Los Angeles–Long Beach	110–114
Dallas–Ft. Worth, Denver–Boulder, St. Louis	105–109
Miami, Minneapolis–St. Paul, New York	100–104
Atlanta, Kansas City, Nassau–Suffolk, Portland, Washington	95–99
Birmingham, Indianapolis, Milwaukee	90–94
Boston, Memphis, Philadelphia, Pittsburgh	85–89

Also, hourly earnings relationships between occupations varied widely by area. For instance, in Kansas City, body repairers averaged 28 percent more than lubricators; in Detroit and Houston, they averaged about 75 percent more; and in Chicago, Philadelphia, Pittsburgh, Portland, and Washington, D.C., they earned more than twice as much.

Workers paid on an incentive basis accounted for about one-half of the production workers in the survey and nearly always averaged higher earnings than their time-rated counterparts. The prevalence of incentive pay also contributed to the wide dispersion of individual earnings within the same job and area. Auto body repairers and painters were most frequently paid on the basis of a flat rate percentage, receiving a stipulated proportion (usually 40 to 50 percent) of the labor cost charged to the customer; parts clerks and service salesworkers were virtually always on commission; and incentive workers in the four remaining occupations usually were under flat-rate-hours systems, in which pay is computed by multiplying the number of hours predetermined for each task by an established rate.

Both holidays and vacations with pay were provided for most workers in nearly all areas. Life, hospitalization, surgical, basic medical, and major medical insurance plans were provided to nine-tenths or more of the production workers in most areas. Retirement pension plans covered at least one-half the workers in only 10 of the 23 areas studied.

Individual reports for each of the areas in the survey were issued earlier and are available upon request from the Bureau of Labor Statistics or any of its regional offices. A comprehensive bulletin, *Industry Wage Survey: Auto Dealer Repair Shops, June 1978*, is available. □

Significant Decisions In Labor Cases

Safety first

Overruling two of the three appeals courts which have considered the issue, the Supreme Court recently approved a Labor Department regulation supplementing the explicit procedures of the Occupational Safety and Health Act of 1970 in order to fulfill the purposes of that act. Because OSHA was designed to protect workers and to require employers to eliminate workplace hazards, the Court upheld a regulation giving workers the right to refuse to perform hazardous jobs if they reasonably believe there is no other way to avoid risk of serious injury or death. However, the Court also made clear that employers had no obligation to pay workers for the time that they have refused to work. (*Whirlpool Corp. v. Marshall.*[1])

Following the death caused by a worker's stepping onto a wire mesh guard 20 feet above a factory floor, the Whirlpool Corp. issued a directive forbidding workers from standing on the mesh. Twelve days later, two workers were ordered onto the mesh (which they had already reported to OSHA, after their employer refused to repair it at their request) but refused to step on it. They were reprimanded and sent home without pay.

In the Supreme Court, both sides agreed that these workers' actions were covered by a Labor Department regulation providing:

> [A]s a general matter, there is no right afforded by the act which would entitle employees to walk off the job because of potential unsafe conditions at the workplace. . . . However, . . . if the employee, with no reasonable alternative, refuses in good faith to expose himself to the dangerous condition, he would be protected against subsequent discrimination. The condition causing the employee's apprehension of death or injury must be . . . reasonable . . .

In this case, the district court ruled that the regulation was invalid because it was not authorized by the OSHA statute. Although the Fifth and Tenth Circuits had ruled the same way in two similar cases,[2] the Sixth Circuit reversed.[3]

In upholding the Sixth Circuit's decision, the Supreme Court held that the Labor Department regulation "clearly conforms to the fundamental objective of the Act—to prevent occupational deaths and serious illnesses." Although OSHA does not mention a right to refuse to work under unsafe conditions, Justice Potter Stewart's opinion for a unanimous Court reasoned that the Secretary of Labor had the power to find such an implied right in the law because Congress had intended to prevent injuries and to require employers to eliminate dangers in the workplace:

> The regulation thus on its face appears to further the overriding purpose of the Act, and rationally to complement its remedial scheme. In the absence of some contrary indication in the legislative history, the Secretary's regulation must, therefore, be upheld, particularly when it is remembered that safety legislation is to be liberally construed to effectuate the congressional purpose.

Following a review of the legislative history, Stewart concluded that in rejecting earlier versions of the OSHA legislation granting workers and the Labor Department other specified rights, the Congress had not meant to prevent workers from refusing to perform hazardous jobs when they had no reasonable alternative. Similar rights have been found under the Federal Mine Safety and Health Act Amendments of 1977 and under the NLRA and the Labor Management Relations Act.[4]

The collegial bargain

The Supreme Court recently ruled that the faculty at Yeshiva University is not entitled to the collective bargaining rights provided "employees" under the National Labor Relations Act. In a close 5-to-4 decision, the Court rejected the assertion of the National Labor Relations Board that, within the authority structure of such academic institutions, faculty members are professional workers whose interests are separate from those of the institution. Instead, the Court found that Yeshiva's faculty acts in a managerial capacity "by taking or recommending discretionary actions that effectively control or implement employer policy." Thus, the Court concluded that the establishment of collective bargaining for most of the Yeshiva faculty would lead to a division of loyalty that Congress had sought to prevent. (*NLRB v. Yeshiva Univ.*[5])

In reaching its verdict, the Court established two crucial elements to support its interpretation of the managerial exclusion. First, Justice Lewis Powell's majority

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"Significant Decisions in Labor Cases" is written by Gregory J. Mounts of the *Monthly Labor Review* staff.

opinion concluded that the Yeshiva faculty exercise authority which "in any other context" unquestionably would be managerial:

> . . . Their authority in academic matters is absolute. They decide what courses will be offered, when they will be scheduled, and to whom they will be taught. They debate and determine teaching methods, grading policies, and matriculation standards. They effectively decide which students will be admitted, retained, and graduated. On occasion their views have determined the size of the student body, the tuition to be charged, and the location of a school. When one considers the functions of a university, it is difficult to imagine decisions more managerial than these. To the extent the industrial analogy applies, the faculty determines within each school the product to be produced, the terms upon which it will be offered, and the customers who will be served.

In addition, the Court noted that the faculty members also play a predominant role in faculty hiring, tenure, sabbaticals, termination, and promotion. Thus, the Yeshiva faculty's functions represent the range of characteristics that make faculty jobs managerial in scope, rather than purely professional. At the other end of the scale, Powell noted that professors who merely "determine the content of their own courses, evaluate their own students, and supervise their own research" would not be subject to the managerial exclusion. Moreover, he suggested that the structure and operation of a school's faculty could provide a rational line—such as tenure—for distinguishing those who properly could be included in a bargaining unit. Powell even speculated that the Board might be able to make such distinctions among the Yeshiva faculty.

The second important element in Powell's majority opinion explicitly rejected the Board's argument that the Yeshiva faculty's role in decisionmaking is not managerial because it involves only the exercise of "independent professional judgment" in academic governance. Powell noted that the Board had implicitly rejected this criterion when it applied the managerial exclusion to certain professionals in other cases,[6] and he explained why it would be particularly inappropriate in a collegial setting:

> . . . [T]he Board's approach would undermine the goal it purports to serve: To ensure that employees who exercise discretionary authority on behalf of the employer will not divide their loyalty between employer and union. In arguing that a faculty member exercising independent judgment acts primarily in his own interest and therefore does not represent the interest of his employer, the Board assumes that the professional interests of the faculty and the interests of the institution are distinct, separable entities with which a faculty member could not simultaneously be aligned. The Court of Appeals found no justification for this distinction, and we perceive none. In fact, the faculty's professional interests—as applied to governance at a university like Yeshiva—cannot be separated from those of the institution. . . . Faculty members enhance their own standing and fulfill their professional mission by ensuring that the university's objectives are met. But there can be no doubt that the quest for academic excellence and institutional distinction is a "policy" to which the administration expects the faculty to adhere, whether it be defined as a professional or an institutional goal. It is fruitless to ask whether an employee is 'expected to conform' to one goal or another when the two are essentially the same.

Justice William Brennan, joined by Justices White, Blackmun, and Marshall, dissented from the Court's opinion. Not only did the majority exceed the Court's limited role in reviewing Board decisions, he wrote, but it reversed a reasonable policy conclusion resulting from an exhaustive analysis by the Board.

Brennan specifically objected to the majority's reasoning that the interests of the university and those of the faculty are inseparable. The congruence of their interests in certain academic and professional areas does abrogate the faculty's right to collective bargaining on issues where some conflict exists, he observed:

> . . . The very fact that Yeshiva's faculty has voted for the union . . . indicates that the faculty does not perceive its interests to be aligned with those of management. Indeed, on the precise topics which are specified as mandatory subjects of collective bargaining—wages, hours, and other terms and conditions of employment—the interests of teacher and administrator are often diametrically opposed. ☐

—— *FOOTNOTES* ——

[1] *Whirlpool Corp. v. Marshall,* 48 U.S.L.W. 4189 (U.S., Feb. 26, 1980).

[2] *Marshall v. Daniel Construction Co.,* 563 F.2d 707 (5th Cir., 1977), see *Monthly Labor Review,* March 1979, p. 61; and *Marshall v. Certified Welding Corp.,* CCH OSHD 23,257 (10th Cir., 1978).

[3] *Marshall v. Whirlpool Corp.,* 593 F.2d 715 (6th Cir., 1979), see *Monthly Labor Review,* June 1979, pp. 44–45.

[4] According to the Court, the Secretary of Labor's interpretation of OSHA in this area "conforms to the interpretation that Congress clearly wished the courts to give the parallel antidiscrimination provision of the Federal Mine Safety and Health Amendments Act of 1977, 30 U.S.C. Sec. 801 *et seq.*" In addition, Sec. 7 of the National Labor Relations Act, 29 U.S.C. Sec. 157, provides employees a protected right to strike over safety issues. Similarly, Sec. 502 of the Labor Management Relations Act, 29 U.S.C. Sec. 143, provides that "the quitting of labor by an employee or employees in good faith because of abnormally dangerous conditions for work . . . [shall not] be deemed a strike." The effect of this section is to create an exception to a no-strike obligation in a collective bargaining contract.

[5] *NLRB v. Yeshiva Univ.,* 48 U.S.L.W. 4175 (U.S., Feb. 20, 1980).

[6] *University of Chicago Library,* 205 N.L.R.B. 220 (1973), enforced 506 F.2d 1402 (7th Cir., 1974); and *Sutter Community Hospitals of Sacramento,* 227 N.L.R.B. 181 (1976).

Major Agreements Expiring Next Month

This list of collective bargaining agreements expiring in May is based on contracts on file in the Bureau's Office of Wages and Industrial Relations. The list includes agreements covering 1,000 workers or more.

Employer and location	Industry	Union[1]	Number of workers
Associated General Contractors of America, Inc.:			
Detroit Chapter, 3 agreements (Michigan)	Construction	Operating Engineers; Carpenters; and Teamsters (Ind.)	14,000
Detroit Chapter and 2 others (Michigan)	Construction	Bricklayers	3,300
Detroit Chapter and 1 other (Michigan)	Construction	Bricklayers; Plasterers; and Cement Masons	3,000
Detroit Chapter and 2 others (Michigan)	Construction	Iron Workers	2,200
Florida East Coast and Southern Florida Chapters	Construction	Operating Engineers	1,300
Idaho Branch (Interstate)	Construction	Laborers; Cement Masons; Carpenters; Operating Engineers; and Teamsters (Ind.)	4,750
Inland Empire Chapter, 3 agreements (Washington and Idaho)	Construction	Carpenters; Laborers; and Operating Engineers	10,500
Ohio State Building Chapter, 2 agreements (Ohio and Kentucky)	Construction	Laborers; and Carpenters	4,400
Oregon-Columbia Chapter (Oregon and Washington)	Construction	Laborers	25,000
Seattle and Tacoma Chapters	Construction	Teamsters (Ind.)	1,200
Allied Employers, Inc. (Washington)	Retail trade	Food and Commercial Workers	1,700
American Enka Corp. (Enka, N.C.)	Chemicals	Textile Workers	1,500
Builders Association of Chicago (Illinois)	Construction	Bricklayers	3,300
Boston Edison Co. (Massachusetts)	Utilities	Utility Workers	1,900
Calumet Builders Association, 2 agreements (Indiana and Michigan)	Construction	Carpenters; and Iron Workers	3,850
Champion International Corp., Champion Paper Division (Pasadena, Tex.)	Paper	Paperworkers	1,250
Detroit Mason Contractors Association	Construction	Bricklayers	1,600
Eastbay Motor Car Dearlers, Inc. (California)	Retail trade	Painters; Machinists; Automobile Salesmen; and Teamsters (Ind.)	1,200
Erwin Mills (Durham, N.C.)	Textiles	Textile Workers	1,200
Gardner-Denver Co. (Quincy, Ill.)	Rubber	Machinists	1,100
Gimbel Brothers, Inc. (Interstate)	Retail trade	Retail, Wholesale, and Department Store	4,750
Great Lakes Fabricators and Erectors, 2 agreements (Interstate)	Construction	Operating Engineers; and Iron Workers	4,800
Houston Lighting and Power Co. (Texas)	Utilities	Electrical Workers (IBEW)	3,300
Hudson Pulp and Paper Corp. (Plataka, Fla.)	Paper	Paperworkers	1,350
Kaiser Aluminum and Chemical Corp. (Interstate)	Primary metals	Steelworkers	10,000
Kerr-McGee Nuclear Corp. (Grants, N.M.)	Chemicals	Oil, Chemical and Atomic Workers	1,100
Kroehler Manufacturing Co. (Interstate)	Furniture	Upholsterers	1,900
Mechanical Contractors Association. 3 agreements (Interstate)	Construction	Plumbers	4,850
Metropolitan Detroit Plumbing and Mechanical Contractors Association, Inc. (Michigan)	Construction	Plumbers	1,900
Michigan Road Builders Association (Michigan)	Construction	Operating Engineers	4,500
Motor Wheel Corp. (Lansing, Mich.)	Transportation equipment	Allied Industrial Workers	2,600
National Electrical Contractors Association:			
Detroit Southern Michigan Chapter	Construction	Electrical Workers (IBEW)	3,500
Milwaukee Chapter (Wisconsin)	Construction	Electrical Workers (IBEW)	2,300
Puget Sound Chapter (Washington)	Construction	Electrical Workers (IBEW)	1,250
St. Louis Chapter (Missouri)	Construction	Electrical Workers (IBEW)	7,300
Westchester-Fairfield Chapter (New York)	Construction	Electrical Workers (IBEW)	1,300
Niagara Mohawk Corp. (New York)	Utilities	Electrical Workers (IBEW)	7,300
Nothern Indiana Public Service Co. (Hammond, Ind.)	Utilities	Steelworkers	3,500

See footnotes at end of table.

Continued—Major Agreements Expiring Next Month

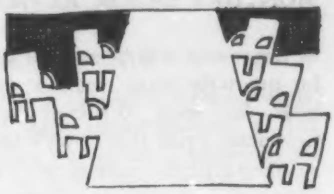
Employer and location	Industry	Union[1]	Number of workers
Ohio Contractors Association (Ohio)	Construction	Carpenters	1,250
Omaha Building Contractors Employers Association (Nebraska)	Construction	Laborers	5,000
Ormet Corp. (Hannibal, Ohio)	Primary metals	Steelworkers	1,800
Outboard Marine Corp., Gale Products and 1 other (Galesburg, Ill.)	Machinery	Machinists	1,800
Painting and Decorating Contractors of America, and 1 other (Washington)	Machinery	Painters	1,500
Panhandle Eastern Pipe Line Co. (Interstate)	Utilities	Oil, Chemical and Atomic Workers	1,150
Paris Manufacturing Co., Holley Carburetor Division (Paris, Tenn.)	Machinery	Auto Workers (Ind.)	1,200
Potlatch Corp., Master Agreement (Idaho)	Lumber	Woodworkers	2,400
Public Service Electric and Gas Co. (New Jersey)	Utilities	Electrical Workers (IBEW)	4,100
Retail Working Agreement (Washington)[2]	Retail trade	Food and Commercial Workers	1,700
Reynolds Metals Co., 2 agreements (Interstate)	Primary metal	Aluminum Workers; and Steelworkers	10,600
Robertshaw Controls Co., Controls Division (Long Beach, Calif.)	Instruments	Auto Workers (Ind.)	1,500
Sacramento and Vicinity Hotel, Restaurant and Tavern Owners Independent Agreement (California)	Hotels	Hotel and Restaurant	1,200
San Francisco Electrical Contractors Association, Inc. (California)	Construction	Electrical Workers (IBEW)	1,000
Sheet Metal and Air Conditioning Contractors Association of Milwaukee, Inc. (Wisconsin)	Construction	Sheet Metal Workers	1,250
Simpson Timber Co. (Washington)	Lumber	Woodworkers	1,200
St. Joe Minerals Corp., Zinc Smelting Division (Pennsylvania)	Primary metals	Steelworkers	1,300
Steel Fabricators Association of Southern California, Inc.	Fabricated metal products	Iron Workers	1,000
Sundstrand Corp. (Rockford and Belvidere, Ill.)	Transportation equipment	Auto Workers (Ind.)	1,200
Tecumseh Products Co., Factory Agreement (Marion, Ohio)	Machinery	Auto Workers (Ind.)	1,750
Texas International Airlines (Interstate)[3]	Air transportation	Air Line Pilots	1,000
Union Camp Corp. (Savannah, Ga.)	Paper	Paperworkers	1,600
Ventilating and Air Conditioning Contractors' Association and 1 other (Illinois)	Construction	Sheet Metal Workers	4,500
Weyerhaeuser Co., 4 agreements (Washington and Oregon)	Lumber	Woodworkers	7,850
Wheaton Industries, Production and Maintenance Department (Millville, N.J.)	Stone, clay and glass products	Glass Bottle Blowers	2,000
Wisconsin Power and Light Co. (Madison, Wis.)	Utilities	Electrical Workers (IBEW)	1,500
Yellow Cab Co., and Checker Taxi Co., Inc. (Chicago, Ill.)	Transit	Seafarers	2,000

[1] Affiliated with AFL-CIO except where noted as independent (Ind.).

[2] Industry area (group of companies signing same contract).

[3] Information is from newspaper reports.

Developments in Industrial Relations



AFL–CIO invites Teamsters to reaffiliate

At its winter meeting, the Executive Council of the AFL–CIO affirmed its support of the revised anti-inflation program, extended an invitation to independent unions to join its ranks, and cleared the way for women to sit on its presently all-male council by lifting an eligibility restriction.

The anti-inflation program resulted from the 1979 national accord between the Carter Administration and organized labor. (See *Monthly Labor Review,* March 1980, p. 55.) The council stressed that if this voluntary program failed, it would press for mandatory controls on wages and prices. Prior to the national accord, which gave labor a greater voice in anti-inflation efforts, the AFL–CIO had opposed a voluntary plan, contending that it was more stringent for labor than business.

The council established a committee to negotiate a possible reaffiliation of the Teamsters union, which was expelled from the AFL–CIO in 1957 on charges of corruption. Federation President Lane Kirkland, who heads the 5-member committee, said that he has already had some discussions with Teamsters President Frank Fitzsimmons on the matter and is satisfied that the Teamsters are "a bona fide trade union that has been working in the best interest of its members."

Committees were not created to negotiate with the Auto Workers and Mine Workers unions on affiliation, but Kirkland noted that both unions (and the Teamsters) were now participating in weekly meetings on legislative goals at the AFL–CIO. Auto Workers President Douglas Fraser said he favored reaffiliation and that negotiations might start after the union's convention in June. The Auto Workers left the AFL–CIO in 1968, and the Mine Workers were never an affiliate.

The council moved to open its ranks to women and minority group members by waiving the requirement that only presidents and secretary-treasurers of unions are eligible for membership. The all-male 35-member council currently has one black member, Frederick O'Neal, president of the Actors and Artistes union. The council has never had a female member.

In other matters, the council decided to take a more active and direct role in organizing workers by establishing a unit to exchange information among affiliates on organizing tactics and techniques. Previously, the Federation generally limited its role to settling jurisdictional disputes among member unions. The change apparently resulted from the council's concern that unions represent a decreasing percentage of the Nation's workforce, despite some growth in the absolute number of workers they represent.

United States rejoining the ILO

The United States announced it will rejoin the International Labor Organization, ending a 2-year absence because "the organization had become increasingly anti-American and pro-Soviet." (See *Monthly Labor Review,* December 1977, p. 2.) A Cabinet-level committee monitoring the organization found that a majority of ILO members "have successfully . . . returned the ILO to its original purposes." The committee unanimously recommended that the United States return to the organization and work with other ILO members to ensure that the "true potential of the organization is realized."

The ILO was founded in 1919 to improve working conditions and labor standards and to promote human rights. Its members include representatives of labor, management, and government.

Tobacco settlements

Members of the Bakery, Confectionery and Tobacco Workers union approved 3-year wage and benefit contracts with Philip Morris, Liggett & Myers, Inc., and the American Tobacco Co.

The Philip Morris accord, which covered 8,500 workers in Richmond, Va., and Louisville, Ky., was negotiated according to the provisions of a 9-year "Long Term Agreement" (patterned after the Experimental Negotiating Agreement that controls bargaining in the steel industry) signed in May 1979. The Long Term Agreement prohibits strikes and lockouts; requires the company to give 18 months' notice of plant closings; provides for binding arbitration of issues that arise in the wage and benefit bargaining to be conducted at 3-year intervals; guarantees that the wage increases to

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"Developments in Industrial Relations" is prepared by George Ruben and other members of the staff of the Division of Trends in Employee Compensation, Bureau of Labor Statistics, and is largely based on information from secondary sources.

be negotiated will be at least 3 percent a year; provides for quarterly wage escalator adjustments of 1 cent an hour for each 0.3-point movement in the BLS Consumer Price Index, with the escalator allowance to be automatically incorporated into base wage rates on February 1 of each year; provides for $300 bonus payments in May of each year; and makes a number of changes in the retirement plan, including a provision permitting an employee retiring at age 55 or later to receive the larger of a benefit computed according to the existing formula, or a benefit rate of $14 a month for each year of service for retirement from May 1979 through January 1980, $15 for retirement from February 1, 1980, through January 1981, and $16 for retirement on February 1, 1981, or later. The agreement also established an Income Protection Program under which laid-off employees will continue to receive their pay for a period ranging from 13 weeks for those with 1 but less than 2 years service to 52 weeks for those with 20 years or more. Also, laid-off workers will receive an additional week's pay for each year of service.

The 1980 Philip Morris "basic" agreement raised the 3-percent guaranteed minimum wage increases to 48 cents an hour on February 1, 1980, and 43 cents on February 1 of 1981 and 1982. There also were inequity adjustments for certain job classifications. The $1.34-an-hour cost-of-living allowance was incorporated into base rates, and the parties calculated that employees will receive 68, 70, and 72 cents in escalator adjustments in the respective contract years, based on assumed CPI rises of 9, 8.5, and 8 percent.

Other provisions include 4 weeks of paid vacation after 12 years of service (formerly 13), 5 weeks after 20 years (formerly 22), 6 weeks after 29 years (formerly 30), and the addition of a seventh week after 34 years; a twelfth annual paid holiday; various improvements in insurance benefits, such as $50,000 major medical coverage per individual (formerly $20,000), establishment of a vision care plan, with the company paying the full cost for employees and 75 percent for dependents, and sickness and accident benefits equal to 50 percent of base rate earnings up to $170 (formerly $115) a week.

Liggett & Myers and the American Tobacco Co. did not negotiate Long Term Agreements in 1979, but the American Tobacco contract generally provided for the same wage and benefit terms—except for the Income Protection Plan—as the Philip Morris agreements.

The Liggett & Myers accord differed in a number of areas. The wage terms consisted of an initial 48-cent increase and 25 cents "cost of living payments" on July 1 of 1981 and 1982 and on October 1, 1982. There was no provision for automatic quarterly escalator adjustments triggered by movement of the CPI. Also, there was no change in retirement benefits, paid holidays, or in the vacation schedule.

Steel workers accept reduced incentive pay

Employees of Wheeling-Pittsburgh Steel Corp.'s tube and sheet mill in Allenport, Pa., accepted a company proposal to reduce incentive pay over a 30-month period. The company said that the 10-step process would ultimately lower incentive earnings to a level "slightly above" the steel industry average. The plant has about 2,000 production and maintenance employees, 92 percent of whom are eligible for incentive pay. Despite the concession, Wheeling-Pittsburgh did not guarantee Steelworkers Local 1187 that the plant would remain open.

When Wheeling-Pittsburgh raised the issue in early December, it said that average incentive pay at the plant was 33 percent higher than at its competitors. The company also claimed that the competitors' employees were more productive, despite their lower incentive pay.

This development occurred shortly after plant closings and contract concessions involving 13,000 employees of United States Steel Corp. (See *Monthly Labor Review*, March 1980, p. 56.)

In a later development on the U.S. Steel closings, Steelworkers' locals in the Youngstown, Ohio, area filed suit in Federal District Court in Cleveland seeking to prevent the company from shutting down its McDonald Works in Youngstown. The locals contended that U.S. Steel had violated a verbal agreement to keep the works open as along as they were profitable and asked the court for access to the corporation's financial records to prove that the plants are profitable.

In another effort to avert the scheduled closing, the local unions were attempting to gain support for their proposal to purchase and modernize the mill. However, U.S. Steel said that it was dismantling the mill because it was obsolete. Also, doubts about the purchase plan were expressed by some members of the local industry development agency that is responsible for advising the U.S. Department of Commerce which projects should receive Federal loan guarantees.

Airline cuts managerial salaries

Trans World Airlines, which lost $56.4 million in the fourth quarter of 1979, cut the salaries of 800 management employees earning $35,000 or more. President Ed Meyer said that while the cut won't "save the airline," it is an indication of the seriousness of the situation and also serves to emphasize "how much we need a turnaround." He indicated that during the last 12 months the airline reduced employment from 36,000 to 34,000 to curtail costs. The salaries will be restored to their original levels—retroactive to the date of the cut—when the airline operates at a profit over a 12-month period.

Small oil refineries yield to union demands

Twelve small oil refineries settled with locals of the Oil, Chemical and Atomic Workers, but the union continued to strike the major oil companies and some other small refineries. The settlements covered about 1,700 workers out of the 60,000 that struck 100 companies when the parties were unable to reach agreement under a reopening provision of the contracts negotiated in 1979.

The settlements—which met the revised demands of the union—generally provided for a total wage increase of 5 percent plus 55 cents an hour, but not less than a combined total of $1 an hour, retroactive to January 1980 (the 5-percent portion was already scheduled for January 1980 under the 1979 settlement); a $125-a-month employer payment for medical insurance for families and a lesser amount for single employees; and establishment of dental coverage financed by employer payments of $20 a month for families and a lesser amount for single employees. There also were improvements in vacation benefits. At some companies, the new schedule provides for 5 weeks after 15 years of service, 6 weeks after 20 years, and 7 weeks after 25 years. Previously, the schedules generally provided for a maximum of 5 weeks of vacation after 20 years of service.

The refineries that had not settled generally objected to the health insurance and dental plan proposals, contending that they would be very costly, particularly because the companies would be required to assume any premium increases needed to maintain the uniform set of benefits specified in the union proposal.

At its peak, the strike involved refineries processing about 70 percent of the Nation's petroleum needs. However, the companies' white-collar employees continued to maintain operations by working extended schedules. According to the American Petroleum Institute, all U.S. refineries operated at 84.6 percent of capacity for the week that ended January 11; for the week that ended on January 25, output had declined to 80.5 percent of capacity, the "lowest in a long time," according to an official of the institute.

Four auto parts manufacturers settle

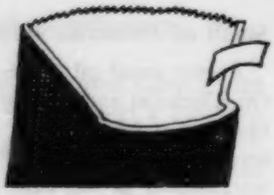
There was some progress in the Auto Workers negotiations with automobile parts manufacturers, as the union settled with four firms on contracts patterned after the 3-year General Motors Corp. contract. (See *Monthly Labor Review*, November 1979, pp. 58–59.) The accord with the Budd Co. ended a 2-week strike and covered 10,000 workers at seven plants in three States. The other agreements, reached without strikes, were with Rockwell International Corp.'s Automotive Group for 7,000 workers at 10 facilities in six States; with Champion Spark Plug Co. for 5,000 workers in three States and Canada; and with Kelsey-Hayes Co. for 1,500 workers in Michigan. The Kelsey-Hayes contract provided for the permanent withholding of 26 cents from wage escalator adjustments, compared with 14 cents at General Motors. The union agreed to the larger diversion because of higher pension costs to Kelsey-Hayes resulting from a higher ratio of retired to active employees.

The Auto Workers continued a strike against International Harvester Co. One of the major unresolved points was a company demand for more flexibility in mandating overtime work for employees to attain parity with Caterpillar Tractor Co. and Deere & Co., which had settled earlier.

Wood shavings—suspected carcinogen at GM

General Motors Corp. will underwrite medical evaluations and cancer tests for 1,800 wood-model makers. The Michigan Cancer Foundation, in a preliminary study of 1,073 employees who make wood models of cars, found 39 cases of cancer—a high rate, compared with 26 cases that could be expected in such a group. Robert Weincek, the company's medical director, said the employees work with no known carcinogens, although wood shavings are suspect. Some of the woodworkers have asserted that the cancers resulted from exposure to chemicals.

Book Reviews



A woman in a man's job

Frances Perkins: "That Woman in FDR's Cabinet!" By Lillian Holmen Mohr. Croton-on-Hudson, N.Y., North River Press, Inc., 1979. 328 pp., bibliography. $14.95.

This is a superb brief biography of Frances Perkins, first woman ever to be a member of a U.S. President's Cabinet. "That woman in FDR's Cabinet" served as Secretary of Labor for 12 years between 1933 and 1945. During the Great Depression of the 1930's, when unemployment was crucial, the role of the Secretary of Labor was particularly important. Madam Secretary faced problems not unlike those of today—job opportunities, job safety, and fair labor standards. Strikingly different, however, was the issue of deflation, for at that time the government *reinflated* the economy in order to drive up prices and wages. Frances Perkins was a great Secretary of Labor who made the Department a seed bed of social progress. She was a prime mover in winning social security for the elderly, unemployment insurance, abolition of oppressive child labor, minimum wage laws (25 cents an hour), the right to bargain collectively, and other progressive programs.

Lillian Holmen Mohr writes well and in a popular style. To some extent, Mohr tells the story the same way that Frances Perkins would have told it. And Frances Perkins had a way with words. But, the relatively simple language which makes the book interesting to an average reader should not hide the fact of very impressive research from a wide variety of sources.

Frances Perkins hated being praised because she was a woman in what was then considered a man's job. Often, when asked whether her sex made a difference, she replied, "only in climbing trees." She preferred winning recognition on the basis of her work. She was an intelligent and experienced person, well equipped for the position of Secretary of Labor to which she had been appointed.

Mohr does a good job in compressing Frances Perkins' 85 years of life into less than 300 pages. Born Fannie Caralie Perkins on April 10, 1880, she went to Mount Holyoke College at a time that not many women went to college. She distinguished herself as a social worker, reformer, chairman of the Industrial Board in New York State, and head of the State Labor Department. Perhaps Mohr makes too much of Perkins' activity in the cause of women's rights and in consumer protection (or perhaps this reviewer is revealing his own prejudices). However, the several references to the distinguished Alice Hamilton, Charlotte Perkins Gilman, and other important women are fascinating.

The book is relatively free of errors, though there are a few, such as calling Assistant Secretary of Labor Edward McGrady Under Secretary before such a post existed, and getting the date of the Homestead strike wrong on page 167 and right on page 240.

In 1976, George Martin wrote a splendid biography: *Madam Secretary: Frances Perkins.* It is a much longer book. It was a major historical and biographical contribution. Mohr's new book is much shorter but equally interesting and useful. The small publishing house with no promotion and the $14.95 price are likely to deprive Mohr's biography of the wide audience it deserves. Hopefully, some publisher will put out a reasonably priced paperback edition.

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English for doctoral candidates

A Popularized Version of 21 Doctoral Dissertations. (Prepared by Lawrence R. Klein and Susan Ghozeil.) Washington, U.S. Department of Labor, Employment and Training Administration, 1979. 113 pp. (R&D Monograph 70.) $3.50, Superintendent of Documents, Washington 20402.

The wall of Lawrence R. Klein's office, while he was editor of this journal, bore this quotation attributed to H. G. Wells: "No passion in the world, no love or hate, is equal to the passion to alter someone else's draft." Klein practiced that passion for 22 years at the *Monthly Labor Review.* This little volume proves that his ardor has not cooled.

The book is the third prepared by Klein, now adjunct professor of economics at the University of Arizona, designed to make available to a broad audience findings from dissertations in the social and behavioral sciences.

Over the past 15 years, the U.S. Department of Labor's Employment and Training Administration has financially supported more than 500 such dissertations, many of which, as Klein puts it, may result in a journal article or two, if the authors are lucky, "and then blush unseen and waste their substance in the desert air of a library, and perhaps become footnotes in somebody else's dissertation." Klein and Howard Rosen, director of research for the Employment and Training Administration, were convinced that the years of work and thought that had gone into these dissertations could be useful to nonacademics if the documents could be translated into readable and understandable English. Klein's first two efforts went part way in that direction, cutting the dissertations down to about 2,500 words, but leaving in much of the original language. For the present volume, Klein and his coauthor, Susan Ghozeil, have rewritten 21 dissertations into relatively simple language, without jargon and without mathematical equations.

To get a sense of the kind of service the authors have rendered, contemplate this sentence from one of the dissertations they considered for the book:

> Extrapolating from cross-sectional data, we infer that transformations in the clustering of roles occur during the careers of engineers and scientists, with progressively greater involvement in teaching in evidence as they move through the career sequence; increasingly less involvement in both basic and applied research; and increasingly greater likelihood of administrative, managerial, and supervisory duties occurring in the middle stages of the career.

And the translation offered by the authors:

> As scientists and engineers get older, they are more likely to teach and less likely to do research, but their roles as supervisors most often come in the middle stages of their careers.

The 21 dissertations summarized in this volume include studies of job search, unemployment insurance, labor market segmentation, the dual labor market, construction industry wages, the 4-day workweek, and stresses on and off the job. One of the topics that may be of particular interest at the moment is an economic analysis of conscription vs. all-volunteer armed forces in peacetime. Aside from an occasional penchant for an over-cute title or phrase, the authors do an excellent job of communicating the results of the Ph. D.s' research.

But the authors go beyond that, commenting critically on the state of the Ph. D. dissertation today. The quality of writing and the gradual abandonment of verbal for mathematical symbols, they say, are but a symptom of a larger problem with the dissertation and its potential usefulness.

> The doctoral thesis should be the capstone of formal academic training, the measure and very symbol of learning in a classical sense. It should be the mark of the broadly educated person. Yet the outstanding features are its narrowness, its frequent purblind avoidance of interdisciplinary interest and lack of literary grace or niceties, its seeming disinterest in the relationship of theme to broad movements of history and social development. In short, it is barren of the philosophy that gives substance and grandeur to the symbol Ph.D. Has the title become a cliche, divorced from both meaning and significance, the shining ideal tarnished by the dross of specialization? Is today's Ph.D.—let's say in economics—truly educated or just a finely trained and sharply honed specialist-technician who is skilled in mathematical statistics, regression analysis, and the accepted truisms of the market?

Ph. D. candidates and their advisers need to ponder these questions. They also should examine the good writing in this book and emulate it.

—HENRY LOWENSTERN
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Monthly Labor Review

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NOTES ON CURRENT LABOR STATISTICS

This section of the *Review* presents the principal statistical series collected and calculated by the Bureau of Labor Statistics. A brief introduction to each group of tables provides definitions, notes on the data, sources, and other material usually found in footnotes.

Readers who need additional information are invited to consult the BLS regional offices listed on the inside front cover of this issue of the *Review*. Some general notes applicable to several series are given below.

Seasonal adjustment. Certain monthly and quarterly data are adjusted to eliminate the effect of such factors as climatic conditions, industry production schedules, opening and closing of schools, holiday buying periods, and vacation practices, which might otherwise mask short-term movements of the statistical series. Tables containing these data are identified as "seasonally adjusted." Seasonal effects are estimated on the basis of past experience. When new seasonal factors are computed each year, revisions may affect seasonally adjusted data for several preceding years. For a technical discussion of the method used to make seasonal adjustments, see "Appendix A. The BLS Seasonal Factor Method," *BLS Handbook of Methods for Surveys and Studies*, Bulletin 1910 (Bureau of Labor Statistics, 1976), pp. 272–78, and *X-11 Variant of the Census Method II Seasonal Adjustment Program*, Technical Paper No. 15 (Bureau of the Census, 1967). Seasonally adjusted labor force data in tables 2–7 were last revised in the February 1980 issue of the *Review* to reflect the preceding year's experience. Beginning in January 1980, the BLS introduced two major modifications in the seasonal adjustment methodology for labor force data. First, the data are being seasonally adjusted with a new procedure called X-11/ARIMA, which was developed at Statistics Canada as an extension of the standard X-11 method. A detailed description of the procedure appears in *The X-11 ARIMA Seasonal Adjustment Method* by Estela Bee Dagum (Statistics Canada Catalogue No. 12-564E, September 1979).

The second change is that seasonal factors are now being calculated for use during the first 6 months of the year, rather than for the entire year, and then are calculated at mid-year for the July-December period. Revisions of historical data continue to be made only at the end of each calendar year. Annual revision of the seasonally adjusted payroll data in tables 11, 13, 16, and 18 was last introduced in the November 1979 issue of the *Review*. New seasonal factors for productivity data in tables 33 and 34 are usually introduced in the September issue. Seasonally adjusted indexes and percent changes from month to month and from quarter to quarter are published for numerous Consumer and Producer Price Index series. However, seasonally adjusted indexes are not published for the U.S. average All Items CPI. Only seasonally adjusted percent changes are available for this series.

Adjustments for price changes. Some data are adjusted to eliminate the effect of changes in price. These adjustments are made by dividing current dollar values by the Consumer Price Index or the appropriate component of the index, then multiplying by 100. For example, given a current hourly wage rate of $3 and a current price index number of 150, where 1967 = 100, the hourly rate expressed in 1967 dollars is $2 ($3/150 × 100 = $2). The resulting values are described as "real," "constant," or "1967" dollars.

Availability of information. Data that supplement the tables in this section are published by the Bureau of Labor Statistics in a variety of sources. Press releases provide the latest statistical information published by the Bureau; the major recurring releases are published according to the schedule given below. The *Handbook of Labor Statistics 1978*, Bulletin 2000, provides more detailed data and greater historical coverage for most of the statistical series presented in the *Monthly Labor Review*. More information from the household and establishment surveys is provided in *Employment and Earnings*, a monthly publication of the Bureau, and in two comprehensive data books issued annually—*Employment and Earnings, United States* and *Employment and Earnings, States and Areas*. More detailed information on wages and other aspects of collective bargaining appears in the monthly periodical, *Current Wage Developments*. More detailed price information is published each month in the periodicals, the *CPI Detailed Report* and *Producer Prices and Price Indexes*.

Symbols

p = preliminary. To improve the timeliness of some series, preliminary figures are issued based on representative but incomplete returns.
r = revised. Generally this revision reflects the availability of later data but may also reflect other adjustments.
n.e.c. = not elsewhere classified.

Schedule of release dates for major BLS statistical series

Title and frequency (monthly except where indicated)	Release date	Period covered	Release date	Period covered	MLR table number
Employment situation	April 4	March	May 2	April	1–11
Producer Price Indexes	April 4	March	May 9	April	26–30
Consumer Price Index	April 22	March	May 23	April	22–25
Real earnings	April 22	March	May 23	April	14–20
Major collective bargaining settlements (quarterly)	April 25	1st quarter	....	....	35–36
Productivity and costs (quarterly)					
Nonfarm business and manufacturing	April 25	1st quarter	....	....	31–34
Nonfinancial corporations	....	....	May 28	1st quarter	31–34
Work stoppages	April 29	March	May 28	April	37
Labor turnover in manufacturing	April 30	March	May 30	April	12–13

EMPLOYMENT DATA FROM THE HOUSEHOLD SURVEY

EMPLOYMENT DATA in this section are obtained from the Current Population Survey, a program of personal interviews conducted monthly by the Bureau of the Census for the Bureau of Labor Statistics. The sample consists of about 65,000 households beginning in January 1980, selected to represent the U.S. population 16 years of age and older. Households are interviewed on a rotating basis, so that three-fourths of the sample is the same for any 2 consecutive months.

Definitions

Employed persons are (1) those who worked for pay any time during the week which includes the 12th day of the month or who worked unpaid for 15 hours or more in a family-operated enterprise and (2) those who were temporarily absent from their regular jobs because of illness, vacation, industrial dispute, or similar reasons. A person working at more than one job is counted only in the job at which he or she worked the greatest number of hours.

Unemployed persons are those who did not work during the survey week, but were available for work except for temporary illness and had looked for jobs within the preceding 4 weeks. Persons who did not look for work because they were on layoff or waiting to start new jobs within the next 30 days are also counted among the unemployed. The **unemployment rate** represents the number unemployed as a percent of the civilian labor force.

The **civilian labor force** consists of all employed or unemployed persons in the civilian noninstitutional population: the **total labor force** includes military personnel. Persons **not in the labor force** are those not classified as employed or unemployed; this group includes persons retired, those engaged in their own housework, those not working while attending school, those unable to work because of longterm illness, those discouraged from seeking work because of personal or job market factors, and those who are voluntarily idle. The **noninstitutional population** comprises all persons 16 years of age and older who are not inmates of penal or mental institutions, sanitariums, or homes for the aged, infirm, or needy.

Full-time workers are those employed at least 35 hours a week; **part-time workers** are those who work fewer hours. Workers on part-time schedules for economic reasons (such as slack work, terminating or starting a job during the week, material shortages, or inability to find full-time work) are among those counted as being on full-time status, under the assumption that they would be working full time if conditions permitted. The survey classifies unemployed persons in full-time or part-time status by their reported preferences for full-time or part-time work.

Notes on the data

From time to time, and especially after a decennial census, adjustments are made in the Current Population Survey figures to correct for estimating errors during the preceding years. These adjustments affect the comparability of historical data presented in table 1. A description of these adjustments and their effect on the various data series appear in the Explanatory Notes of *Employment and Earnings*.

Data in tables 2–7 are seasonally adjusted, based on the seasonal experience through December 1979.

1. Employment status of the noninstitutional population, 16 years and over, selected years, 1950–79

[Numbers in thousands]

Year	Total non-institutional population	Total labor force		Civilian labor force						Not in labor force
					Employed			Unemployed		
		Number	Percent of population	Total	Total	Agriculture	Nonagri-cultural industries	Number	Percent of labor force	
1950	106,645	63,858	59.9	62,208	58,918	7,160	51,758	3,288	5.3	42,787
1955	112,732	68,072	60.4	65,023	62,170	6,450	55,722	2,852	4.4	44,660
1960	119,759	72,142	60.2	69,628	65,778	5,458	60,318	3,852	5.5	47,617
1964	127,224	75,830	59.6	73,091	69,305	4,523	64,782	3,786	5.2	51,394
1965	129,236	77,178	59.7	74,455	71,088	4,361	66,726	3,366	4.5	52,058
1966	131,180	78,893	60.1	75,770	72,895	3,979	68,915	2,875	3.8	52,288
1967	133,319	80,793	60.6	77,347	74,372	3,844	70,527	2,975	3.8	52,527
1968	135,562	82,272	60.7	78,737	75,920	3,817	72,103	2,817	3.6	53,291
1969	137,841	84,240	61.1	80,734	77,902	3,606	74,296	2,832	3.5	53,602
1970	140,182	85,903	61.3	82,715	78,627	3,462	75,165	4,088	4.9	54,280
1971	142,596	86,929	61.0	84,113	79,120	3,387	75,732	4,993	5.9	55,666
1972	145,775	88,991	61.0	86,542	81,702	3,472	78,230	4,840	5.6	56,785
1973	148,263	91,040	61.4	88,714	84,409	3,452	80,957	4,304	4.9	57,222
1974	150,827	93,240	61.8	91,011	85,935	3,492	82,443	5,076	5.6	57,587
1975	153,449	94,793	61.8	92,613	84,783	3,380	81,403	7,830	8.5	58,655
1976	156,048	96,917	62.1	94,773	87,485	3,297	84,188	7,288	7.7	59,130
1977	158,559	99,534	62.8	97,401	90,546	3,244	87,302	6,855	7.0	59,025
1978	161,058	102,537	63.7	100,420	94,373	3,342	91,031	6,047	6.0	58,521
1979	163,620	104,996	64.2	102,908	96,945	3,297	93,648	5,963	5.8	58,623

2. Employment status by sex, age, and race, seasonally adjusted

[Numbers in thousands]

Employment status	Annual Average		1979											1980	
	1978	1979	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.
TOTAL															
Total noninstitutional population[1]	161,058	163,620	162,633	162,909	163,008	163,260	163,469	163,685	163,801	164,106	164,468	164,682	164,898	165,101	165,298
Total labor force	102,537	104,996	104,473	104,595	104,280	104,476	104,552	105,475	105,218	105,586	105,688	105,744	106,088	106,310	106,346
Civilian noninstitutional population[1]	158,941	161,532	160,539	160,819	160,926	161,182	161,393	161,604	161,831	162,013	162,375	162,589	162,809	163,020	163,211
Civilian labor force	100,420	102,908	102,379	102,505	102,198	102,398	102,476	103,093	103,126	103,494	103,595	103,652	103,999	104,229	104,260
Employed	94,373	96,945	96,496	96,623	96,254	96,495	96,652	97,184	97,004	97,504	97,474	97,608	97,912	97,804	97,953
Agriculture	3,342	3,297	3,307	3,320	3,215	3,246	3,243	3,267	3,315	3,364	3,294	3,385	3,359	3,270	3,326
Nonagricultural industries	91,031	93,648	93,189	93,303	93,039	93,249	93,409	93,917	93,689	94,140	94,180	94,223	94,553	94,534	94,626
Unemployed	6,047	5,963	5,883	5,882	5,944	5,903	5,824	5,909	6,124	5,990	6,121	6,044	6,087	6,425	6,307
Unemployment rate	6.0	5.8	5.7	5.7	5.8	5.8	5.7	5.7	5.9	5.8	5.9	5.8	5.9	6.2	6.0
Not in labor force	58,521	58,623	58,160	58,314	58,728	58,784	58,917	58,511	58,673	58,519	58,780	58,937	58,810	58,791	58,951
Men, 20 years and over															
Civilian noninstitutional population[1]	67,006	68,293	67,816	67,939	67,997	68,123	68,227	68,319	68,417	68,522	68,697	68,804	68,940	69,047	69,140
Civilian labor force	53,464	54,486	54,349	54,315	54,239	54,288	54,370	54,579	54,597	54,735	54,760	54,709	54,781	54,856	55,038
Employed	51,212	52,264	52,211	52,151	52,049	52,158	52,201	52,325	52,311	52,453	52,443	52,374	52,478	52,279	52,531
Agriculture	2,361	2,350	2,329	2,350	2,296	2,301	2,306	2,327	2,375	2,377	2,371	2,438	2,427	2,387	2,435
Nonagricultural industries	48,852	49,913	49,882	49,801	49,754	49,857	49,896	49,998	49,936	50,076	50,072	49,936	50,051	49,892	50,096
Unemployed	2,252	2,223	2,138	2,164	2,190	2,130	2,169	2,254	2,286	2,282	2,317	2,335	2,303	2,577	2,507
Unemployment rate	4.2	4.1	3.9	4.0	4.0	3.9	4.0	4.1	4.2	4.2	4.2	4.3	4.2	4.7	4.6
Not in labor force	13,541	13,807	13,467	13,624	13,758	13,835	13,857	13,740	13,820	13,787	13,937	14,095	14,159	14,192	14,102
Women, 20 years and over															
Civilian noninstitutional population[1]	75,489	76,860	76,332	76,476	76,532	76,670	76,784	76,897	77,006	77,124	77,308	77,426	77,542	77,656	77,766
Civilian labor force	37,416	38,910	38,399	38,574	38,415	38,619	38,653	39,033	39,304	39,239	39,362	39,445	39,659	39,878	39,857
Employed	35,180	36,698	36,197	36,362	36,216	36,411	36,457	36,873	37,000	37,075	37,112	37,248	37,402	37,574	37,604
Agriculture	586	591	593	595	572	577	583	585	600	628	572	612	582	540	567
Nonagricultural industries	34,593	36,107	35,604	35,767	35,644	35,834	35,874	36,288	36,400	36,447	36,540	36,636	36,820	37,034	37,037
Unemployed	2,236	2,213	2,202	2,212	2,199	2,208	2,196	2,160	2,304	2,164	2,250	2,197	2,257	2,304	2,254
Unemployment rate	6.0	5.7	5.7	5.7	5.7	5.7	5.7	5.5	5.9	5.5	5.7	5.6	5.7	5.8	5.7
Not in labor force	38,073	37,949	37,933	37,902	38,117	38,051	38,131	37,864	37,702	37,885	37,946	37,981	37,883	37,778	37,909
Both sexes, 16 - 19 years															
Civilian noninstitutional population[1]	16,447	16,379	16,391	16,404	16,397	16,389	16,381	16,387	16,377	16,367	16,370	16,360	16,326	16,317	16,305
Civilian labor force	9,540	9,512	9,631	9,616	9,544	9,491	9,453	9,481	9,227	9,520	9,473	9,498	9,559	9,497	9,365
Employed	7,981	7,984	8,088	8,110	7,989	7,926	7,994	7,986	7,693	7,976	7,919	7,986	8,032	7,952	7,818
Agriculture	395	356	385	375	348	368	355	355	340	359	351	335	350	344	325
Nonagricultural industries	7,586	7,628	7,703	7,735	7,641	7,558	7,639	7,631	7,353	7,617	7,568	7,651	7,682	7,608	7,493
Unemployed	1,559	1,528	1,543	1,506	1,555	1,565	1,459	1,495	1,534	1,544	1,554	1,512	1,527	1,545	1,547
Unemployment rate	16.3	16.1	16.0	15.7	16.3	16.5	15.4	15.8	16.6	16.2	16.4	15.9	16.0	16.3	16.5
Not in labor force	6,907	6,867	6,760	6,788	6,853	6,898	6,928	6,906	7,150	6,847	6,897	6,862	6,767	6,820	6,940
White															
Civilian noninstitutional population[1]	139,580	141,614	140,825	141,063	141,123	141,331	141,492	141,661	141,822	141,981	142,296	142,461	142,645	142,806	142,951
Civilian labor force	88,456	90,602	90,250	90,260	89,996	90,120	90,215	90,659	90,759	91,082	91,147	91,242	91,579	91,852	91,977
Employed	83,836	86,025	85,786	85,754	85,497	85,632	85,775	86,120	85,976	86,425	86,454	86,571	86,894	86,895	87,081
Unemployed	4,620	4,577	4,464	4,506	4,499	4,488	4,440	4,539	4,783	4,657	4,693	4,671	4,685	4,957	4,896
Unemployment rate	5.2	5.1	4.9	5.0	5.0	5.0	4.9	5.0	5.3	5.1	5.1	5.1	5.1	5.4	5.3
Not in labor force	51,124	51,011	50,430	50,848	51,200	51,313	51,213	51,107	51,161	50,900	51,149	51,219	51,066	50,954	50,975
Black and other															
Civilian noninstitutional population[1]	19,361	19,918	19,714	19,756	19,802	19,850	19,901	19,943	19,979	20,032	20,079	20,128	20,163	20,214	20,261
Civilian labor force	11,964	12,306	12,177	12,238	12,191	12,219	12,260	12,386	12,343	12,404	12,512	12,391	12,432	12,453	12,362
Employed	10,537	10,920	10,746	10,860	10,767	10,816	10,887	11,023	10,982	11,063	11,076	11,044	11,024	10,979	10,937
Unemployed	1,427	1,386	1,431	1,378	1,424	1,403	1,373	1,363	1,361	1,341	1,436	1,347	1,408	1,474	1,424
Unemployment rate	11.9	11.3	11.8	11.3	11.7	11.5	11.2	11.0	11.0	10.8	11.5	10.9	11.3	11.8	11.5
Not in labor force	7,397	7,612	7,486	7,504	7,627	7,674	7,629	7,579	7,639	7,264	7,567	7,737	7,731	7,761	7,899

[1] As in table 1, population figures are not seasonally adjusted.

NOTE: The data in this table have been revised to reflect seasonal experience through 1979.

3. Selected employment indicators, seasonally adjusted

[In thousands]

Selected categories	Annual average		1979											1980	
	1978	1979	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.
CHARACTERISTIC															
Total employed, 16 years and over	94,373	96,945	96,496	96,623	96,254	96,495	96,652	97,184	97,004	97,504	97,474	97,608	97,912	97,804	97,953
Men	55,491	56,499	56,476	56,440	56,294	56,372	56,477	56,570	56,408	56,714	56,629	56,580	56,734	56,486	56,732
Women	38,882	40,446	40,020	40,174	39,960	40,123	40,175	40,614	40,596	40,790	40,845	41,028	41,178	41,318	41,221
Married men, spouse present	38,688	39,090	39,291	39,193	38,910	39,045	39,079	39,176	39,180	39,198	39,124	38,845	38,924	38,749	38,955
Married women, spouse present	21,881	22,724	22,522	22,605	22,376	22,547	22,664	22,908	22,869	22,937	22,919	22,940	23,027	23,111	23,178
OCCUPATION															
White-collar workers	47,205	49,342	48,836	48,996	49,061	49,136	49,192	49,536	49,663	49,816	49,738	49,912	49,911	50,313	50,448
Professional and technical	14,245	15,050	14,950	15,012	15,091	15,100	15,010	15,057	15,068	15,141	15,057	15,131	15,272	15,337	15,444
Managers and administrators, except farm	10,105	10,516	10,379	10,392	10,398	10,427	10,534	10,612	10,698	10,659	10,639	10,617	10,535	10,008	10,971
Salesworkers	5,951	6,163	6,090	6,055	6,084	6,101	6,103	6,163	6,145	6,181	6,261	6,362	6,346	6,452	6,185
Clerical workers	16,904	17,613	17,417	17,537	17,488	17,508	17,545	17,704	17,752	17,835	17,781	17,802	17,758	17,915	17,848
Blue-collar workers	31,531	32,066	32,176	32,041	31,705	31,904	31,992	32,051	31,849	32,209	32,205	32,110	32,302	31,882	31,754
Craft and kindred workers	12,386	12,880	12,898	12,792	12,703	12,820	12,944	12,876	12,761	12,993	13,001	12,925	13,041	12,814	12,728
Operatives, except transport	10,875	10,909	10,901	10,991	10,770	10,755	10,804	10,884	10,909	10,964	10,967	10,963	11,042	10,678	10,661
Transport equipment operatives	3,541	3,612	3,602	3,569	3,564	3,644	3,605	3,627	3,604	3,617	3,593	3,628	3,635	3,616	3,571
Nonfarm laborers	4,729	4,665	4,775	4,689	4,668	4,685	4,639	4,664	4,575	4,635	4,644	4,594	4,584	4,774	4,795
Service workers	12,839	12,834	12,804	12,847	12,907	12,772	12,605	12,766	12,621	12,859	12,937	12,899	12,970	12,979	13,080
Farmworkers	2,798	2,703	2,746	2,774	2,659	2,628	2,679	2,678	2,707	2,722	2,695	2,718	2,694	2,660	2,764
MAJOR INDUSTRY AND CLASS OF WORKER															
Agriculture:															
Wage and salary workers	1,419	1,413	1,425	1,415	1,379	1,424	1,423	1,419	1,384	1,399	1,381	1,475	1,451	1,428	1,417
Self-employed workers	1,607	1,580	1,558	1,583	1,553	1,519	1,539	1,558	1,614	1,642	1,602	1,622	1,596	1,554	1,648
Unpaid family workers	316	304	334	314	291	263	291	291	310	325	313	310	310	293	283
Nonagricultural industries:															
Wage and salary workers	84,253	86,540	86,192	86,439	86,105	86,232	86,309	86,454	86,421	86,912	86,982	87,020	87,384	87,578	87,419
Government	15,289	15,369	15,322	15,281	15,359	15,616	15,318	15,393	15,279	15,407	15,423	15,358	15,397	15,414	15,540
Private industries	68,966	71,171	70,870	71,158	70,746	70,616	70,991	71,061	71,142	71,505	71,559	71,662	71,987	72,163	71,879
Private households	1,363	1,240	1,328	1,262	1,172	1,195	1,235	1,219	1,211	1,313	1,261	1,211	1,228	1,132	1,178
Other industries	67,603	69,931	69,542	69,896	69,574	69,421	69,756	69,842	69,931	70,192	70,298	70,451	70,759	71,031	70,702
Self-employed workers	6,305	6,652	6,591	6,542	6,463	6,608	6,629	6,752	6,689	6,731	6,812	6,781	6,737	6,752	6,899
Unpaid family workers	472	455	455	448	465	460	474	519	450	449	430	417	403	379	397
PERSONS AT WORK[1]															
Nonagricultural industries	85,693	88,133	87,543	87,847	86,608	87,785	87,749	88,769	88,855	88,723	88,638	88,617	89,180	89,454	88,985
Full-time schedules	70,543	72,647	72,212	72,529	71,659	72,496	72,243	72,915	73,053	73,159	73,204	72,997	73,137	73,223	73,110
Part time for economic reasons	3,216	3,281	3,176	3,211	3,279	3,283	3,284	3,274	3,298	3,167	3,315	3,392	3,519	3,513	3,406
Usually work full time	1,249	1,325	1,246	1,254	1,287	1,273	1,322	1,334	1,401	1,273	1,354	1,413	1,491	1,549	1,380
Usually work part time	1,967	1,956	1,930	1,957	1,992	2,010	1,962	1,940	1,897	1,894	1,961	1,979	2,028	1,964	2,026
Part time for noneconomic reasons	11,934	12,205	12,155	12,107	11,670	12,006	12,222	12,580	12,504	12,397	12,119	12,228	12,524	12,718	12,469

[1] Excludes persons "with a job but not at work" during the survey period for such reasons as vacation, illness, or industrial disputes.

NOTE: The data in this table have been revised to reflect seasonal experience through 1979.

4. Selected unemployment indicators, seasonally adjusted

Employment status	Annual average		1979											1980	
	1978	1979	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.
CHARACTERISTIC															
Total, 16 years and over	6.0	5.8	5.7	5.7	5.8	5.8	5.7	5.7	5.9	5.8	5.9	5.8	5.9	6.2	6.0
Men, 20 years and over	4.2	4.1	3.9	4.0	4.0	3.9	4.0	4.1	4.2	4.2	4.2	4.3	4.2	4.7	4.6
Women, 20 years and over	6.0	5.7	5.7	5.7	5.7	5.7	5.7	5.5	5.9	5.5	5.7	5.6	5.7	5.8	5.7
Both sexes, 16 - 19 years	16.3	16.1	16.0	15.7	16.3	16.5	15.4	15.8	16.6	16.2	16.4	15.9	16.0	16.3	16.5
White, total	5.2	5.1	4.9	5.0	5.0	5.0	4.9	5.0	5.3	5.1	5.1	5.1	5.1	5.4	5.3
Men, 20 years and over	3.7	3.6	3.4	3.4	3.5	3.4	3.5	3.6	3.7	3.7	3.7	3.7	3.7	4.1	4.0
Women, 20 years and over	5.2	5.0	5.0	5.0	5.0	5.0	4.9	4.8	5.2	4.8	5.0	4.9	5.0	5.1	5.2
Both sexes, 16 - 19 years	13.9	13.9	13.6	13.6	13.9	14.2	13.2	13.8	14.8	14.3	14.1	13.9	13.9	14.0	13.8
Black and other, total	11.9	11.3	11.8	11.3	11.7	11.5	11.2	11.0	11.0	10.8	11.5	10.9	11.3	11.8	11.5
Men, 20 years and over	8.6	8.4	8.6	8.7	8.6	8.4	8.1	8.4	8.1	8.0	8.6	8.4	8.6	9.6	9.2
Women, 20 years and over	10.6	10.1	10.4	10.0	10.5	10.0	10.4	10.0	10.3	9.8	10.2	9.5	10.0	10.0	9.0
Both sexes, 16 - 19 years	36.3	33.5	34.9	31.5	34.3	36.1	33.5	31.5	32.6	32.3	35.1	32.8	34.3	34.6	37.9
Married men, spouse present	2.8	2.7	2.6	2.6	2.7	2.5	2.7	2.8	2.9	2.9	2.9	2.9	2.8	3.4	3.1
Married women, spouse present	5.5	5.1	5.3	5.2	5.2	5.2	5.1	4.9	5.3	4.8	5.2	4.8	5.0	5.2	5.4
Women who head families	8.5	8.3	8.3	8.2	8.3	8.6	9.0	8.1	7.9	7.7	8.4	8.4	8.4	9.2	8.5
Full-time workers	5.5	5.3	5.2	5.2	5.3	5.2	5.2	5.3	5.4	5.3	5.4	5.4	5.4	5.7	5.6
Part-time workers	9.0	8.7	8.8	9.0	8.7	9.3	8.6	8.3	8.8	8.4	8.9	8.3	8.5	8.7	8.9
Unemployed 15 weeks and over	1.4	1.2	1.2	1.3	1.2	1.2	1.1	1.0	1.1	1.1	1.2	1.1	1.2	1.3	1.2
Labor force time lost[1]	6.5	6.3	6.2	6.2	6.4	6.3	6.3	6.4	6.4	6.2	6.4	6.4	6.4	6.7	6.6
OCCUPATION															
White-collar workers	3.5	3.3	3.4	3.3	3.3	3.2	3.4	3.3	3.5	3.3	3.4	3.2	3.3	3.4	3.4
Professional and technical	2.6	2.4	2.4	2.2	2.3	2.1	2.5	2.5	2.5	2.4	2.7	2.4	2.3	2.2	2.3
Managers and administrators, except farm	2.1	2.1	2.0	2.1	2.3	2.2	2.1	2.0	2.3	2.2	2.2	1.9	2.0	1.9	2.2
Salesworkers	4.1	3.9	4.2	4.1	4.0	4.0	4.4	3.5	4.0	3.8	3.8	3.7	3.8	4.4	4.5
Clerical workers	4.9	4.6	4.7	4.8	4.5	4.5	4.6	4.5	4.9	4.5	4.7	4.4	4.6	4.8	4.7
Blue-collar workers	6.9	6.9	6.5	6.6	6.9	6.8	6.6	6.8	7.3	7.1	7.2	7.5	7.2	8.0	7.7
Craft and kindred workers	4.6	4.5	4.5	4.5	4.4	4.2	4.3	4.4	4.7	4.3	4.6	4.9	4.4	4.9	4.8
Operatives, except transport	8.1	8.4	7.8	7.8	8.5	8.2	7.7	8.3	8.9	9.0	9.1	9.0	9.0	9.9	9.2
Transport equipment operatives	5.2	5.4	5.0	5.2	5.9	5.4	5.7	5.1	6.2	6.1	5.6	5.2	5.0	6.9	6.7
Nonfarm laborers	10.7	10.8	9.7	10.2	10.6	11.1	10.6	11.0	11.3	11.0	10.7	12.2	12.2	12.3	12.0
Service workers	7.4	7.1	7.3	7.3	7.3	7.2	7.2	7.1	7.1	6.7	6.8	6.6	6.6	6.9	6.9
Farmworkers	3.8	3.8	3.4	3.3	3.4	3.6	3.2	4.2	3.9	4.1	4.3	4.5	4.3	4.4	3.9
INDUSTRY															
Nonagricultural private wage and salary workers[2]	5.9	5.7	5.6	5.6	5.7	5.7	5.6	5.7	6.0	5.8	5.9	5.8	5.8	6.2	6.0
Construction	10.6	10.2	10.9	10.1	10.5	10.0	10.0	10.0	10.1	9.6	9.9	10.2	10.3	10.8	10.5
Manufacturing	5.5	5.5	4.9	5.2	5.3	5.4	5.4	5.7	5.9	6.0	6.0	5.9	5.9	6.7	6.4
Durable goods	4.9	5.0	4.2	4.4	4.7	4.4	4.9	5.4	5.4	5.3	5.5	5.6	5.5	6.7	6.3
Nondurable goods	6.3	6.4	5.9	6.4	6.3	6.9	6.3	6.2	6.8	7.1	6.8	6.3	6.4	6.8	6.7
Transportation and public utilities	3.7	3.7	3.2	3.9	3.0	3.6	3.1	3.8	3.7	4.0	3.8	4.2	4.1	4.4	4.4
Wholesale and retail trade	6.9	6.5	6.5	6.3	6.6	6.4	6.7	6.3	6.5	6.4	6.4	6.5	6.4	6.6	6.4
Finance and service industries	5.1	4.9	4.8	4.8	4.8	4.9	4.7	4.9	5.2	4.7	4.9	4.6	4.7	4.6	4.6
Government workers	3.9	3.7	3.8	4.1	3.7	3.6	3.6	3.6	3.7	3.3	4.0	3.6	3.6	3.8	4.0
Agricultural wage and salary workers	8.8	9.1	8.6	8.0	8.7	9.3	7.8	9.7	9.9	10.0	9.9	10.1	9.4	10.3	9.2

[1] Aggregate hours lost by the unemployed and persons on part time for economic reasons as a percent of potentially available labor force hours.

[2] Includes mining, not shown separately.

NOTE: The data in this table have been revised to reflect seasonal experience through 1979.

5. Unemployment rates, by sex and age, seasonally adjusted

Sex and age	Annual average		1979											1980	
	1978	1979	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.
Total, 16 years and over	6.0	5.8	5.7	5.7	5.8	5.8	5.7	5.7	5.9	5.8	5.9	5.8	5.9	6.2	6.0
16 to 19 years	16.3	16.1	16.0	15.7	16.3	16.5	15.4	15.8	16.6	16.2	16.4	15.9	16.0	16.3	16.5
16 to 17 years	19.3	18.1	18.5	18.5	18.7	18.9	17.5	17.3	18.5	16.9	18.4	17.3	18.0	19.0	18.7
18 to 19 years	14.2	14.6	14.3	13.5	14.3	15.0	14.4	14.5	15.4	15.6	15.0	14.7	14.5	14.0	15.1
20 to 24 years	9.5	9.0	8.6	8.8	8.6	8.9	8.9	9.1	9.3	9.2	9.6	8.8	9.8	10.1	9.5
25 years and over	4.0	3.9	3.9	3.9	4.0	3.9	3.9	3.9	4.0	3.9	4.0	4.0	3.8	4.2	4.1
25 to 54 years	4.2	4.1	4.1	4.1	4.2	4.0	4.1	4.0	4.2	4.1	4.2	4.3	4.1	4.4	4.5
55 years and over	3.2	3.0	3.0	3.1	3.1	3.1	2.9	3.2	3.1	2.9	3.0	2.7	2.7	3.5	2.8
Men, 16 years and over	5.2	5.1	5.0	5.0	5.1	5.0	4.9	5.1	5.2	5.2	5.2	5.2	5.2	5.7	5.5
16 to 19 years	15.7	15.8	16.1	15.8	16.0	16.1	14.5	15.4	16.3	16.1	15.7	15.8	15.6	16.2	15.6
16 to 17 years	19.2	17.9	19.2	18.9	17.9	18.9	16.8	16.1	18.0	16.7	17.1	17.8	17.9	19.0	18.0
18 to 19 years	13.2	14.2	14.2	13.6	14.1	14.0	14.0	14.8	15.1	15.3	14.4	14.0	13.6	13.9	14.1
20 to 24 years	9.1	8.6	8.1	8.3	8.0	8.2	8.3	8.8	8.8	8.8	9.5	8.4	9.4	10.4	9.9
25 years and over	3.3	3.3	3.2	3.2	3.3	3.1	3.2	3.3	3.4	3.3	3.4	3.5	3.2	3.7	3.6
25 to 54 years	3.4	3.4	3.3	3.3	3.3	3.2	3.2	3.4	3.5	3.6	3.5	3.8	3.4	3.8	3.8
55 years and over	3.1	2.9	2.8	2.8	3.0	2.8	3.1	3.3	3.1	2.8	2.8	2.6	2.6	3.5	2.6
Women, 16 years and over	7.2	6.8	6.8	6.8	6.9	6.9	6.8	6.6	7.0	6.6	6.9	6.6	6.8	6.8	6.8
16 to 19 years	17.0	16.4	15.9	15.5	16.6	16.9	16.5	16.2	17.0	16.4	17.2	16.1	16.4	16.3	17.6
16 to 17 years	19.5	18.3	17.7	18.0	19.6	18.8	18.3	18.6	19.0	17.2	19.8	16.7	18.0	19.1	19.5
18 to 19 years	15.3	15.0	14.5	13.3	14.5	16.0	14.9	14.2	15.7	15.9	15.6	15.5	15.5	14.2	16.2
20 to 24 years	10.1	9.6	9.3	9.5	9.4	9.7	9.7	9.4	9.8	9.6	9.7	9.3	10.2	9.8	9.1
25 years and over	5.1	4.8	5.0	4.9	4.9	4.9	4.8	4.7	4.9	4.6	4.9	4.7	4.7	4.9	4.9
25 to 54 years	5.4	5.2	5.4	5.3	5.3	5.2	5.2	5.0	5.3	5.0	5.2	5.0	5.1	5.2	5.4
55 years and over	3.3	3.2	3.3	3.6	3.2	3.6	2.8	3.1	3.2	2.9	3.4	2.9	2.9	3.4	3.0

6. Unemployed persons, by reason for unemployment, seasonally adjusted

[Numbers in thousands]

Reason for unemployment	1979											1980	
	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.
NUMBER OF UNEMPLOYED													
Lost last job	2,475	2,457	2,520	2,356	2,449	2,526	2,680	2,632	2,731	2,729	2,728	2,988	2,907
On layoff	779	791	839	725	816	797	915	855	929	987	944	1,019	1,031
Other job losers	1,696	1,666	1,681	1,631	1,633	1,729	1,765	1,777	1,802	1,742	1,784	1,969	1,876
Left last job	828	864	847	940	857	846	875	825	835	845	800	779	813
Reentered labor force	1,766	1,766	1,778	1,767	1,753	1,762	1,786	1,760	1,762	1,698	1,771	1,797	1,784
Seeking first job	858	808	800	824	781	726	745	801	804	736	858	811	827
PERCENT DISTRIBUTION													
Total unemployed	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Job losers	41.8	41.7	42.4	40.0	41.9	43.1	44.0	43.7	44.5	45.4	44.3	46.9	45.9
On layoff	13.1	13.4	14.1	12.3	14.0	13.6	15.0	14.2	15.2	16.4	15.3	16.0	16.3
Other job losers	28.6	28.3	28.3	27.7	28.0	29.5	29.0	29.5	29.4	29.0	29.0	30.9	29.6
Job leavers	14.0	14.7	14.2	16.0	14.7	14.4	14.4	13.7	13.6	14.1	13.0	12.2	12.8
Reentrants	29.8	30.0	29.9	30.0	30.0	30.1	29.4	29.2	28.7	28.3	28.8	28.2	28.2
New entrants	14.5	13.7	13.5	14.0	13.4	12.4	12.2	13.3	13.1	12.3	13.9	12.7	13.1
UNEMPLOYED AS A PERCENT OF THE CIVILIAN LABOR FORCE													
Job losers	2.4	2.4	2.5	2.3	2.4	2.5	2.6	2.5	2.6	2.6	2.6	2.9	2.8
Job leavers	.8	.8	.8	.9	.8	.8	.8	.8	.8	.8	.8	.7	.8
Reentrants	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.7	1.7	1.7
New entrants	.8	.8	.8	.8	.8	.7	.7	.8	.8	.7	.8	.8	.8

7. Duration of unemployment, seasonally adjusted

[Numbers in thousands]

Weeks of unemployment	Annual average		1979											1980	
	1978	1979	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.
Less than 5 weeks	2,793	2,869	2,779	2,769	2,876	2,823	2,880	2,820	3,168	2,778	2,955	2,919	2,916	3,184	2,986
5 to 14 weeks	1,875	1,892	1,877	1,860	1,884	1,919	1,808	1,934	1,738	2,035	1,963	1,869	1,966	1,907	2,021
15 weeks and over	1,379	1,202	1,239	1,291	1,223	1,212	1,152	1,067	1,185	1,152	1,195	1,191	1,230	1,334	1,286
15 to 26 weeks	746	684	700	729	687	705	656	615	658	644	678	660	711	795	790
27 weeks and over	633	518	539	562	536	507	496	452	527	508	517	531	519	539	496
Average (mean) duration, in weeks	11.9	10.8	11.3	11.8	11.0	10.9	10.5	10.1	10.7	10.7	10.5	10.6	10.5	10.5	10.7

NOTE: The data in these tables have been revised to reflect seasonal experience through 1979.

EMPLOYMENT, HOURS, AND EARNINGS DATA FROM ESTABLISHMENT SURVEYS

EMPLOYMENT, HOURS, AND EARNINGS DATA in this section are compiled from payroll records reported monthly on a voluntary basis to the Bureau of Labor Statistics and its cooperating State agencies by 162,000 establishments representing all industries except agriculture. In most industries, the sampling probabilities are based on the size of the establishment; most large establishments are therefore in the sample. (An establishment is not necessarily a firm; it may be a branch plant, for example, or warehouse.) Self-employed persons and others not on a regular civilian payroll are outside the scope of the survey because they are excluded from establishment records. This largely accounts for the difference in employment figures between the household and establishment surveys.

LABOR TURNOVER DATA in this section are compiled from personnel records reported monthly on a voluntary basis to the Bureau of Labor Statistics and its cooperating State agencies. A sample of 40,000 establishments represents all industries in the manufacturing and mining sectors of the economy.

Definitions

Employed persons are all persons who received pay (including holiday and sick pay) for any part of the payroll period including the 12th of the month. Persons holding more than one job (about 5 percent of all persons in the labor force) are counted in each establishment which reports them.

Production workers in manufacturing include blue-collar worker supervisors and all nonsupervisory workers closely associated with production operations. Those workers mentioned in tables 14–20 include production workers in manufacturing and mining; construction workers in construction; and nonsupervisory workers in transportation and public utilities, in wholesale and retail trade, in finance, insurance, and real estate, and in service industries. These groups account for about four-fifths of the total employment on private nonagricultural payrolls.

Earnings are the payments production or nonsupervisory workers receive during the survey period, including premium pay for overtime or late-shift work but excluding irregular bonuses and other special payments. **Real earnings** are earnings adjusted to eliminate the effects of price change. The **Hourly Earnings Index** is calculated from average hourly earnings data adjusted to exclude the effects of two types of changes that are unrelated to underlying wage-rate developments: fluctuations in overtime premiums in manufacturing (the only sector for which overtime data are available) and the effects of changes and seasonal factors in the proportion of workers in high-wage and low-wage industries. **Spendable earnings** are earnings from which estimated social security and Federal income taxes have been deducted. The Bureau of Labor Statistics computes spendable earnings from gross weekly earnings for only two illustrative cases: (1) a worker with no dependents and (2) a married worker with three dependents.

Hours represent the average weekly hours of production or nonsupervisory workers for which pay was received and are different from standard or scheduled hours. **Overtime hours** represent the portion of gross average weekly hours which were in excess of regular hours and for which overtime premiums were paid.

Labor turnover is the movement of all wage and salary workers from one employment status to another. **Accession rates** indicate the average number of persons added to a payroll in a given period per 100 employees; **separation rates** indicate the average number dropped from a payroll per 100 employees. Although month-to-month changes in employment can be calculated from the labor turnover data, the results are not comparable with employment data from the employment and payroll survey. The labor turnover survey measures changes during the calendar month while the employment and payroll survey measures changes from midmonth to midmonth.

Notes on the data

Establishment data collected by the Bureau of Labor Statistics are periodically adjusted to comprehensive counts of employment (called "benchmarks"). The latest complete adjustment was made with the release of September 1979 data, published in the November 1979 issue of the *Review*. Consequently, data published in the *Review* prior to that issue are not necessarily comparable to current data. Complete comparable historical unadjusted and seasonally adjusted data are published in a Supplement to Employment and Earnings (unadjusted data from April 1977 through June 1979 and seasonally adjusted data from January 1974 through June 1979) and in *Employment and Earnings, United States, 1909–78*, BLS Bulletin 1312–11 (for prior periods).

Data on recalls were shown for the first time in tables 12 and 13 in the January 1978 issue of the *Review*. For a detailed discussion of the recalls series, along with historical data, see "New Series on Recalls from the Labor Turnover Survey," *Employment and Earnings*, December 1977, pp. 10–19.

A comprehensive discussion of the differences between household and establishment data on employment appears in Gloria P. Green, "Comparing employment estimates from household and payroll surveys," *Monthly Labor Review*, December 1969, pp. 9–20. See also *BLS Handbook of Methods for Surveys and Studies*, Bulletin 1910 (Bureau of Labor Statistics, 1976).

The formulas used to construct the spendable average weekly earnings series reflect the latest provisions of the Federal income tax and social security tax laws. For the spendable average weekly earnings formulas for the years 1978–80, see *Employment and Earnings*, March 1980, pp. 10–11. Real earnings data are adjusted using the Consumer Price Index for Urban Wage Earners and Clerical Workers (CPI-W).

8. Employment by industry, 1950–79

[Nonagricultural payroll data, in thousands]

Year	Total	Mining	Construction	Manufacturing	Transportation and public utilities	Wholesale and retail trade	Wholesale trade	Retail trade	Finance, insurance, and real estate	Services	Government		
											Total	Federal	State and local
1950	45,197	901	2,364	15,241	4,034	9,386	2,635	6,751	1,888	5,357	6,026	1,928	4,098
1951	47,819	929	2,637	16,393	4,226	9,742	2,727	7,015	1,956	5,547	6,389	2,302	4,087
1952	48,793	898	2,668	16,632	4,248	10,004	2,812	7,192	2,035	5,699	6,609	2,420	4,188
1953	50,202	866	2,659	17,549	4,290	10,247	2,854	7,393	2,111	5,835	6,645	2,305	4,340
1954	48,990	791	2,646	16,314	4,084	10,235	2,867	7,368	2,200	5,969	6,751	2,188	4,563
1955	50,641	792	2,839	16,882	4,141	10,535	2,926	7,610	2,298	6,240	6,914	2,187	4,727
1956	52,369	822	3,039	17,243	4,244	10,858	3,018	7,840	2,389	6,497	7,278	2,209	5,069
1957	52,853	828	2,962	17,174	4,241	10,886	3,028	7,858	2,438	6,708	7,616	2,217	5,399
1958	51,324	751	2,817	15,945	3,976	10,750	2,980	7,770	2,481	6,765	7,839	2,191	5,648
1959[1]	53,268	732	3,004	16,675	4,011	11,127	3,082	8,045	2,549	7,087	8,083	2,233	5,850
1960	54,189	712	2,926	16,796	4,004	11,391	3,143	8,248	2,629	7,378	8,353	2,270	6,083
1961	53,999	672	2,859	16,326	3,903	11,337	3,133	8,204	2,688	7,620	8,594	2,279	6,315
1962	55,549	650	2,948	16,853	3,906	11,566	3,198	8,368	2,754	7,982	8,890	2,340	6,550
1963	56,653	635	3,010	16,995	3,903	11,778	3,248	8,530	2,830	8,277	9,225	2,358	6,868
1964	58,283	634	3,097	17,274	3,951	12,160	3,337	8,823	2,911	8,660	9,596	2,348	7,248
1965	60,765	632	3,232	18,062	4,036	12,716	3,466	9,250	2,977	9,036	10,074	2,378	7,696
1966	63,901	627	3,317	19,214	4,158	13,245	3,597	9,648	3,058	9,498	10,784	2,564	8,220
1967	65,803	613	3,248	19,447	4,268	13,606	3,689	9,917	3,185	10,045	11,391	2,719	8,672
1968	67,897	606	3,350	19,781	4,318	14,099	3,779	10,320	3,337	10,567	11,839	2,737	9,102
1969	70,384	619	3,575	20,167	4,442	14,705	3,907	10,798	3,512	11,169	12,195	2,758	9,437
1970	70,880	623	3,588	19,367	4,515	15,040	3,993	11,047	3,645	11,548	12,554	2,731	9,823
1971	71,214	609	3,704	18,623	4,476	15,352	4,001	11,351	3,772	11,797	12,881	2,696	10,185
1972	73,675	628	3,889	19,151	4,541	15,949	4,113	11,836	3,908	12,276	13,334	2,684	10,649
1973	76,790	642	4,097	20,154	4,656	16,607	4,277	12,329	4,046	12,857	13,732	2,663	11,068
1974	78,265	697	4,020	20,077	4,725	16,987	4,433	12,554	4,148	13,441	14,170	2,724	11,446
1975	76,945	752	3,525	18,323	4,542	17,060	4,415	12,645	4,165	13,892	14,686	2,748	11,937
1976	79,382	779	3,576	18,997	4,582	17,755	4,546	13,209	4,271	14,551	14,871	2,733	12,138
1977	82,423	813	3,851	19,682	4,713	18,516	4,708	13,808	4,467	15,303	15,079	2,727	12,352
1978	86,446	851	4,271	20,476	4,927	19,499	4,957	14,542	4,727	16,220	15,476	2,753	12,723
1979	89,482	957	4,644	20,972	5,154	20,137	5,170	14,966	4,963	17,043	15,612	2,773	12,839

[1] Data include Alaska and Hawaii beginning in 1959.

9. Employment by State

[Nonagricultural payroll data, in thousands]

State	Jan. 1979	Dec. 1979	Jan. 1980 p	State	Jan. 1979	Dec. 1979	Jan. 1980 p
Alabama[1]	1,339.8	1,378.2	1,360.8	Montana	268.9	288.7	278.1
Alaska	152.7	157.7	NA	Nebraska[1]	604.8	632.3	616.3
Arizona[1]	937.9	1,010.7	997.2	Nevada[1]	359.9	394.7	387.1
Arkansas[1]	722.0	757.8	745.3	New Hampshire	363.2	386.9	NA
California[1]	9,380.4	9,886.9	9,726.2	New Jersey	2,351.4	3,064.5	2,993.9
Colorado[1]	1,171.7	1,254.9	1,237.0	New Mexico[1]	446.2	476.3	469.0
Connecticut	1,366.9	1,431.5	1,402.7	New York[1]	6,992.8	7,271.6	7,087.9
Delaware[1]	247.6	261.8	253.2	North Carolina[1]	2,326.0	2,432.8	2,404.6
District of Columbia[1]	601.5	624.1	611.0	North Dakota	230.6	247.3	240.2
Florida[1]	3,307.9	3,511.2	3,508.6	Ohio[1]	4,393.4	4,534.3	4,415.3
Georgia[1]	2,075.7	2,147.3	2,121.8	Oklahoma[1]	1,047.8	1,122.1	1,105.8
Hawaii	383.5	407.4	405.2	Oregon[1]	1,005.0	1,065.2	1,046.4
Idaho	325.3	339.8	330.7	Pennsylvania[1]	4,695.6	4,882.5	4,789.5
Illinois[1]	4,679.3	4,976.9	4,674.8	Rhode Island[1]	389.5	404.7	391.7
Indiana[1]	2,210.0	2,262.6	2,208.7	South Carolina[1]	1,144.9	1,197.6	1,184.1
Iowa[1]	1,098.6	1,141.8	1,116.4	South Dakota	230.6	239.8	233.6
Kansas[1]	914.2	967.6	944.9	Tennessee[1]	1,731.2	1,810.6	1,775.6
Kentucky[1]	1,211.5	1,262.5	1,236.4	Texas[1]	5,406.6	5,754.9	5,725.2
Louisiana[1]	1,471.7	1,525.8	1,512.1	Utah	530.6	574.3	561.1
Maine[1]	398.1	418.7	406.7	Vermont	191.2	202.7	199.1
Maryland	1,580.8	1,645.8	1,604.0	Virginia	2,052.9	2,128.1	2,098.0
Massachusetts	2,519.5	2,625.6	2,578.6	Washington[1]	1,496.6	1,616.0	1,589.0
Michigan[1]	3,611.3	3,626.3	3,507.8	West Virginia[1]	626.6	659.7	633.6
Minnesota	1,683.0	1,790.1	NA	Wisconsin[1]	1,872.4	2,011.7	1,952.3
Mississippi[1]	818.4	850.3	835.9	Wyoming	185.8	212.5	209.0
Missouri[1]	1,941.6	2,014.0	1,963.5				

[1] Revised series; not strictly comparable with previously published data.

10. Employment by industry division and major manufacturing group

[Nonagricultural payroll data, in thousands]

Industry division and group	Annual average		1979											1980	
	1978	1979	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.ᵖ	Feb.ᵖ
TOTAL	86,446	89,482	87,331	88,207	88,820	89,671	90,541	89,618	89,673	90,211	90,678	90,902	91,009	89,225	89,301
MINING	851	957	915	926	932	944	968	976	986	980	982	984	984	985	987
CONSTRUCTION	4,271	4,544	3,957	4,226	4,413	4,662	4,881	4,993	5,048	4,984	4,976	4,879	4,711	4,350	4,287
MANUFACTURING	20,476	20,972	20,775	20,887	20,907	20,988	21,234	20,965	20,996	21,192	21,094	20,966	20,902	20,692	20,658
Production workers	14,714	15,010	14,908	14,993	15,002	15,061	15,240	14,946	14,960	15,172	15,082	14,954	14,891	14,654	14,649
Durable goods	12,246	12,690	12,579	12,664	12,697	12,739	12,877	12,712	12,598	12,805	12,737	12,661	12,649	12,524	12,528
Production workers	8,786	9,053	9,018	9,081	9,105	9,129	9,223	9,031	8,907	9,116	9,058	8,983	8,971	8,810	8,825
Lumber and wood products	752.4	758.4	737.7	745.5	748.8	763.8	783.2	776.8	780.0	776.3	771.3	748.9	729.2	704.2	698.1
Furniture and fixtures	491.1	487.3	485.2	491.8	487.8	483.9	484.2	475.5	483.5	485.3	487.6	488.7	486.9	484.0	480.0
Stone, clay, and glass products	698.0	710.8	680.6	697.2	706.6	718.6	733.1	727.1	728.2	723.6	721.0	712.9	699.6	679.9	676.3
Primary metal industries	1,212.7	1,243.9	1,244.8	1,251.1	1,259.0	1,258.6	1,274.3	1,260.7	1,244.5	1,244.3	1,225.1	1,216.7	1,204.4	1,199.7	1,199.2
Fabricated metal products	1,673.4	1,727.2	1,715.6	1,719.8	1,723.7	1,727.8	1,749.0	1,715.7	1,716.1	1,735.3	1,738.3	1,738.2	1,730.4	1,702.5	1,703.0
Machinery, except electrical	2,319.2	2,462.5	2,446.4	2,459.5	2,468.0	2,463.6	2,491.2	2,485.1	2,467.1	2,496.4	2,447.2	2,440.9	2,455.8	2,507.2	2,509.9
Electric and electronic equipment	1,999.5	2,108.7	2,071.0	2,082.6	2,086.1	2,095.2	2,128.2	2,111.7	2,089.5	2,136.1	2,143.7	2,146.3	2,153.1	2,144.9	2,138.9
Transportation equipment	1,991.7	2,048.3	2,062.7	2,083.9	2,082.2	2,091.8	2,077.9	2,027.7	1,933.2	2,051.0	2,040.9	2,009.7	2,043.4	1,965.0	1,965.5
Instruments and related products	653.5	690.4	680.2	683.2	686.5	686.5	698.8	692.9	695.3	692.7	695.4	695.9	699.8	699.2	700.3
Miscellaneous manufacturing	454.0	452.4	444.8	449.0	448.0	448.9	457.4	438.6	460.6	463.8	466.9	462.8	446.4	436.9	437.1
Nondurable goods	8,230	8,283	8,196	8,223	8,210	8,249	8,357	8,253	8,398	8,387	8,357	8,305	8,253	8,168	8,130
Production workers	5,928	5,957	5,890	5,912	5,897	5,932	6,017	5,915	6,053	6,056	6,024	5,971	5,920	5,844	5,824
Food and kindred products	1,721.2	1,716.3	1,658.1	1,666.9	1,657.3	1,669.6	1,718.6	1,737.8	1,810.0	1,814.1	1,766.8	1,725.0	1,695.9	1,650.1	1,639.1
Tobacco manufactures	69.6	66.2	66.4	64.4	62.5	61.9	62.1	62.1	69.0	72.2	71.9	64.8	66.7	65.0	63.9
Textile mill products	900.2	891.9	896.4	894.4	890.4	892.5	900.4	875.5	890.4	888.9	889.8	893.9	893.5	886.7	888.3
Apparel and other textile products	1,332.5	1,313.1	1,320.6	1,326.6	1,323.7	1,327.5	1,333.1	1,278.7	1,308.9	1,309.1	1,317.0	1,306.2	1,292.0	1,282.3	1,300.7
Paper and allied products	700.9	714.1	703.4	708.8	710.8	712.7	724.6	719.6	723.3	718.5	717.7	715.9	714.0	712.2	710.2
Printing and publishing	1,193.1	1,242.9	1,225.7	1,229.5	1,231.0	1,234.7	1,243.4	1,245.8	1,245.4	1,246.1	1,254.5	1,265.6	1,272.0	1,266.9	1,275.2
Chemicals and allied products	1,096.3	1,112.7	1,099.7	1,103.9	1,106.7	1,110.9	1,126.6	1,123.0	1,121.2	1,114.9	1,115.0	1,115.2	1,115.6	1,113.1	1,111.9
Petroleum and coal products	208.7	213.8	206.4	208.3	210.8	212.9	216.8	218.0	218.3	218.1	218.1	217.2	214.9	213.3	163.6
Rubber and miscellaneous plastics products	751.9	767.5	773.8	774.4	772.0	777.0	779.4	767.4	765.8	762.0	762.6	757.6	747.5	742.4	738.1
Leather and leather products	255.6	243.8	245.1	245.7	245.1	249.2	253.7	224.7	245.8	243.1	243.1	243.2	240.7	235.8	239.4
TRANSPORTATION AND PUBLIC UTILITIES	4,927	5,154	5,028	5,060	4,989	5,125	5,231	5,200	5,210	5,242	5,244	5,255	5,254	5,144	5,130
WHOLESALE AND RETAIL TRADE	19,499	20,137	19,548	19,690	19,957	20,119	20,222	20,118	20,137	20,260	20,314	20,580	20,932	20,192	20,025
WHOLESALE TRADE	4,957	5,170	5,067	5,098	5,112	5,146	5,211	5,208	5,211	5,206	5,235	5,251	5,234	5,206	5,215
RETAIL TRADE	14,542	14,966	14,481	14,592	14,845	14,973	15,011	14,910	14,926	15,054	15,079	15,329	15,698	14,986	14,810
FINANCE, INSURANCE, AND REAL ESTATE	4,727	4,963	4,845	4,870	4,900	4,936	5,003	5,032	5,053	5,002	5,013	5,029	5,041	5,042	5,046
SERVICES	16,220	17,043	16,545	16,749	16,897	17,039	17,239	17,314	17,312	17,225	17,292	17,281	17,270	17,084	17,247
GOVERNMENT	15,476	15,612	15,718	15,799	15,825	15,858	15,763	15,020	14,931	15,326	15,763	15,928	15,915	15,736	15,921
Federal	2,753	2,773	2,738	2,740	2,750	2,773	2,824	2,838	2,844	2,751	2,756	2,760	2,770	2,763	2,771
State and local	12,723	12,839	12,980	13,059	13,075	13,085	12,939	12,182	12,087	12,575	13,007	13,168	13,145	12,973	13,150

11. Employment by industry division and major manufacturing group, seasonally adjusted

[Nonagricultural payroll data, in thousands]

Industry division and group	1979											1980	
	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan. ᵖ	Feb. ᵖ
TOTAL	88,700	89,039	89,036	89,398	89,626	89,713	89,762	89,803	89,982	90,100	90,241	90,590	90,731
MINING	937	940	940	944	946	956	968	973	979	983	991	1,003	1,010
CONSTRUCTION	4,486	4,614	4,559	4,648	4,662	4,688	4,674	4,671	4,694	4,714	4,783	4,893	4,861
MANUFACTURING	21,025	21,073	21,066	21,059	21,062	21,079	20,957	20,949	20,899	20,836	20,881	20,882	20,900
Production workers	15,128	15,153	15,134	15,112	15,096	15,080	14,956	14,957	14,894	14,829	14,865	14,824	14,862
Durable goods	12,715	12,751	12,752	12,739	12,760	12,786	12,714	12,737	12,650	12,587	12,615	12,600	12,659
Production workers	9,138	9,158	9,146	9,119	9,123	9,124	9,044	9,066	8,972	8,908	8,931	8,875	8,939
Lumber and wood products	768	769	761	762	757	753	752	758	760	751	740	732	727
Furniture and fixtures	496	493	490	487	485	488	484	480	482	483	483	484	480
Stone, clay, and glass products	712	718	714	715	715	711	710	708	709	704	706	707	707
Primary metal industries	1,256	1,259	1,260	1,254	1,257	1,256	1,245	1,236	1,226	1,223	1,208	1,206	1,210
Fabricated metal products	1,733	1,732	1,732	1,730	1,737	1,730	1,714	1,716	1,723	1,726	1,725	1,711	1,720
Machinery, except electrical	2,437	2,450	2,466	2,471	2,484	2,500	2,492	2,496	2,455	2,438	2,444	2,497	2,500
Electric and electronic equipment	2,079	2,093	2,101	2,106	2,124	2,131	2,092	2,117	2,125	2,125	2,140	2,149	2,147
Transportation equipment	2,094	2,094	2,084	2,077	2,067	2,073	2,079	2,086	2,025	1,994	2,019	1,959	2,016
Instruments and related products	682	685	689	688	693	694	695	692	696	694	698	701	702
Miscellaneous manufacturing	458	458	455	449	451	450	451	448	449	449	452	454	450
Nondurable goods	8,310	8,322	8,314	8,320	8,303	8,293	8,243	8,212	8,249	8,249	8,266	8,282	8,241
Production workers	5,990	5,995	5,988	5,993	5,973	5,966	5,912	5,891	5,922	5,921	5,934	5,949	5,923
Food and kindred products	1,729	1,736	1,728	1,725	1,720	1,707	1,696	1,691	1,707	1,710	1,715	1,706	1,709
Tobacco manufactures	68	69	69	70	69	68	64	65	65	60	62	64	65
Textile mill products	889	887	892	893	892	892	886	884	887	889	893	890	891
Apparel and other textile products	1,327	1,324	1,325	1,324	1,312	1,324	1,302	1,294	1,299	1,292	1,297	1,307	1,307
Paper and allied products	711	716	717	714	715	718	717	714	715	714	713	718	717
Printing and publishing	1,229	1,232	1,234	1,236	1,242	1,250	1,247	1,245	1,252	1,262	1,263	1,271	1,279
Chemicals and allied products	1,108	1,108	1,111	1,114	1,119	1,116	1,111	1,110	1,113	1,114	1,119	1,122	1,120
Petroleum and coal products	212	213	213	213	212	212	213	215	217	217	217	219	168
Rubber and miscellaneous plastics products	779	780	781	784	775	777	764	751	751	749	745	745	743
Leather and leather products	248	247	244	247	247	229	243	243	243	242	242	240	242
TRANSPORTATION AND PUBLIC UTILITIES	5,094	5,116	5,024	5,130	5,190	5,169	5,194	5,180	5,218	5,229	5,223	5,206	5,198
WHOLESALE AND RETAIL TRADE	20,016	20,054	20,088	20,129	20,116	20,122	20,126	20,169	20,243	20,308	20,254	20,396	20,505
WHOLESALE TRADE	5,118	5,134	5,138	5,156	5,180	5,182	5,185	5,190	5,209	5,235	5,218	5,243	5,268
RETAIL TRADE	14,898	14,920	14,950	14,973	14,936	14,940	14,941	14,979	15,034	15,073	15,036	15,153	15,237
FINANCE, INSURANCE, AND REAL ESTATE	4,884	4,899	4,915	4,936	4,958	4,972	5,003	4,997	5,018	5,039	5,056	5,083	5,087
SERVICES	16,763	16,833	16,880	16,954	17,051	17,092	17,141	17,191	17,257	17,298	17,357	17,415	17,474
GOVERNMENT	15,495	15,510	15,564	15,598	15,637	15,635	15,699	15,673	15,674	15,693	15,696	15,712	15,696
Federal	2,757	2,757	2,758	2,770	2,788	2,785	2,813	2,762	2,770	2,771	2,771	2,791	2,791
State and local	12,738	12,753	12,806	12,828	12,849	12,850	12,886	12,911	12,904	12,922	12,925	12,921	12,905

12. Labor turnover rates in manufacturing, 1977 to date

[Per 100 employees]

Year	Annual average	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
							Total accessions						
1977	4.0	3.7	3.7	4.0	3.8	4.6	4.9	4.3	5.3	4.6	3.9	3.1	2.4
1978	4.1	3.8	3.2	3.8	4.0	4.7	4.9	4.4	5.4	4.9	4.3	3.3	2.4
1979	3.9	4.0	3.4	3.8	3.9	4.7	4.8	4.3	4.9	4.4	4.1	2.9	2.2
1980	...	^{p}3.8	...	...	...	...	...	...	...	...	...	...	...
							New hires						
1977	2.8	2.2	2.1	2.6	2.7	3.5	3.7	3.0	4.0	3.5	3.0	2.2	1.6
1978	3.1	2.5	2.2	2.7	2.9	3.6	3.9	3.3	4.2	3.9	3.5	2.6	1.7
1979	2.9	2.8	2.5	2.8	2.9	3.6	3.8	3.1	3.7	3.4	3.1	2.2	1.5
1980	...	^{p}2.4	...	...	...	...	...	...	...	...	...	...	...
							Recalls						
1977	.9	1.2	1.3	1.1	.9	.8	.8	.9	1.0	.8	.6	.6	.6
1978	.7	1.0	.7	.8	.8	.8	.7	.8	.9	.7	.6	.5	.5
1979	.7	.9	.7	.7	.7	.8	.7	.9	.9	.8	.7	.5	.5
1980	...	^{p}1.1	...	...	...	...	...	...	...	...	...	...	...
							Total separations						
1977	3.8	3.9	3.4	3.4	3.4	3.5	3.5	4.3	5.1	4.9	3.8	3.4	3.4
1978	3.9	3.6	3.1	3.5	3.6	3.7	3.8	4.1	5.3	4.8	4.1	3.5	3.4
1979	4.0	3.8	3.2	3.6	3.6	3.8	3.9	4.3	5.7	4.7	4.2	3.8	3.5
1980	...	^{p}4.1	...	...	...	...	...	...	...	...	...	...	...
							Quits						
1977	1.8	1.4	1.3	1.6	1.7	1.9	1.9	1.9	3.1	2.8	1.9	1.5	1.2
1978	2.1	1.5	1.4	1.8	2.0	2.1	2.2	2.1	3.5	3.1	2.3	1.7	1.3
1979	2.0	1.8	1.6	1.9	2.0	2.1	2.1	2.0	3.3	2.7	2.1	1.6	1.1
1980	...	^{p}1.6	...	...	...	...	...	...	...	...	...	...	...
							Layoffs						
1977	1.1	1.7	1.4	1.0	.9	.8	.8	1.5	1.0	1.1	1.1	1.1	1.5
1978	.9	1.2	.9	.9	.8	.7	.7	1.0	.8	.8	.9	1.0	1.4
1979	1.1	1.1	.8	.8	.9	.7	.8	1.4	1.3	1.1	1.2	1.5	1.7
1980	...	^{p}1.6	...	...	...	...	...	...	...	...	...	...	...

13. Labor turnover rates in manufacturing, by major industry group

[Per 100 employees]

Major industry group	Accession rates									Separation rates								
	Total			New hires			Recalls			Total			Quits			Layoffs		
	Jan. 1979	Dec. 1979	Jan. 1980^{p}	Jan. 1979	Dec. 1979	Jan. 1980^{p}	Jan. 1979	Dec. 1979	Jan. 1980^{p}	Jan. 1979	Dec. 1979	Jan. 1980^{p}	Jan. 1979	Dec. 1979	Jan. 1980^{p}	Jan. 1979	Dec. 1979	Jan. 1980^{p}
MANUFACTURING	4.0	2.2	3.8	2.8	1.5	2.4	0.9	0.5	1.1	3.8	3.5	4.1	1.8	1.1	1.6	1.1	1.7	1.6
Seasonally adjusted	4.3	4.0	4.1	3.3	3.0	2.9	...	...	...	4.1	4.0	4.2	2.3	1.9	2.0	.9	1.2	1.3
Durable goods	3.8	1.9	3.5	2.7	1.3	2.1	.7	.5	1.0	3.5	3.2	3.9	1.6	.9	1.4	.9	1.6	1.6
Lumber and wood products	5.1	2.4	5.2	4.1	1.7	3.2	.8	.6	1.7	5.9	6.0	6.0	3.0	1.8	2.6	1.8	3.3	2.6
Furniture and fixtures	5.5	2.5	4.6	4.9	1.8	3.6	.4	.6	.7	5.2	3.5	5.0	3.3	1.6	2.5	.8	1.2	1.4
Stone, clay, and glass products	3.7	1.9	3.7	2.4	1.2	1.9	1.1	.5	1.8	4.9	4.8	5.0	1.7	1.1	1.4	2.3	3.0	2.7
Primary metal industries	2.9	1.9	3.0	1.8	.7	1.2	.8	.9	1.5	2.5	3.3	3.2	.9	.5	.7	.6	2.0	1.6
Fabricated metal products	4.0	2.1	4.0	3.1	1.5	2.5	.8	.5	1.2	3.9	3.4	4.4	1.8	1.1	1.6	1.1	1.6	2.0
Machinery, except electrical	3.3	1.8	2.8	2.7	1.3	2.0	.4	.3	.5	2.5	1.9	2.7	1.3	.7	1.2	.4	.6	.7
Electric and electronic equipment	3.6	2.0	3.0	2.6	1.4	2.1	.6	.3	.5	3.2	2.2	3.3	1.5	.9	1.4	.7	.6	1.0
Transportation equipment	3.7	1.6	...	2.1	.7	...	1.0	.6	...	3.2	3.5	...	1.1	.5	...	1.1	2.4	...
Instruments and related products	2.9	1.8	3.1	2.4	1.5	2.5	.3	.1	.3	2.5	1.9	2.7	1.4	.9	1.6	.3	.5	.4
Miscellaneous manufacturing	5.6	2.2	5.4	3.5	1.7	3.1	2.0	.5	2.0	5.8	6.5	6.3	2.5	1.4	2.1	2.1	4.4	3.3
Nondurable goods	4.3	2.6	4.2	3.0	1.8	2.7	1.1	.7	1.3	4.3	4.0	4.4	2.1	1.4	2.0	1.3	1.9	1.6
Food and kindred products	5.3	3.4	4.8	3.4	2.3	2.9	1.6	1.0	1.6	5.9	6.1	6.0	2.6	2.0	2.4	2.4	3.4	2.6
Tobacco manufacturers	2.4	4.2	...	.9	1.2	...	.8	2.6	...	5.3	3.0	...	.7	.5	...	3.6	1.9	...
Textile mill products	4.5	2.4	4.7	3.4	1.8	3.6	.7	.3	.8	4.5	3.4	4.6	2.7	1.6	2.6	.8	1.1	.9
Apparel and other products	6.2	3.1	6.9	3.8	1.9	4.0	2.2	1.1	2.7	6.0	5.4	5.9	3.0	1.8	3.0	2.2	3.0	2.2
Paper and allied products	2.6	1.7	2.7	1.8	1.0	1.5	.7	.5	1.0	2.7	2.6	2.8	1.2	.7	1.0	.8	1.3	1.0
Printing and publishing	3.6	2.7	3.4	2.9	2.1	2.8	.5	.5	.5	3.4	2.9	3.3	1.9	1.6	1.8	.8	.7	.8
Chemicals and allied products	1.7	1.1	1.6	1.3	.8	1.2	.3	.2	.3	1.7	1.3	1.7	.7	.5	.7	.4	.4	.4
Petroleum and coal products	2.0	1.2	1.7	1.7	1.0	1.4	.2	.1	.2	2.0	2.1	2.3	.7	.5	.7	.5	1.2	.6
Rubber and miscellaneous plastics products	5.1	2.7	4.5	3.8	1.6	2.7	1.0	.8	1.5	4.4	4.4	5.2	2.4	1.6	1.9	.9	2.1	2.2
Leather and leather products	6.9	3.8	7.0	4.3	2.5	4.2	2.1	1.0	2.6	6.5	5.9	7.4	3.7	2.4	3.2	1.8	2.8	3.1

14. Hours and earnings, by industry division, 1948–79

[Gross averages, production or nonsupervisory workers on nonagricultural payrolls]

Year	Average weekly earnings	Average weekly hours	Average hourly earnings	Average weekly earnings	Average weekly hours	Average hourly earnings	Average weekly earnings	Average weekly hours	Average hourly earnings	Average weekly earnings	Average weekly hours	Average hourly earnings
	Total private			Mining			Construction			Manufacturing		
1948	$49.00	40.0	$1.225	$65.56	39.4	$1.664	$65.27	38.1	$1.713	$53.12	40.0	$1.328
1949	50.24	39.4	1.275	62.33	36.3	1.717	67.56	37.7	1.792	53.88	39.1	1.378
1950	53.13	39.8	1.335	67.16	37.9	1.772	69.68	37.4	1.863	58.32	40.5	1.440
1951	57.86	39.9	1.45	74.11	38.4	1.93	76.96	38.1	2.02	63.34	40.6	1.56
1952	60.65	39.9	1.52	77.59	38.6	2.01	82.86	38.9	2.13	66.75	40.7	1.64
1953	63.76	39.6	1.61	83.03	38.8	2.14	86.41	37.9	2.28	70.47	40.5	1.74
1954	64.52	39.1	1.65	82.60	38.6	2.14	88.91	37.2	2.39	70.49	39.6	1.78
1955	67.72	39.6	1.71	89.54	40.7	2.20	90.90	37.1	2.45	75.30	40.7	1.85
1956	70.74	39.3	1.80	95.06	40.8	2.33	96.38	37.5	2.57	78.78	40.4	1.95
1957	73.33	38.8	1.89	98.25	40.1	2.45	100.27	37.0	2.71	81.19	39.8	2.04
1958	75.08	38.5	1.95	96.08	38.9	2.47	103.78	36.8	2.82	82.32	39.2	2.10
1959[1]	78.78	39.0	2.02	103.68	40.5	2.56	108.41	37.0	2.93	88.26	40.3	2.19
1960	80.67	38.6	2.09	105.04	40.4	2.60	112.67	36.7	3.07	89.72	39.7	2.26
1961	82.60	38.6	2.14	106.92	40.5	2.64	118.08	36.9	3.20	92.34	39.8	2.32
1962	85.91	38.7	2.22	110.70	41.0	2.70	122.47	37.0	3.31	96.56	40.4	2.39
1963	88.46	38.8	2.28	114.40	41.6	2.75	127.19	37.3	3.41	99.23	40.5	2.45
1964	91.33	38.7	2.36	117.74	41.9	2.81	132.06	37.2	3.55	102.97	40.7	2.53
1965	95.45	38.8	2.46	123.52	42.3	2.92	138.38	37.4	3.70	107.53	41.2	2.61
1966	98.82	38.6	2.56	130.24	42.7	3.05	146.26	37.6	3.89	112.19	41.4	2.71
1967	101.84	38.0	2.68	135.89	42.6	3.19	154.95	37.7	4.11	114.49	40.6	2.82
1968	107.73	37.8	2.85	142.71	42.6	3.35	164.49	37.3	4.41	122.51	40.7	3.01
1969	114.61	37.7	3.04	154.80	43.0	3.60	181.54	37.9	4.79	129.51	40.6	3.19
1970	119.83	37.1	3.23	164.40	42.7	3.85	195.45	37.3	5.24	133.33	39.8	3.35
1971	127.31	36.9	3.45	172.14	42.4	4.06	211.67	37.2	5.69	142.44	39.9	3.57
1972	136.90	37.0	3.70	189.14	42.6	4.44	221.19	36.5	6.06	154.71	40.5	3.82
1973	145.39	36.9	3.94	201.40	42.4	4.75	235.89	36.8	6.41	166.46	40.7	4.09
1974	154.76	36.5	4.24	219.14	41.9	5.23	249.25	36.6	6.81	176.80	40.0	4.42
1975	163.53	36.1	4.53	249.31	41.9	5.95	266.08	36.4	7.31	190.79	39.5	4.83
1976	175.45	36.1	4.86	273.90	42.4	6.46	283.73	36.8	7.71	209.32	40.1	5.22
1977	189.00	36.0	5.25	301.20	43.4	6.94	295.65	36.5	8.10	228.90	40.3	5.68
1978	203.70	35.8	5.69	332.11	43.3	7.67	318.32	36.8	8.65	249.27	40.4	6.17
1979	219.91	39.7	6.16	364.64	43.0	8.48	341.69	36.9	9.26	268.94	40.2	6.69
	Transportation and public utilities			Wholesale and retail trade			Finance, insurance, and real estate			Services		
1948	......	......	......	$40.80	40.4	$1.010	$45.48	37.9	$1.200	......	......	......
1949	......	......	......	42.93	40.5	1.060	47.63	37.8	1.260	......	......	......
1950	......	......	......	44.55	40.5	1.100	50.52	37.7	1.340	......	......	......
1951	......	......	......	47.79	40.5	1.18	54.67	37.7	1.45	......	......	......
1952	......	......	......	49.20	40.0	1.23	57.08	37.8	1.51	......	......	......
1953	......	......	......	51.35	39.5	1.30	59.57	37.7	1.58	......	......	......
1954	......	......	......	53.33	39.5	1.35	62.04	37.6	1.65	......	......	......
1955	......	......	......	55.16	39.4	1.40	63.92	37.6	1.70	......	......	......
1956	......	......	......	57.48	39.1	1.47	65.68	36.9	1.78	......	......	......
1957	......	......	......	59.60	38.7	1.54	67.53	36.7	1.84	......	......	......
1958	......	......	......	61.76	38.6	1.60	70.12	37.1	1.89	......	......	......
1959[1]	......	......	......	64.41	38.8	1.66	72.74	37.3	1.95	......	......	......
1960	......	......	......	66.01	38.6	1.71	75.14	37.2	2.02	......	......	......
1961	......	......	......	67.41	38.3	1.76	77.12	36.9	2.09	......	......	......
1962	......	......	......	69.91	38.2	1.83	80.94	37.3	2.17	......	......	......
1963	......	......	......	72.01	38.1	1.89	84.38	37.5	2.25	......	......	......
1964	$118.78	41.1	$2.89	74.66	37.9	1.97	85.79	37.3	2.30	$70.03	36.1	$1.94
1965	125.14	41.3	3.03	76.91	37.7	2.04	88.91	37.2	2.39	73.60	35.9	2.05
1966	128.13	41.2	3.11	79.39	37.1	2.14	92.13	37.3	2.47	77.04	35.5	2.17
1967	130.82	40.5	3.23	82.35	36.6	2.25	95.72	37.1	2.58	80.38	35.1	2.29
1968	138.85	40.6	3.42	87.00	36.1	2.41	101.75	37.0	2.75	83.97	34.7	2.42
1969	147.74	40.7	3.63	91.39	35.7	2.56	108.70	37.1	2.93	90.57	34.7	2.61
1970	155.93	40.5	3.85	96.02	35.3	2.72	112.67	36.7	3.07	96.66	34.4	2.81
1971	168.82	40.1	4.21	101.09	35.1	2.88	117.85	36.6	3.22	103.06	33.9	3.04
1972	187.86	40.4	4.65	106.45	34.9	3.05	122.98	36.6	3.36	110.85	33.9	3.27
1973	203.31	40.5	5.02	111.76	34.6	3.23	129.20	36.6	3.53	117.29	33.8	3.47
1974	217.48	40.2	5.41	119.02	34.2	3.48	137.61	36.5	3.77	126.00	33.6	3.75
1975	233.44	39.7	5.88	126.45	33.9	3.73	148.19	36.5	4.06	134.67	33.5	4.02
1976	256.71	39.8	6.45	133.79	33.7	3.97	155.43	36.4	4.27	143.52	33.3	4.31
1977	278.90	39.9	6.99	142.52	33.3	4.28	165.26	36.4	4.54	153.45	33.0	4.65
1978	302.80	40.0	7.57	153.64	32.9	4.67	178.36	36.4	4.90	163.67	32.8	4.99
1979	326.38	39.9	8.18	164.96	32.6	5.06	191.66	36.3	5.28	175.27	32.7	5.36

[1] Data include Alaska and Hawaii beginning in 1959

15. Weekly hours, by industry division and major manufacturing group

[Gross averages, production or nonsupervisory workers on private nonagricultural payrolls]

Industry division and group	Annual Average		1979											1980	
	1978	1979	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.p	Feb.p
TOTAL PRIVATE	35.8	35.7	35.4	35.7	35.1	35.5	35.9	36.0	36.0	35.8	35.7	35.6	35.9	35.1	35.1
MINING	43.3	43.0	42.6	42.9	42.6	42.8	43.3	41.7	43.1	43.5	43.7	43.7	43.9	43.2	43.0
CONSTRUCTION	36.8	36.9	35.4	37.0	35.5	37.2	37.9	37.7	38.0	37.9	37.6	36.5	37.1	34.9	35.5
MANUFACTURING	40.4	40.2	40.2	40.6	38.9	40.1	40.4	39.9	40.0	40.3	40.3	40.4	40.9	39.8	39.7
Overtime hours	3.6	3.3	3.5	3.6	2.5	3.3	3.4	3.2	3.3	3.6	3.4	3.4	3.4	3.0	2.9
Durable goods	41.1	40.8	41.1	41.4	39.3	40.8	41.0	40.4	40.4	40.8	40.8	40.8	41.6	40.4	40.3
Overtime hours	3.8	3.5	3.9	3.9	2.6	3.6	3.6	3.4	3.4	3.6	3.5	3.5	3.5	3.1	3.0
Lumber and wood products	39.8	39.5	39.0	39.7	39.1	39.6	40.2	39.4	39.9	40.1	39.8	38.8	39.2	38.4	38.3
Furniture and fixtures	39.3	38.6	38.1	39.0	37.5	38.2	38.8	38.0	38.6	39.0	39.3	39.2	39.9	38.5	38.3
Stone, clay, and glass products	41.6	41.5	40.6	41.8	41.1	41.9	42.1	41.5	41.7	41.7	41.7	41.7	41.8	40.1	39.9
Primary metal industries	41.8	41.4	42.1	41.9	41.7	41.4	41.6	41.3	40.8	41.3	40.9	40.7	40.9	40.6	40.5
Fabricated metal products	41.0	40.8	40.9	41.3	38.8	40.7	41.0	40.3	40.5	40.8	41.0	41.0	41.9	40.6	40.4
Machinery except electrical	42.0	41.8	42.5	42.6	40.3	41.7	42.0	41.2	41.3	41.9	41.6	41.9	42.8	41.4	41.4
Electric and electronic equipment	40.3	40.3	40.5	40.7	38.8	40.2	40.5	39.6	39.7	40.5	40.3	40.9	41.3	40.3	40.1
Transportation equipment	42.2	41.2	42.1	42.3	37.9	41.6	41.3	40.9	40.5	40.7	41.3	40.8	42.6	40.4	40.7
Instruments and related products	40.9	40.8	41.0	41.3	40.0	40.8	40.7	40.3	40.3	40.7	40.8	41.4	41.6	41.1	40.7
Miscellaneous manufacturing	38.8	38.9	38.6	39.2	37.6	38.5	39.0	38.7	38.9	39.3	39.3	39.6	39.7	39.0	39.2
Nondurable goods	39.4	39.3	38.9	39.3	38.2	39.1	39.4	39.2	39.4	39.6	39.4	39.6	39.9	39.0	38.8
Overtime hours	3.2	3.1	3.0	3.1	2.5	2.9	3.0	3.0	3.2	3.5	3.2	3.3	3.2	2.9	2.8
Food and kindred products	39.7	39.9	39.2	39.6	39.0	39.6	39.8	40.1	40.3	40.6	40.0	40.2	40.3	39.4	38.9
Tobacco manufactures	38.1	38.0	36.2	38.1	37.6	38.9	39.0	36.1	37.6	39.1	38.8	39.0	39.5	37.4	36.1
Textile mill products	40.4	40.3	39.9	40.4	38.6	40.1	40.6	39.9	40.3	40.8	40.8	41.3	41.5	40.9	40.9
Apparel and other textile products	35.6	35.2	34.9	35.4	33.9	35.1	35.6	35.4	35.6	35.4	35.5	35.6	35.9	35.2	35.3
Paper and allied products	42.9	42.6	42.2	42.6	41.5	42.4	42.8	42.5	42.6	42.7	42.6	42.9	43.5	42.6	42.1
Printing and publishing	37.6	37.5	37.3	37.7	36.8	37.3	37.4	37.4	37.9	37.9	37.5	37.9	38.1	37.3	37.0
Chemicals and allied products	41.9	41.8	41.7	41.9	41.9	41.8	41.8	41.7	41.8	41.8	41.7	42.1	42.2	41.6	41.5
Petroleum and coal products	43.6	43.8	42.7	43.8	43.9	43.7	43.4	44.1	43.6	44.7	44.1	44.8	43.4	36.0	41.9
Rubber and miscellaneous plastics products	40.9	40.5	41.2	41.4	39.4	40.5	40.7	40.2	40.0	40.5	40.5	40.3	40.7	40.3	39.6
Leather and leather products	37.1	36.5	35.9	35.9	35.3	36.4	37.1	36.9	36.6	36.8	36.5	36.8	37.3	36.9	36.9
TRANSPORTATION AND PUBLIC UTILITIES	40.0	39.9	39.9	39.8	39.0	39.6	40.0	40.0	40.3	39.9	39.9	40.2	40.0	39.3	39.3
WHOLESALE AND RETAIL TRADE	32.9	32.6	32.1	32.4	32.5	32.4	32.9	33.3	33.2	32.7	32.5	32.4	32.9	31.8	31.8
WHOLESALE TRADE	38.8	38.6	38.4	38.9	38.6	38.9	39.0	39.0	38.9	38.8	38.9	38.9	39.1	38.4	38.3
RETAIL TRADE	31.0	30.7	30.1	30.3	30.6	30.4	31.0	31.5	31.4	30.7	30.4	30.4	31.0	29.7	29.7
FINANCE, INSURANCE, AND REAL ESTATE	36.4	36.3	36.4	36.3	36.4	36.1	36.2	36.4	36.2	36.3	36.3	36.4	36.4	36.3	36.3
SERVICES	32.8	32.7	32.4	32.6	32.5	32.5	32.9	33.3	33.2	32.7	32.6	32.6	32.8	32.5	32.5

16. Weekly hours, by industry division and major manufacturing group, seasonally adjusted

[Gross averages, production or nonsupervisory workers on private nonagricultural payrolls]

Industry division and group	1979											1980	
	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.[p]	Feb.[p]
TOTAL PRIVATE	35.7	35.9	35.3	35.7	35.6	35.6	35.6	35.7	35.6	35.7	35.7	35.6	35.4
MINING	43.1	43.1	42.9	42.8	43.0	41.6	43.2	43.1	43.1	43.2	43.9	44.2	43.5
CONSTRUCTION	36.6	37.1	35.5	37.1	37.2	36.8	37.2	37.5	36.6	36.8	37.1	37.4	36.7
MANUFACTURING	40.6	40.6	39.1	40.2	40.1	40.2	40.1	40.2	40.2	40.1	40.2	40.3	40.1
Overtime hours	3.7	3.7	2.7	3.5	3.4	3.3	3.2	3.2	3.2	3.3	3.2	3.2	3.1
Durable goods	41.4	41.4	39.5	40.9	40.7	40.7	40.7	40.7	40.8	40.6	40.7	40.9	40.6
Overtime hours	4.1	4.0	2.7	3.8	3.6	3.5	3.3	3.3	3.3	3.4	3.3	3.3	3.1
Lumber and wood products	39.6	40.0	39.1	39.4	39.4	39.3	39.5	39.7	39.4	38.9	39.0	39.8	38.9
Furniture and fixtures	38.8	39.1	38.1	38.5	38.5	38.4	38.3	38.6	38.8	38.9	39.0	39.1	39.0
Stone, clay, and glass products	41.6	42.0	41.2	41.7	41.6	41.4	41.3	41.5	41.3	41.5	41.6	41.3	40.8
Primary metal industries	42.2	42.0	41.8	41.4	41.2	41.3	41.0	41.0	41.1	40.7	40.6	40.7	40.6
Fabricated metal products	41.3	41.3	39.1	40.7	40.7	40.8	40.6	40.7	40.9	40.7	41.0	40.9	40.8
Machinery, except electrical	42.5	42.4	40.5	42.0	42.0	41.9	41.6	41.9	41.6	41.6	41.6	41.6	41.4
Electric and electronic equipment	40.7	40.7	39.0	40.4	40.3	40.2	39.8	40.3	40.3	40.6	40.5	40.5	40.3
Transportation equipment	42.7	42.3	37.9	41.5	40.8	40.9	41.7	40.6	41.3	40.6	41.0	41.3	41.2
Instruments and related products	41.2	41.2	40.3	40.8	40.6	40.7	40.5	40.6	40.7	41.0	40.8	41.6	40.9
Miscellaneous manufacturing	39.0	39.0	37.6	38.6	38.9	39.3	39.1	39.1	39.1	39.1	39.2	39.4	39.6
Nondurable goods	39.3	39.4	38.6	39.2	39.2	39.2	39.2	39.3	39.3	39.4	39.4	39.5	39.3
Overtime hours	3.2	3.3	2.7	3.0	3.0	3.0	3.0	3.1	3.0	3.2	3.1	3.1	3.0
Food and kindred products	39.8	40.0	39.6	39.8	39.8	39.8	39.7	40.0	39.9	40.0	39.9	39.9	39.5
Tobacco manufactures	36.9	38.0	37.6	38.9	37.6	38.5	38.0	38.6	38.3	37.8	38.8	38.5	36.8
Textile mill products	40.1	40.3	38.8	40.0	40.1	40.1	40.1	40.6	40.8	41.1	41.0	41.7	41.2
Apparel and other textile products	35.4	35.4	34.2	35.2	35.2	35.5	35.3	35.3	35.3	35.3	35.6	35.9	35.8
Paper and allied products	42.7	42.8	41.8	42.6	42.5	42.5	42.6	42.4	42.6	42.7	42.9	42.8	42.6
Printing and publishing	37.7	37.7	37.1	37.4	37.4	37.5	37.7	37.5	37.4	37.6	37.4	37.9	37.4
Chemicals and allied products	42.0	41.9	41.7	41.9	41.7	41.9	42.0	41.7	41.7	41.9	41.7	41.9	41.8
Petroleum and coal products	43.6	44.0	43.9	43.7	43.3	43.6	43.7	44.1	43.7	44.4	43.5	36.5	42.8
Rubber and miscellaneous plastics products	41.2	41.3	39.7	40.9	40.7	40.6	40.2	40.3	40.3	40.0	39.9	40.6	39.6
Leather and leather products	36.4	36.3	35.6	36.1	36.4	36.6	36.5	37.0	36.5	36.7	36.9	37.4	37.4
TRANSPORTATION AND PUBLIC UTILITIES	40.0	40.0	39.2	39.8	39.8	39.7	39.9	39.9	39.9	40.2	39.8	39.7	39.4
WHOLESALE AND RETAIL TRADE	32.5	32.7	32.8	32.6	32.6	32.6	32.5	32.6	32.6	32.7	32.6	32.4	32.2
WHOLESALE TRADE	38.7	39.0	38.7	39.0	38.8	38.8	38.7	38.7	38.8	38.9	38.9	38.7	38.6
RETAIL TRADE	30.6	30.7	30.9	30.6	30.6	30.6	30.5	30.7	30.6	30.7	30.6	30.4	30.2
FINANCE, INSURANCE, AND REAL ESTATE	36.4	36.4	36.5	36.1	36.2	36.3	36.1	36.4	36.2	36.5	36.4	36.2	36.3
SERVICES	32.6	32.8	32.7	32.7	32.7	32.8	32.7	32.7	32.6	32.7	32.9	32.7	32.7

17. Hourly earnings, by industry division and major manufacturing group

[Gross averages, production or nonsupervisory workers on private nonagricultural payrolls]

Industry division and group	Annual average		1979											1980	
	1978	1979	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.^{p}	Feb.^{p}
TOTAL PRIVATE	$5.69	$6.16	$6.00	$6.02	$6.03	$6.09	$6.12	$6.16	$6.19	$6.31	$6.32	$6.35	$6.39	$6.42	$6.46
MINING	7.67	8.48	8.21	8.27	8.54	8.45	8.49	8.52	8.48	8.57	8.57	8.70	8.73	8.87	8.91
CONSTRUCTION	8.65	9.26	9.02	8.97	9.02	9.14	9.13	9.24	9.32	9.51	9.49	9.50	9.57	9.49	9.63
MANUFACTURING	6.17	6.69	6.52	6.56	6.54	6.63	6.66	6.71	6.69	6.80	6.82	6.86	6.97	6.95	6.98
Durable goods	6.58	7.12	6.96	6.99	6.95	7.07	7.11	7.15	7.12	7.24	7.25	7.29	7.41	7.37	7.44
Lumber and wood products	5.60	6.08	5.83	5.84	5.90	5.97	6.16	6.23	6.23	6.32	6.24	6.23	6.25	6.20	6.36
Furniture and fixtures	4.68	5.06	4.93	4.95	4.94	4.97	5.05	5.04	5.10	5.18	5.20	5.23	5.27	5.26	5.29
Stone, clay, and glass products	6.32	6.84	6.58	6.64	6.73	6.78	6.85	6.89	6.90	6.98	7.00	7.07	7.10	7.06	7.11
Primary metal industries	8.20	8.97	8.75	8.75	8.92	8.83	8.91	9.04	9.10	9.16	9.10	9.26	9.28	9.26	9.35
Fabricated metal products	6.34	6.82	6.65	6.72	6.62	6.77	6.81	6.80	6.83	6.93	6.96	6.99	7.12	7.06	7.12
Machinery, except electrical	6.77	7.33	7.16	7.19	7.10	7.25	7.34	7.35	7.35	7.48	7.45	7.51	7.65	7.64	7.67
Electric and electronic equipment	5.82	6.31	6.13	6.16	6.11	6.21	6.25	6.27	6.36	6.46	6.48	6.51	6.64	6.66	6.71
Transportation equipment	7.91	8.53	8.35	8.42	8.26	8.56	8.53	8.55	8.44	8.59	8.67	8.68	8.90	8.77	8.83
Instruments and related products	5.71	6.17	6.02	6.04	6.03	6.11	6.11	6.16	6.14	6.21	6.32	6.39	6.49	6.57	6.62
Miscellaneous manufacturing	4.69	5.04	4.95	4.95	4.96	5.00	4.99	5.03	5.04	5.07	5.12	5.15	5.22	5.30	5.31
Nondurable goods	5.53	6.00	5.82	5.85	5.90	5.91	5.94	6.03	6.04	6.11	6.14	6.21	6.26	6.28	6.27
Food and kindred products	5.80	6.27	6.10	6.12	6.19	6.22	6.22	6.28	6.28	6.33	6.36	6.51	6.56	6.63	6.66
Tobacco manufactures	6.13	6.69	6.53	6.64	6.80	6.83	6.82	6.83	6.59	6.54	6.43	7.01	7.04	7.06	7.14
Textile mill products	4.30	4.66	4.51	4.52	4.48	4.52	4.54	4.65	4.77	4.82	4.83	4.86	4.87	4.90	4.91
Apparel and other textile products	3.94	4.24	4.17	4.19	4.19	4.20	4.21	4.23	4.21	4.28	4.32	4.32	4.39	4.44	4.43
Paper and allied products	6.52	7.12	6.83	6.88	6.92	6.96	7.05	7.17	7.22	7.32	7.34	7.42	7.48	7.46	7.47
Printing and publishing	6.50	6.91	6.73	6.77	6.72	6.83	6.88	6.90	6.94	7.04	7.06	7.09	7.17	7.21	7.21
Chemicals and allied products	7.01	7.59	7.32	7.36	7.50	7.47	7.53	7.60	7.65	7.73	7.82	7.87	7.91	7.94	7.95
Petroleum and coal products	8.63	9.37	9.10	9.31	9.44	9.39	9.32	9.39	9.35	9.51	9.49	9.57	9.49	9.54	9.53
Rubber and miscellaneous plastics products	5.52	5.96	5.84	5.86	5.82	5.90	5.91	5.95	5.94	6.03	6.12	6.14	6.21	6.25	6.24
Leather and leather products	3.89	4.23	4.14	4.17	4.18	4.18	4.19	4.19	4.22	4.29	4.31	4.34	4.36	4.45	4.46
TRANSPORTATION AND PUBLIC UTILITIES	7.57	8.18	7.92	7.90	7.88	7.94	8.03	8.23	8.32	8.45	8.45	8.52	8.55	8.54	8.57
WHOLESALE AND RETAIL TRADE	4.67	5.06	4.97	4.98	5.00	5.00	5.02	5.05	5.06	5.13	5.15	5.18	5.18	5.34	5.36
WHOLESALE TRADE	5.88	6.39	6.21	6.23	6.30	6.29	6.34	6.39	6.41	6.51	6.51	6.57	6.68	6.72	6.75
RETAIL TRADE	4.20	4.53	4.47	4.47	4.49	4.49	4.50	4.51	4.52	4.58	4.59	4.62	4.61	4.77	4.78
FINANCE, INSURANCE, AND REAL ESTATE	4.90	5.28	5.19	5.16	5.23	5.22	5.22	5.29	5.29	5.38	5.37	5.42	5.49	5.57	5.61
SERVICES	4.99	5.36	5.27	5.26	5.29	5.27	5.27	5.29	5.30	5.45	5.48	5.54	5.60	5.65	5.68

18. Hourly Earnings Index for production or nonsupervisory workers on private nonagricultural payrolls, by industry division

[Seasonally adjusted data: 1967 = 100]

Industry	1979											1980		Percent change	
	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.^{p}	Feb.^{p}	Jan. 1980 to Feb. 1980	Feb. 1979 to Feb. 1980
TOTAL PRIVATE (in current dollars)	224.0	225.2	226.8	227.5	229.0	230.9	232.2	234.3	234.9	237.3	239.5	240.3	242.2	0.8	8.1
Mining	253.7	256.1	264.1	262.7	264.9	266.9	265.6	266.1	268.0	271.6	273.2	274.2	275.5	.5	8.6
Construction	216.7	216.5	218.1	220.4	220.4	222.1	223.1	224.4	224.0	225.8	227.6	225.4	230.7	2.3	6.5
Manufacturing	227.2	228.7	231.0	232.3	233.9	235.4	236.9	238.7	240.0	242.1	244.3	244.9	247.3	1.0	8.9
Transportation and public utilities	241.7	243.1	241.7	243.7	246.4	251.3	252.6	255.6	255.8	258.9	260.7	260.5	262.0	.6	8.4
Wholesale and retail trade	218.1	219.4	220.9	221.0	222.6	223.8	225.4	227.0	227.4	229.5	231.3	234.5	235.4	.4	8.0
Finance, insurance, and real estate	204.2	204.8	207.5	207.0	208.0	210.8	211.5	214.4	213.1	216.2	218.5	219.5	220.9	.6	8.1
Services	222.2	223.3	225.0	224.3	225.7	227.0	228.4	231.5	232.3	234.7	237.7	238.1	239.2	.5	7.7
TOTAL PRIVATE (in constant dollars)	107.8	107.3	107.0	106.3	105.8	105.6	105.1	104.9	104.1	104.1	103.8	102.7	...	(1)	(1)

[1] Not available.

19. Weekly earnings, by industry division and major manufacturing group

[Gross averages, production or nonsupervisory workers on private nonagricultural payrolls][1]

Industry division and group	Annual average		1979											1980	
	1978	1979	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.[p]	Feb.[p]
TOTAL PRIVATE	$203.70	$219.91	$212.40	$214.91	$211.65	$216.20	$219.71	$221.76	$222.84	$225.90	$225.62	$226.06	$229.40	$225.34	$226.75
MINING	332.11	364.64	349.75	354.78	363.80	361.66	367.62	355.28	365.49	372.80	374.51	380.19	383.25	383.18	383.13
CONSTRUCTION	318.32	341.69	319.31	331.89	320.21	340.01	346.03	348.35	354.16	360.43	356.82	346.75	355.05	331.20	341.87
MANUFACTURING	249.27	268.94	262.10	266.34	254.41	265.86	269.06	267.73	267.60	274.04	274.85	277.14	285.07	276.61	277.11
Durable goods	270.44	290.50	286.06	289.39	273.14	288.46	291.51	288.86	287.65	295.39	295.80	297.43	308.26	297.75	299.83
Lumber and wood products	222.88	240.16	227.37	231.85	230.69	236.41	247.63	245.46	248.58	253.43	248.35	241.72	245.00	238.08	243.59
Furniture and fixtures	183.92	195.32	187.83	193.05	185.25	189.85	195.94	191.52	196.86	202.02	204.36	205.02	210.27	202.51	202.61
Stone, clay, and glass products	262.91	283.86	267.15	277.55	276.60	284.08	288.39	285.94	287.73	291.07	291.90	294.82	296.78	283.11	283.69
Primary metal industries	342.76	371.36	368.38	366.63	371.96	365.56	370.66	373.35	371.28	378.31	372.19	376.88	379.55	375.96	378.68
Fabricated metal products	259.94	278.26	271.99	277.54	256.86	275.54	279.21	274.04	276.62	282.74	285.36	286.59	298.33	286.64	287.65
Machinery except electrical	284.34	306.39	304.30	306.29	286.13	302.33	308.28	302.82	303.56	313.41	309.92	314.67	327.42	316.30	317.54
Electric and electronic equipment	234.55	254.29	248.27	250.71	237.07	249.64	253.13	248.29	252.49	261.63	261.14	266.26	274.23	268.40	269.07
Transportation equipment	333.80	351.44	351.54	356.17	313.05	356.10	352.29	349.70	341.82	349.61	358.07	354.14	379.14	354.31	359.38
Instruments and related products	233.54	251.74	246.82	249.45	241.20	249.29	248.68	248.25	247.44	252.75	257.86	264.55	269.96	270.03	269.43
Miscellaneous manufacturing	181.97	196.06	191.07	194.04	186.50	192.50	194.61	194.66	196.06	199.25	201.22	203.94	207.23	206.70	208.15
Nondurable goods	217.88	235.80	226.40	229.91	225.38	231.08	234.04	236.38	237.98	241.96	241.92	245.92	249.77	244.92	243.28
Food and kindred products	230.26	250.17	239.12	242.35	241.41	246.31	247.56	251.83	253.08	257.00	254.40	261.70	264.37	261.22	259.07
Tobacco manufactures	233.55	254.22	236.39	252.98	255.68	265.69	265.98	246.56	247.78	255.71	249.48	273.39	278.08	264.04	257.75
Textile mill products	173.72	187.80	179.50	182.61	172.93	181.25	184.32	185.54	192.23	196.66	197.06	200.72	202.11	200.41	200.82
Apparel and other textile products	140.26	149.25	145.53	148.33	142.04	147.42	149.88	149.74	149.88	151.51	153.36	153.79	157.60	156.29	156.38
Paper and allied products	279.71	303.31	288.23	293.09	287.87	295.10	302.74	304.73	307.57	312.56	312.68	318.32	325.38	317.80	314.49
Printing and publishing	244.40	259.13	251.03	255.23	247.30	254.76	257.31	258.06	263.03	266.82	264.75	268.71	273.18	268.93	266.77
Chemicals and allied products	293.72	317.26	305.24	308.38	314.25	312.25	314.75	316.92	319.77	323.11	326.09	331.33	333.80	330.30	329.93
Petroleum and coal products	376.27	410.41	388.57	407.78	414.42	410.34	404.49	414.10	407.66	425.10	418.51	428.74	411.87	343.44	399.31
Rubber and miscellaneous plastics products	225.77	241.38	240.61	242.60	229.31	238.95	240.54	239.19	237.60	244.22	247.86	247.44	252.75	251.88	247.10
Leather and leather products	144.32	154.40	148.63	149.70	147.55	152.15	155.45	154.61	154.45	157.87	157.32	159.71	162.63	164.21	164.57
TRANSPORTATION AND PUBLIC UTILITIES	302.80	326.38	316.01	314.42	307.32	314.42	321.20	329.20	335.30	337.16	337.16	342.50	342.00	335.62	336.80
WHOLESALE AND RETAIL TRADE	153.64	164.96	159.54	161.35	162.50	162.00	165.16	168.17	167.99	167.75	167.38	167.83	170.42	169.81	170.45
WHOLESALE TRADE	228.14	247.93	238.46	242.35	243.18	244.68	247.26	249.21	249.35	252.59	253.24	255.57	261.19	258.05	258.53
RETAIL TRADE	130.20	139.07	134.55	135.44	137.39	136.50	139.50	142.07	141.93	140.61	139.54	140.45	142.91	141.67	141.97
FINANCE, INSURANCE, AND REAL ESTATE	178.36	191.66	188.92	187.31	190.37	188.44	188.96	192.56	191.50	195.29	194.93	197.29	199.84	202.19	203.64
SERVICES	163.67	175.27	170.75	171.48	171.93	171.28	173.38	176.16	175.96	178.22	178.65	180.60	183.68	183.63	184.60

20. Gross and spendable weekly earnings, in current and 1967 dollars, 1960 to date

[Averages for production or nonsupervisory workers on private nonagricultural payrolls]

Year and month	Private nonagricultural workers						Manufacturing workers					
	Gross average weekly earnings		Spendable average weekly earnings				Gross average weekly earnings		Spendable average weekly earnings			
			Worker with no dependents		Married worker with 3 dependents				Worker with no dependents		Married worker with 3 dependents	
	Current dollars	1967 dollars	Current dollars	1967 dollars	Current dollars	1967 dollars	Current dollars	1967 dollars	Current dollars	1967 dollars	Current dollars	1967 dollars
1960	$80.67	$90.95	$65.59	$73.95	$72.96	$82.25	$89.72	$101.15	$72.57	$81.82	$80.11	$90.32
1961	82.60	92.19	67.08	74.87	74.48	83.13	92.34	103.06	74.60	83.26	82.18	91.72
1962	85.91	94.82	69.56	76.78	76.99	84.98	96.56	106.58	77.86	85.94	85.53	94.40
1963	88.46	96.47	71.05	77.48	78.56	85.67	99.23	108.21	79.51	86.71	87.25	95.15
1964	91.33	98.31	75.04	80.78	82.57	88.88	102.97	110.84	84.40	90.85	92.18	99.22
1965	95.45	101.01	79.32	83.94	86.63	91.67	107.53	113.79	89.08	94.26	96.78	102.41
1966	98.82	101.67	81.29	83.63	88.66	91.21	112.19	115.42	91.45	94.08	99.33	102.19
1967	101.84	101.84	83.38	83.38	90.86	90.86	114.49	114.49	92.97	92.97	100.93	100.93
1968	107.73	103.39	86.71	83.21	95.28	91.44	122.51	117.57	97.70	93.76	106.75	102.45
1969	114.61	104.38	90.96	82.84	99.99	91.07	129.51	117.95	101.90	92.81	111.44	101.49
1970	119.83	103.04	96.21	82.73	104.90	90.20	133.33	114.64	106.32	91.42	115.58	99.38
1971	127.31	104.95	103.80	85.57	112.43	92.69	142.44	117.43	114.97	94.78	124.24	102.42
1972	136.90	109.26	112.19	89.54	121.68	97.11	154.71	123.47	125.34	100.03	135.57	108.20
1973	145.39	109.23	117.51	88.29	127.38	95.70	166.46	125.06	132.57	99.60	143.50	107.81
1974	154.76	104.78	124.37	84.20	134.61	91.14	176.80	119.70	140.19	94.92	151.56	102.61
1975	163.53	101.45	132.49	82.19	145.65	90.35	190.79	118.36	151.61	94.05	166.29	103.16
1976	175.45	102.90	143.30	84.05	155.87	91.42	209.32	122.77	167.83	98.43	181.32	106.35
1977	189.00	104.13	155.19	85.50	169.93	93.63	228.90	126.12	183.80	101.27	200.06	110.23
1978	203.70	104.30	165.39	84.69	180.71	92.53	249.27	127.63	197.40	101.08	214.87	110.02
1979	219.91	101.02	178.00	81.76	194.82	89.49	268.94	123.54	212.43	97.58	232.07	106.60
1979 February	212.40	102.56	172.53	83.31	188.98	91.25	262.10	126.56	207.69	100.28	226.89	109.56
March	214.91	102.68	174.35	83.30	190.93	91.22	266.34	127.25	210.65	100.66	230.10	109.94
April	211.65	99.93	171.98	81.20	188.39	88.95	254.41	120.12	202.32	95.52	221.05	104.37
May	216.20	100.89	175.29	81.80	191.93	89.56	265.86	124.06	210.04	98.14	229.74	107.20
June	219.71	101.30	177.85	82.00	194.67	89.75	269.08	124.05	212.51	97.98	232.17	107.04
July	221.76	101.08	179.35	81.75	196.26	89.45	267.73	122.03	211.61	96.45	231.16	105.36
August	222.84	100.60	180.13	81.32	197.11	88.99	267.60	120.81	211.52	95.49	231.06	104.32
September	225.90	100.98	182.36	81.52	199.42	89.15	274.04	122.50	215.89	96.51	235.94	105.47
October	225.62	100.01	182.16	80.74	199.21	88.30	274.85	121.83	216.44	95.94	236.56	104.86
November	226.06	99.32	182.48	80.18	199.54	87.67	277.14	121.77	217.99	95.78	238.30	104.70
December	229.40	99.74	184.84	80.37	202.08	87.86	285.07	123.94	223.38	97.12	244.31	106.22
1980 January^p	225.34	96.59	181.96	77.99	199.00	85.30	276.61	118.56	217.64	93.29	237.89	101.97
February^p	226.75	([1])	182.98	([1])	200.07	([1])	277.11	([1])	217.97	([1])	238.27	([1])

[1] Not available

NOTE: The earnings expressed in 1967 dollars have been adjusted for changes in price level as measured by the Bureau's Consumer Price Index for Urban Wage Earners and Clerical Workers.

These series are described in "The Spendable Earnings Series: A Technical Note on its Calculation", **Employment and Earnings and Monthly Report on the Labor Force,** February 1969, pp. 6-13. See also "Spendable Earnings Formulas, 1978-80" **Employment and Earnings,** March 1980, pp. 10-11.

UNEMPLOYMENT INSURANCE DATA

UNEMPLOYMENT INSURANCE DATA are compiled monthly by the Employment and Training Administration of the U.S. Department of Labor from records of State and Federal unemployment insurance claims filed and benefits paid. Railroad unemployment insurance data are prepared by the U.S. Railroad Retirement Board.

Definitions

Data for **all programs** represent an unduplicated count of insured unemployment under the State, Ex-Servicemen, and UCFE programs, and the Railroad Insurance Act.

Under both State and Federal unemployment insurance programs for civilian employees, insured workers must report the completion of at least 1 week of unemployment before they are defined as unemployed. Persons not covered by unemployment insurance (about one-third of the labor force) and those who have exhausted or not yet earned benefit rights are excluded from the scope of the survey. **Initial claims** are notices filed by persons in unemployment insurance programs to indicate they are out of work and wish to begin receiving compensation. A claimant who continued to be unemployed a full week is then counted in the insured unemployment figure. The **rate of insured unemployment** expresses the number of insured unemployed as a percent of the average insured employment in a 12-month period.

An **application** for benefits is filed by a railroad worker at the beginning of his first period of unemployment in a benefit year; no application is required for subsequent periods in the same year. **Number of payments** are payments made in 14-day registration periods. The **average amount of benefit payment** is an average for all compensable periods, not adjusted for recovery of overpayments or settlement of underpayments. However, **total benefits** paid have been adjusted.

21. Unemployment insurance and employment service operations

[All items except average benefits amounts are in thousands]

Item	1979												1980
	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.
All programs:													
Insured unemployment	3,198	3,209	2,921	2,610	2,230	2,119	2,429	2,377	2,164	2,236	2,559	3,047	3,740
State unemployment insurance program:[1]													
Initial claims[2]	2,421	1,576	1,396	1,589	1,309	1,400	1,978	1,545	1,219	1,641	1,826	2,246	.....
Insured unemployment (average weekly volume)	3,037	3,053	2,750	2,440	2,078	1,991	2,300	2,245	2,024	2,057	2,384	2,864	3,537
Rate of insured unemployment	3.9	4.0	3.6	3.1	2.6	2.5	2.8	2.7	2.4	2.4	2.8	3.4	4.1
Weeks of unemployment compensated	11,371	10,762	11,105	8,956	8,442	7,197	7,889	8,830	6,993	7,638	8,151	9,149	.....
Average weekly benefit amount for total unemployment	$88.28	$90.31	$90.28	$89.25	$88.37	$87.25	$86.40	$88.56	$89.07	$90.59	$92.23	$94.52	.....
Total benefits paid	$972,820	$915,146	$975,641	$777,699	$725,229	$610,269	$665,687	$767,025	$606,095	$673,965	$731,273	$841,643	.....
Unemployment compensation for ex-servicemen:[3]													
Initial claims[1]	24	21	21	20	20	24	28	28	23	26	24	24	.....
Insured unemployment (average weekly volume)	54	53	52	48	45	45	51	52	52	52	54	56	60
Weeks of unemployment compensated	262	219	241	207	214	193	216	234	211	236	232	233	.....
Total benefits paid	$24,425	$20,480	$22,794	$19,617	$20,440	$18,623	$20,965	$23,861	$19,634	$23,325	$23,143	$23,083	.....
Unemployment compensation for Federal civilian employees:[4]													
Initial claims	21	13	12	12	12	13	16	13	13	18	15	15	.....
Insured unemployment (average weekly volume)	37	35	33	27	24	23	25	25	25	28	29	31	34
Weeks of unemployment compensated	158	133	143	112	106	91	96	107	91	109	118	117	.....
Total benefits paid	$14,222	$12,256	$13,168	$10,345	$9,330	$8,341	$8,802	$9,829	$8,453	$10,093	$11,088	$11,120	.....
Railroad unemployment insurance:													
Applications	8	6	5	3	3	9	15	8	13	11	10	11	22
Insured unemployment (average weekly volume)	26	24	23	18	10	8	11	12	21	18	20	19	40
Number of payments	50	50	23	40	29	19	20	26	32	51	36	41	80
Average amount of benefit payment	$200.80	$200.54	$204.72	$195.56	$177.39	$183.13	$190.10	$195.61	$189.06	$189.61	$183.38	$197.22	$199.01
Total benefits paid	$9,634	$9,871	$10,538	$7,276	$5,661	$3,314	$3,699	$3,767	$5,747	$8,003	$6,462	$8,085	$14,967
Employment service:[5]													
New applications and renewals	5,630	.....	8,059	9,180	10,452	11,907	13,186	14,479	.....	.....	.....	.....	.....
Nonfarm placements	1,414	.....	1,991	2,291	2,816	3,061	3,482	3,935	.....	.....	.....	.....	.....

[1] Initial claims and State insured unemployment include data under the program for Puerto Rican sugarcane workers.

[2] Includes interstate claims for the Virgin Islands. Excludes transition claims under State programs.

[3] Excludes data on claims and payments made jointly with other programs.

[4] Includes the Virgin Islands. Excludes data on claims and payments made jointly with State programs.

[5] Cumulative total for fiscal year (October 1 - September 30).

NOTE: Data for Puerto Rico included. Dashes indicate data not available.

PRICE DATA

PRICE DATA are gathered by the Bureau of Labor Statistics from retail and primary markets in the United States. Price indexes are given in relation to a base period (1967 = 100, unless otherwise noted).

Definitions

The **Consumer Price Index** is a monthly statistical measure of the average change in prices in a fixed market basket of goods and services. Effective with the January 1978 index, the Bureau of Labor Statistics began publishing CPI's for two groups of the population. One index, a new CPI for All Urban Consumers, covers 80 percent of the total noninstitutional population; and the other index, a revised CPI for Urban Wage Earners and Clerical Workers, covers about half the new index population. The All Urban Consumers index includes, in addition to wage earners and clerical workers, professional, managerial, and technical workers, the self-employed, short-term workers, the unemployed, retirees, and others not in the labor force.

The CPI is based on prices of food, clothing, shelter, fuel, drugs, transportation fares, doctor's and dentist's fees, and other goods and services that people buy for day-to-day living. The quantity and quality of these items is kept essentially unchanged between major revisions so that only price changes will be measured. Prices are collected from over 18,000 tenants, 24,000 retail establishments, and 18,000 housing units for property taxes in 85 urban areas across the country. All taxes directly associated with the purchase and use of items are included in the index. Because the CPI's are based on the expenditures of two population groups in 1972–73, they may not accurately reflect the experience of individual families and single persons with different buying habits.

Though the CPI is often called the "Cost-of-Living Index," it measures only price change, which is just one of several important factors affecting living costs. Area indexes do not measure differences in the level of prices among cities. They only measure the average change in prices for each area since the base period.

Producer Price Indexes measure average changes in prices received in primary markets of the United States by producers of commodities in all stages of processing. The sample used for calculating these indexes contains about 2,800 commodities and about 10,000 quotations per month selected to represent the movement of prices of all commodities produced in the manufacturing, agriculture, forestry, fishing, mining, gas and electricity, and public utilities sectors. The universe includes all commodities produced or imported for sale in commercial transactions in primary markets in the United States.

Producer Price Indexes can be organized by stage of processing or by commodity. The stage of processing structure organizes products by degree of fabrication (that is, finished goods, intermediate or semifinished goods, and crude materials). The commodity structure organizes products by similarity of end-use or material composition.

To the extent possible, prices used in calculating Producer Price Indexes apply to the first significant commercial transaction in the United States, from the production or central marketing point. Price data are generally collected monthly, primarily by mail questionnaire. Most prices are obtained directly from producing companies on a voluntary and confidential basis. Prices generally are reported for the Tuesday of the week containing the 13th day of the month.

In calculating Producer Price Indexes, price changes for the various commodities are averaged together with implicit quantity weights representing their importance in the total net selling value of all commodities as of 1972. The detailed data are aggregated to obtain indexes for stage of processing groupings, commodity groupings, durability of product groupings, and a number of special composite groupings.

Price indexes for the output of selected SIC industries measure average price changes in commodities produced by particular industries, as defined in the *Standard Industrial Classification Manual 1972* (Washington, U.S. Office of Management and Budget, 1972). These indexes are derived from several price series, combined to match the economic activity of the specified industry and weighted by the value of shipments in the industry. They use data from comprehensive industrial censuses conducted by the U.S. Bureau of the Census and the U.S. Department of Agriculture.

Notes on the data

Beginning with the May 1978 issue of the *Review*, regional CPI's cross classified by population size, were introduced. These indexes will enable users in local areas for which an index is not published to get a better approximation of the CPI for their area by using the appropriate population size class measure for their region. The cross-classified indexes will be published bimonthly. (See table 24.)

For further details about the new and the revised indexes and a comparison of various aspects of these indexes with the old unrevised CPI, see *Facts About the Revised Consumer Price Index*, a pamphlet in the Consumer Price Index Revision 1978 series. See also *The Consumer Price Index: Concepts and Content Over the Years*. Report 517, revised edition (Bureau of Labor Statistics, May 1978).

For interarea comparisons of living costs at three hypothetical standards of living, see the family budget data published in the *Handbook of Labor Statistics, 1977*, Bulletin 1966 (Bureau of Labor Statistics, 1977), tables 122–133. Additional data and analysis on price changes are provided in the *CPI Detailed Report* and *Producer Prices and Price Indexes*, both monthly publications of the Bureau.

As of January 1976, the Wholesale Price Index (as it was then called) incorporated a revised weighting structure reflecting 1972 values of shipments. From January 1967 through December 1975, 1963 values of shipments were used as weights.

For a discussion of the general method of computing consumer, producer, and industry price indexes, see *BLS Handbook of Methods for Surveys and Studies*, Bulletin 1910 (Bureau of Labor Statistics, 1976), chapters 13–15. See also John F. Early, "Improving the measurement of producer price change," *Monthly Labor Review*, April 1978, pp. 7–15. For industry prices, see also Bennett R. Moss, "Industry and Sector Price Indexes," *Monthly Labor Review*, August 1965, pp. 974–82.

22. Consumer Price index for Urban Wage Earners and Clerical Workers, annual averages and changes, 1967–79

[1967 = 100]

Year	All items		Food and beverages		Housing		Apparel and upkeep		Transportation		Medical care		Entertainment		Other goods and services	
	Index	Percent change	Index	Percent change	Index	Percent change	Index	Percent change	Index	Percent change	Index	Percent change	Index	Percent change	Index	Percent change
1967	100.0	...	100.0	...	100.0	...	100.0	...	100.0	...	100.0	...	100.0	...	100.0	...
1968	104.2	4.2	103.6	3.6	104.0	4.0	105.4	5.4	103.2	3.2	106.1	6.1	105.7	5.7	105.2	5.2
1969	109.8	5.4	108.8	5.0	110.4	6.2	111.5	5.8	107.2	3.9	113.4	6.9	111.0	5.0	110.4	4.9
1970	116.3	5.9	114.7	5.4	118.2	7.1	116.1	4.1	112.7	5.1	120.6	6.3	116.7	5.1	116.8	5.8
1971	121.3	4.3	118.3	3.1	123.4	4.4	119.8	3.2	118.6	5.2	128.4	6.5	122.9	5.3	122.4	4.8
1972	125.3	3.3	123.2	4.1	128.1	3.8	122.3	2.1	119.9	1.1	132.5	3.2	126.5	2.9	127.5	4.2
1973	133.1	6.2	139.5	13.2	133.7	4.4	126.8	3.7	123.8	3.3	137.7	3.9	130.0	2.8	132.5	3.9
1974	147.7	11.0	158.7	13.8	148.8	11.3	136.2	7.4	137.7	11.2	150.5	9.3	139.8	7.5	142.0	7.2
1975	161.2	9.1	172.1	8.4	164.5	10.6	142.3	4.5	150.6	9.4	168.6	12.0	152.2	8.9	153.9	8.4
1976	170.5	5.8	177.4	3.1	174.6	6.1	147.6	3.7	165.5	9.9	184.7	9.5	159.8	5.0	162.7	5.7
1977	181.5	6.5	188.0	6.0	186.5	6.8	154.2	4.5	177.2	7.1	202.4	9.6	167.7	4.9	172.2	5.8
1978	195.3	7.6	206.2	9.7	202.6	8.6	159.5	3.4	185.8	4.9	219.4	8.4	176.2	5.1	183.2	6.4
1979	217.7	11.5	228.7	10.9	227.5	12.3	166.4	4.3	212.8	14.5	240.1	9.4	187.6	6.5	196.3	7.2

23. Consumer Price Index for All Urban Consumers and revised CPI for Urban Wage Earners and Clerical Workers, U.S. city average—general summary and groups, subgroups, and selected items

[1967 = 100 unless otherwise specified]

General summary	All Urban Consumers							Urban Wage Earners and Clerical Workers (revised)						
	1979						1980	1979						1980
	Jan.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Jan.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.
All items	204.7	221.1	223.4	225.4	227.5	229.9	233.2	204.7	221.5	223.7	225.6	227.6	230.0	233.3
Food and beverages	218.3	230.2	231.0	232.1	233.1	235.5	237.5	218.3	230.4	231.2	232.3	233.1	235.7	237.8
Housing	213.1	231.5	234.6	237.7	240.8	243.6	247.3	212.8	231.5	234.5	237.7	240.7	243.6	247.3
Apparel and upkeep	160.7	166.3	169.8	171.0	171.7	172.2	171.0	161.1	166.2	169.3	170.8	171.3	171.4	169.8
Transportation	193.9	219.6	221.4	222.7	224.9	227.7	233.5	194.5	220.7	222.4	223.4	225.7	228.3	234.1
Medical care	230.7	241.8	243.7	245.9	248.0	250.7	253.9	230.2	242.6	244.7	247.2	249.1	251.7	254.9
Entertainment	182.3	190.2	191.1	192.0	192.8	193.4	195.3	182.1	188.9	190.2	191.4	192.0	192.3	193.9
Other goods and services	190.5	197.0	201.7	202.3	202.9	204.0	206.3	190.3	197.2	200.6	201.4	202.0	203.0	206.0
Commodities	195.8	212.2	214.1	215.6	217.4	219.4	222.4	195.9	212.6	214.4	215.8	217.4	219.4	222.3
Commodities less food and beverages	183.0	200.9	203.3	204.9	206.9	208.8	212.0	183.0	201.3	203.5	205.0	206.9	208.7	212.0
Nondurables less food and beverages	182.3	208.8	213.2	214.9	216.6	219.0	224.6	182.8	210.5	214.8	216.6	218.1	220.5	226.3
Durables	182.0	193.6	194.5	196.0	198.4	199.8	201.3	181.7	192.9	193.5	194.8	196.9	198.2	199.6
Services	221.1	237.6	240.7	243.6	246.2	249.3	253.1	221.0	237.9	241.0	244.0	246.7	249.6	253.6
Rent, residential	170.3	177.5	179.0	181.4	182.1	182.9	184.1	170.3	177.3	178.9	181.2	181.9	182.7	183.9
Household services less rent	247.5	272.8	276.7	280.7	284.6	289.2	295.1	247.7	274.1	278.2	282.3	286.3	291.1	297.2
Transportation services	204.3	214.9	216.6	218.5	221.5	224.2	226.8	204.9	215.3	216.8	218.6	221.5	224.0	226.6
Medical care services	248.3	260.6	262.8	265.3	267.6	270.7	274.4	247.4	261.2	263.8	266.8	268.8	271.8	275.6
Other services	192.8	200.5	204.7	205.7	206.5	207.1	209.0	193.2	201.2	204.9	206.4	207.3	207.4	209.3
Special indexes:														
All items less food	199.8	216.9	219.6	221.8	224.1	226.4	229.9	199.7	217.3	219.8	222.0	224.2	226.4	230.0
All items less mortgage interest costs	200.3	214.7	216.7	218.3	219.8	221.7	224.3	200.4	215.3	217.2	218.7	220.1	222.0	224.7
Commodities less food	181.9	199.5	201.8	203.4	205.4	207.2	210.4	181.9	199.9	202.0	203.5	205.4	207.1	210.3
Nondurables less food	180.3	205.4	209.6	211.3	212.9	215.2	220.5	180.8	207.0	211.0	212.9	214.4	216.7	222.1
Nondurables less food and apparel	193.7	228.3	232.7	234.8	236.8	240.1	248.6	193.9	229.7	234.2	236.3	238.2	241.5	250.2
Nondurables	201.0	220.4	223.1	224.5	225.8	228.2	232.0	201.4	221.3	223.9	225.3	226.5	229.0	232.9
Services less rent	230.4	248.8	252.1	255.1	258.2	261.6	266.1	230.3	249.2	252.6	255.7	258.8	262.1	266.7
Services less medical care	216.8	233.6	236.7	239.6	242.3	245.3	249.2	216.8	233.9	236.9	239.9	242.6	245.5	249.5
Domestically produced farm foods	213.3	223.5	223.7	224.1	224.5	227.5	229.2	213.3	223.4	223.6	224.0	224.4	227.5	229.0
Selected beef cuts	229.1	253.0	255.3	257.3	256.5	263.2	265.7	231.4	255.5	258.0	259.1	259.2	266.2	268.1
Energy	231.5	296.3	304.3	307.5	307.8	313.7	327.9	231.8	298.8	307.0	310.2	310.7	317.0	331.5
All items less energy	202.9	215.4	217.3	219.2	221.4	223.6	225.9	202.9	215.3	217.0	218.8	221.0	223.0	225.3
All items less food and energy	197.0	209.4	211.5	213.6	216.1	218.1	220.6	196.8	209.0	211.0	213.0	215.4	217.3	219.6
Commodities less food and energy	177.3	186.8	188.2	189.6	191.4	192.6	193.7	177.2	186.4	187.5	188.7	190.4	191.4	192.4
Energy commodities	226.4	314.5	325.3	329.0	332.5	340.0	361.5	226.9	315.8	326.5	330.2	333.8	341.5	362.8
Services less energy	219.7	235.4	238.4	241.3	244.6	247.6	251.6	219.6	235.7	238.7	241.7	245.1	248.0	252.2
Purchasing power of the consumer dollar, 1967 = $1	$0.489	$0.452	$0.448	$0.444	$0.440	$0.435	$0.429	$0.489	$0.451	$0.447	$0.443	$0.439	$0.435	$0.429

23. Continued—Consumer Price Index—U.S. city average

[1967 = 100 unless otherwise specified]

General summary	All Urban Consumers							Urban Wage Earners and Clerical Workers (revised)						
	1979						1980	1979						1980
	Jan.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Jan.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.
FOOD AND BEVERAGES	218.3	230.2	231.0	232.1	233.1	235.5	237.5	218.3	230.4	231.2	232.3	233.1	235.7	237.8
Food	223.9	236.3	237.1	238.2	239.1	241.7	243.8	223.9	236.5	237.3	238.3	239.1	241.8	244.0
Food at home	223.1	233.9	234.7	235.4	236.0	238.7	240.6	222.9	233.5	234.2	234.8	235.4	238.3	240.1
Cereals and bakery products	210.0	223.7	225.6	227.0	228.7	231.6	234.2	210.9	224.1	226.6	227.9	229.7	232.3	234.7
Cereals and cereal products (12/77 = 100)	112.6	118.5	120.0	120.8	121.1	122.9	125.0	112.8	119.0	120.6	121.4	122.1	123.8	126.1
Flour and prepared flour mixes (12/77 = 100)	113.0	122.5	123.4	124.0	122.8	123.8	125.7	114.1	123.3	125.1	125.0	124.6	125.1	126.9
Cereal (12/77 = 100)	112.1	118.0	118.8	119.2	119.7	122.8	123.7	112.2	118.5	118.7	119.3	119.9	122.9	124.2
Rice, pasta, and cornmeal (12/77 = 100)	112.9	115.7	118.6	120.4	121.6	122.2	126.4	112.3	115.8	119.1	120.8	122.7	123.9	127.9
Bakery products (12/77 = 100)	110.6	118.3	119.2	119.9	121.0	122.4	123.5	111.2	118.5	119.7	120.3	121.3	122.7	123.6
White bread	184.7	198.4	200.7	202.5	204.5	207.4	208.6	185.3	198.0	200.5	202.3	203.9	206.6	207.4
Other breads (12/77 = 100)	111.0	118.6	119.6	120.5	121.3	123.3	123.8	112.7	120.8	122.5	123.8	124.2	126.0	126.9
Fresh biscuits, rolls, and muffins (12/77 = 100)	111.8	118.1	119.0	119.4	121.2	123.1	124.8	111.5	117.7	118.6	118.7	120.8	122.3	123.1
Fresh cakes and cupcakes (12/77 = 100)	108.9	116.6	116.7	117.6	119.4	120.3	121.7	109.5	116.3	116.8	118.1	119.1	120.1	120.8
Cookies (12/77 = 100)	110.6	115.6	115.9	116.6	117.1	117.8	119.7	111.7	117.2	117.8	118.3	118.4	119.6	121.5
Crackers and bread and cracker products (12/77 = 100)	106.5	114.7	114.8	115.0	114.5	116.2	117.5	106.9	114.9	114.9	115.0	116.1	116.3	118.4
Fresh sweetrolls, coffeecake, and donuts (12/77 = 100)	108.3	117.5	118.8	118.9	119.9	121.5	122.2	110.1	119.3	121.6	120.7	121.9	123.4	124.1
Frozen and refrigerated bakery products and fresh pies, tarts, and turnovers (12/77 = 100)	111.9	120.8	121.7	122.5	123.7	124.8	125.7	111.0	117.1	118.6	118.8	120.8	121.4	122.5
Meats, poultry, fish, and eggs	223.3	230.2	231.0	230.3	230.2	235.5	238.0	223.3	229.6	230.5	229.7	230.0	235.1	237.5
Meats, poultry, and fish	227.0	235.8	236.0	235.9	235.2	239.8	243.0	226.9	235.3	235.4	235.3	235.0	239.2	242.5
Meats	227.6	237.8	238.1	238.6	237.4	242.3	244.1	227.5	237.6	237.7	238.1	237.3	241.8	243.7
Beef and veal	227.7	251.9	254.2	256.2	255.5	262.2	264.6	229.8	254.1	256.4	257.5	257.7	263.7	266.7
Ground beef other than canned	235.7	260.3	261.4	263.4	264.2	271.2	271.4	237.5	261.9	263.5	265.8	266.0	273.0	272.7
Chuck roast	233.3	257.5	261.0	263.3	263.1	268.1	274.7	241.0	264.0	267.9	268.3	273.1	274.2	283.6
Round roast	206.2	222.2	229.2	230.3	229.1	238.1	241.9	208.4	225.9	231.0	233.0	232.7	240.5	245.1
Round steak	214.2	238.1	239.2	242.2	241.9	247.5	249.8	214.2	235.4	235.7	239.4	239.7	246.2	249.4
Sirloin steak	219.6	247.5	251.0	250.4	247.0	250.8	250.9	219.0	247.3	253.9	249.6	247.4	253.5	253.5
Other beef and veal (12/77 = 100)	130.3	145.0	145.6	147.1	146.3	150.2	151.8	130.9	146.0	146.6	147.0	146.6	149.9	151.9
Pork	226.7	207.4	206.5	204.3	201.0	205.0	206.4	226.0	207.6	206.1	204.7	201.5	205.6	206.8
Bacon	221.2	192.5	194.0	190.5	186.3	193.6	194.5	222.6	195.0	195.6	194.4	186.7	195.8	195.3
Pork chops	213.7	195.3	198.1	195.1	188.8	187.8	192.1	212.7	196.2	196.1	194.9	188.1	189.1	194.8
Ham other than canned (12/77 = 100)	110.2	96.4	95.2	94.8	95.9	102.5	99.1	109.3	94.9	94.3	94.0	95.4	100.9	96.5
Sausage	275.9	263.8	258.4	257.6	254.5	256.5	255.6	273.9	263.2	258.4	258.1	255.8	258.3	260.3
Canned ham	235.0	221.1	216.6	218.2	214.8	218.9	220.8	235.6	218.9	215.3	215.8	214.6	219.1	219.3
Other pork (12/77 = 100)	125.0	118.3	117.4	115.2	112.9	112.6	116.2	123.8	118.4	117.5	115.1	112.7	112.7	116.2
Other meats	223.7	243.5	240.2	240.7	242.0	243.0	243.2	220.8	239.9	236.6	238.0	238.5	239.5	239.3
Frankfurters	218.8	241.9	235.9	236.8	238.9	239.3	239.0	216.6	242.6	236.1	237.7	237.2	238.7	239.5
Bologna, liverwurst, and salami (12/77 = 100)	122.9	134.3	133.2	134.2	133.4	134.4	134.1	120.8	129.7	129.5	130.7	130.4	130.8	130.5
Other lunchmeats (12/77 = 100)	117.0	122.7	121.6	120.3	121.6	121.5	121.2	115.1	120.8	119.0	118.8	119.5	119.4	118.7
Lamb and organ meats (12/77 = 100)	121.3	137.6	135.6	137.7	138.3	140.0	141.6	121.6	137.9	136.9	138.8	139.8	141.7	142.5
Poultry	181.2	177.1	174.8	170.3	171.6	176.2	187.8	179.5	174.3	172.8	168.3	170.1	173.9	184.3
Fresh whole chicken	179.8	171.3	169.9	159.7	166.7	175.2	191.1	176.4	166.7	165.8	157.7	163.3	169.8	183.8
Fresh and frozen chicken parts (12/77 = 100)	114.9	112.1	111.8	110.1	110.8	112.3	120.7	115.5	111.1	110.9	108.4	110.7	111.8	118.7
Other poultry (12/77 = 100)	121.3	123.0	119.2	120.3	115.9	116.9	119.3	119.8	122.1	119.8	119.8	116.0	117.4	120.1
Fish and seafood	290.4	306.5	309.7	311.5	312.2	312.6	316.7	288.5	301.4	304.4	306.5	307.5	309.1	315.4
Canned fish and seafood (12/77 = 100)	108.4	112.7	113.9	115.2	116.8	117.1	118.5	107.8	111.5	113.5	114.5	116.0	116.5	118.4
Fresh and frozen fish and seafood (12/77 = 100)	111.9	119.2	120.4	120.7	120.1	120.2	121.9	111.2	116.9	117.5	118.1	117.8	118.5	121.2
Eggs	180.4	161.8	170.7	161.3	170.1	185.9	178.2	181.2	160.5	170.5	160.3	169.6	186.6	177.0
Dairy Products	198.4	208.6	211.3	213.3	216.0	216.9	218.4	198.7	208.9	212.0	214.0	216.3	217.4	218.9
Fresh milk and cream (12/77 = 100)	111.8	117.7	119.0	120.3	121.9	122.7	123.2	111.7	117.9	119.5	120.4	121.8	122.6	123.2
Fresh whole milk	183.5	192.8	195.4	197.6	200.4	201.2	202.3	183.1	193.0	195.6	197.4	199.7	200.9	201.8
Other fresh milk and cream (12/77 = 100)	110.9	117.4	118.1	119.2	120.6	122.0	122.1	111.1	117.7	119.3	119.8	121.1	122.2	122.8
Processed dairy products (12/77 = 100)	112.7	118.2	120.1	120.9	122.3	122.5	123.8	113.2	118.4	120.5	121.7	123.0	123.3	124.5
Butter	195.8	203.0	209.9	213.3	214.4	214.0	216.9	197.0	205.7	212.3	216.6	217.1	216.6	219.8
Cheese (12/77 = 100)	112.9	118.4	120.1	121.0	122.7	122.6	123.5	112.9	118.4	120.2	121.1	122.5	122.7	123.6
Ice cream and related products (12/77 = 100)	111.8	117.8	120.1	120.4	121.4	122.6	124.0	113.1	118.1	120.7	121.9	123.4	124.3	125.6
Other dairy products (12/77 = 100)	110.1	115.4	115.5	116.4	117.6	117.9	119.8	110.8	115.4	115.6	116.9	118.2	118.3	120.4
Fruits and vegetables	221.6	237.8	231.8	232.0	229.5	230.2	229.8	219.6	237.0	229.6	230.2	226.7	228.3	227.2
Fresh fruits and vegetables	224.3	247.5	234.7	235.5	230.1	230.1	227.2	221.6	247.9	232.9	233.6	226.7	228.5	224.9
Fresh fruits	209.1	286.9	271.6	260.4	242.7	234.9	233.6	205.6	288.9	271.2	260.6	238.3	233.3	232.7
Apples	205.8	275.2	244.7	212.7	207.2	221.8	230.4	202.0	275.9	243.1	212.9	207.7	220.2	230.1
Bananas	179.2	202.3	210.3	206.6	209.0	225.2	221.9	177.3	202.5	208.4	199.7	206.5	222.0	219.5
Oranges	250.4	316.2	312.3	306.7	293.9	256.7	236.2	242.6	298.6	291.8	290.3	283.3	249.5	231.3
Other fresh fruits (12/77 = 100)	104.1	157.5	147.1	143.9	127.5	121.1	122.5	103.0	163.5	152.3	140.7	125.7	121.6	122.7
Fresh vegetables	238.6	210.7	200.3	212.2	218.4	225.7	221.2	236.2	211.0	198.4	209.4	216.4	224.2	217.9
Potatoes	181.4	211.4	199.3	191.1	195.7	207.0	203.8	193.1	212.1	193.4	183.8	191.7	199.6	200.9
Lettuce	342.0	235.7	219.6	262.9	244.2	227.5	197.6	335.7	240.3	222.9	264.2	230.0	231.3	193.2
Tomatoes	218.7	187.0	178.5	194.4	225.3	227.9	216.7	216.8	185.6	179.2	194.1	225.4	224.8	213.2
Other fresh vegetables (12/77 = 100)	124.3	113.8	109.5	114.0	119.1	128.0	132.0	122.7	113.3	108.0	112.5	118.9	128.1	130.5
Processed fruits and vegetables	220.7	229.2	230.6	230.1	231.0	232.3	234.7	219.3	226.9	227.9	228.3	228.6	230.0	231.8
Processed fruits (12/77 = 100)	114.4	119.7	120.6	120.4	121.2	121.8	122.9	114.3	119.0	119.8	120.3	121.1	121.3	122.4
Frozen fruit and fruit juices (12/77 = 100)	113.1	115.5	116.3	116.3	116.6	116.8	117.2	112.6	114.4	114.9	115.2	115.7	115.9	116.5
Fruit juices and other than frozen (12/77 = 100)	111.5	117.9	119.3	119.8	122.1	123.6	125.1	112.1	118.2	119.7	120.7	122.4	123.4	124.5
Canned and dried fruits (12/77 = 100)	118.6	125.0	125.5	124.6	124.2	124.2	125.3	118.1	123.8	123.9	124.0	124.0	123.5	124.8
Processed vegetables (12/77 = 100)	107.4	110.7	111.2	110.9	110.9	111.7	113.0	106.5	109.5	109.9	109.8	109.4	110.5	111.2
Frozen vegetables (12/77 = 100)	107.0	109.7	109.8	110.2	110.2	110.6	111.9	106.8	109.9	109.4	110.2	109.6	110.8	111.4

23. Continued — Consumer Price Index — U.S. city average

[1967 = 100 unless otherwise specified]

General summary	All Urban Consumers							Urban Wage Earners and Clerical Workers (revised)						
	1979						1980	1979						1980
	Jan.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Jan.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.
FOOD AND BEVERAGES — Continued														
Food — Continued														
Food at home — Continued														
Fruits and vegetables — Continued														
Cut corn and canned beans except lima (12/77=100)	111.0	113.9	114.7	113.6	113.4	114.4	114.5	109.9	112.0	112.6	111.9	111.8	113.0	112.7
Other canned and dried vegetables (12/77=100)	105.8	109.7	110.1	109.9	110.0	110.9	112.9	104.6	108.1	108.7	108.5	108.1	109.1	110.4
Other foods at home	260.0	272.8	276.0	278.0	279.6	281.1	283.5	259.4	271.8	274.7	276.5	278.3	279.9	282.6
Sugar and sweets	268.2	281.0	282.0	283.1	283.2	284.6	289.8	267.6	279.9	281.2	282.2	281.9	284.1	289.6
Candy and chewing gum (12/77=100)	112.7	119.4	119.7	119.9	120.1	120.1	121.3	112.6	c119.0	119.3	119.6	119.8	119.9	121.2
Sugar and artificial sweeteners (12/77=100)	113.2	115.6	115.9	119.0	116.2	117.2	122.2	113.1	115.5	116.4	116.9	116.2	117.6	122.7
Other sweets (12/77=100)	108.8	114.6	115.3	115.9	116.4	117.5	118.7	107.9	113.6	114.0	114.8	114.6	116.6	117.5
Fats and oils (12/77=100)	218.1	228.9	231.5	231.9	232.3	233.0	233.9	219.1	228.9	230.7	231.9	232.8	233.7	234.9
Margarine	233.6	240.3	245.5	244.4	246.2	247.7	248.3	234.1	239.8	242.8	244.9	246.7	247.8	248.8
Nondairy substitutes and peanut butter (12/77=100)	108.9	114.0	114.6	115.1	115.1	115.7	115.3	109.0	114.0	114.5	114.6	115.0	115.8	116.1
Other fats, oils, and salad dressings (12/77=100)	112.6	119.7	120.6	121.1	121.0	121.1	121.9	113.3	119.6	120.4	121.0	121.3	121.5	122.3
Nonalcoholic beverages	345.4	361.8	367.7	372.1	374.3	375.4	378.5	344.3	360.0	365.0	368.2	370.7	372.3	375.6
Cola drinks, excluding diet cola	230.1	239.2	242.7	246.4	247.5	247.2	249.5	228.4	236.9	240.1	242.0	243.6	243.4	246.5
Carbonated drinks, including diet cola (12/77=100)	111.6	116.2	117.9	118.5	118.4	118.7	119.9	109.5	114.2	115.7	116.1	115.6	116.4	116.4
Roasted coffee	363.0	411.7	425.9	432.4	436.1	440.7	443.2	362.6	406.1	418.2	424.4	430.8	435.3	440.1
Freeze dried and instant coffee	340.2	349.5	359.9	366.5	370.2	374.3	378.2	340.2	349.4	358.9	365.3	369.3	372.9	376.8
Other noncarbonated drinks (12/77=100)	111.2	114.2	114.0	114.8	115.7	116.3	116.8	109.9	113.0	112.7	113.5	114.8	115.5	116.2
Other prepared foods	200.1	210.5	212.6	213.4	215.3	217.4	218.8	199.9	210.4	212.4	213.4	215.7	217.2	219.1
Canned and packaged soup (12/77=100)	108.2	113.2	113.1	113.4	114.3	115.9	116.5	107.9	113.3	113.3	113.3	114.8	116.3	116.8
Frozen prepared foods (12/77=100)	112.2	120.7	123.1	123.1	124.5	125.6	126.0	111.4	118.7	121.1	122.0	122.9	123.9	125.1
Snacks (12/77=100)	109.6	115.7	118.4	119.6	120.4	121.3	121.8	110.5	116.4	119.0	120.6	121.7	122.2	122.8
Seasonings, olives, pickles, and relish (12/77=100)	112.5	115.9	117.4	118.8	118.9	120.1	121.4	112.0	115.4	116.3	117.6	118.2	119.0	121.1
Other condiments (12/77=100)	109.2	115.2	115.9	115.8	116.8	119.5	120.8	109.7	116.2	117.5	117.0	118.5	120.2	121.4
Miscellaneous prepared foods (12/77=100)	111.2	116.3	116.8	117.2	119.0	118.9	119.6	111.3	116.3	116.3	116.7	118.6	118.7	119.7
Other canned and packaged prepared foods (12/77=100)	111.8	116.8	116.7	116.7	117.7	118.6	119.4	110.9	116.7	116.7	116.9	118.0	118.6	119.5
Food away from home	230.2	246.5	247.6	249.6	251.3	253.4	256.1	230.6	248.3	249.3	251.3	252.7	255.1	258.0
Lunch (12/77=100)	112.3	120.3	120.7	121.3	122.3	123.3	124.6	112.4	121.3	121.7	122.2	123.2	124.0	125.7
Dinner (12/77=100)	111.6	119.8	120.3	121.6	122.4	123.4	124.8	111.7	120.5	120.9	122.4	123.0	124.2	125.6
Other meals and snacks (12/77=100)	110.9	117.8	118.6	119.5	120.2	121.4	122.5	111.2	119.1	119.9	120.5	120.9	122.5	123.7
Alcoholic beverages	166.0	173.3	174.2	176.0	177.4	178.0	179.3	166.1	173.6	174.9	176.9	178.0	178.7	179.7
Alcoholic beverages at home (12/77=100)	107.8	112.7	113.3	114.6	115.6	116.0	116.8	108.5	113.4	114.3	115.7	116.5	117.0	117.6
Beer and ale	160.8	170.6	172.3	175.1	176.9	177.8	179.0	161.5	170.3	171.8	175.2	176.9	177.6	178.8
Whiskey	124.4	128.4	129.0	129.4	130.7	130.8	131.6	125.2	129.9	130.4	131.0	131.9	132.0	132.9
Wine	187.0	196.0	195.2	198.0	198.1	199.1	201.6	191.1	199.4	202.7	202.5	201.5	204.0	203.8
Other alcoholic beverages (12/77=100)	104.2	105.4	105.5	105.9	107.0	106.9	107.1	103.3	105.1	105.3	105.9	106.2	106.4	106.4
Alcoholic beverages away from home (12/77=100)	110.6	114.6	115.1	115.9	116.4	116.8	118.0	107.8	112.8	113.4	114.2	114.9	115.2	115.9
HOUSING	213.1	231.5	234.6	237.7	240.8	243.6	247.3	212.8	231.5	234.5	237.7	240.7	243.6	247.3
Shelter	222.8	243.9	247.4	251.5	255.9	259.4	264.0	222.9	244.5	248.2	252.4	256.9	260.4	265.1
Rent, residential	170.3	177.5	179.0	181.4	182.1	182.9	184.1	170.3	177.3	178.9	181.2	181.9	182.7	183.9
Other rental costs	221.3	238.2	239.3	241.6	243.1	244.9	251.1	221.2	237.6	238.6	241.3	242.6	244.4	251.1
Lodging while out of town	230.4	251.2	251.8	254.2	256.2	258.4	267.0	229.8	249.5	249.9	253.0	254.6	256.9	266.1
Tenants' insurance (12/77=100)	104.5	112.0	113.7	114.1	114.6	115.1	116.2	104.6	112.6	114.1	114.7	115.0	115.5	116.8
Homeownership	241.6	267.6	271.9	276.7	282.4	286.9	292.5	242.0	268.9	273.3	278.3	284.1	288.7	294.6
Home purchase	208.1	226.9	229.8	233.4	237.3	239.9	242.1	207.9	227.0	230.0	233.6	237.7	240.2	242.3
Financing, taxes, and insurance	276.6	316.4	323.0	330.5	340.1	348.3	359.8	277.9	318.7	325.6	333.5	343.5	351.6	363.4
Property insurance	293.0	314.6	316.7	319.9	320.8	323.1	327.7	292.6	314.2	318.5	321.9	322.6	324.5	328.8
Property taxes	179.9	183.1	184.7	185.1	185.1	186.0	186.7	181.3	184.6	186.1	186.5	186.6	187.4	188.2
Contracted mortgage interest cost	328.2	387.2	396.7	408.1	423.1	435.3	452.8	328.0	387.4	397.1	408.8	424.2	436.1	453.7
Mortgage interest rates	155.1	167.7	169.7	172.0	175.4	178.3	183.7	155.2	167.8	169.7	172.0	175.6	178.4	183.8
Maintenance and repairs	245.2	259.7	262.5	264.7	266.4	268.3	270.6	244.5	260.8	263.4	265.3	266.5	268.9	271.9
Maintenance and repair services	265.1	281.8	284.4	287.0	288.8	290.4	293.2	265.0	284.2	287.2	289.4	290.3	292.8	295.9
Maintenance and repair commodities	198.7	208.1	211.5	212.5	214.0	216.6	217.6	198.4	209.0	210.8	211.9	213.6	215.8	218.4
Paint and wallpaper, supplies, tools, and equipment (12/77=100)	109.1	114.3	117.0	117.4	118.8	121.6	122.5	109.1	115.0	116.1	116.6	118.1	120.3	122.2
Lumber, awnings, glass, and masonry (12/77=100)	108.7	113.7	115.2	116.0	115.5	115.4	115.9	109.4	114.8	115.7	116.2	117.2	118.1	118.6
Plumbing, electrical, heating, and cooling supplies (12/77=100)	105.3	110.8	111.9	112.8	113.4	114.7	114.7	105.7	111.5	112.6	113.8	114.0	114.5	117.0
Miscellaneous supplies and equipment (12/77=100)	107.2	111.1	112.9	113.3	113.8	114.3	115.4	104.9	110.3	111.2	111.9	112.2	112.3	113.2
Fuel and other utilities	221.5	247.2	251.2	252.9	252.0	255.1	258.6	221.7	247.7	251.7	253.4	252.4	255.7	259.2
Fuels	256.3	299.7	306.6	310.3	307.0	311.8	318.0	256.3	299.8	306.6	310.1	306.9	311.8	318.1
Fuel oil, coal, and bottled gas	316.4	438.6	461.6	470.8	477.4	486.0	514.0	316.6	439.0	462.5	471.7	478.2	489.0	515.1
Fuel oil	318.8	458.2	482.5	491.2	497.2	507.3	534.4	319.0	458.5	483.3	491.9	497.7	508.1	534.9
Other fuels (6/78 = 100)	99.7	109.3	114.4	118.5	121.7	126.0	132.7	99.7	109.4	114.6	118.8	122.2	126.6	133.7
Gas (piped) and electricity	239.5	266.5	270.1	272.5	267.3	270.8	273.0	239.5	266.5	269.9	272.2	267.1	270.7	273.0
Electricity	204.0	229.2	230.6	228.7	221.5	224.7	226.6	204.3	229.7	231.1	228.8	221.5	224.9	226.8
Utility (piped) gas	282.8	309.7	317.5	329.1	328.9	332.6	335.1	281.7	308.5	315.8	327.4	327.8	331.1	333.8

23. Continued—Consumer Price Index—U.S. city average

[1967 = 100 unless otherwise specified]

General summary	All Urban Consumers							Urban Wage Earners and Clerical Workers (revised)						
	1979						1980	1979						1980
	Jan.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Jan.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.
HOUSING—Continued														
Fuel and other utilities—Continued														
Other utilities and public services	159.0	159.8	159.8	158.8	161.0	161.9	161.5	159.1	159.8	159.8	158.9	160.9	161.8	161.5
Telephone services	132.5	132.5	132.4	131.2	133.3	134.3	133.4	132.5	132.5	132.4	131.3	133.3	134.2	133.4
Local charges (12/77 = 100)	100.6	100.5	100.4	98.7	101.8	103.2	102.6	100.7	100.6	100.5	98.8	101.8	103.2	102.6
Interstate toll calls (12/77 = 100)	98.7	98.5	98.4	98.4	98.4	98.4	97.7	98.8	98.5	98.4	98.4	98.4	98.4	97.7
Intrastate toll calls (12/77 = 100)	100.9	101.5	101.4	101.7	101.5	101.5	100.8	100.9	101.4	101.3	101.5	101.3	101.3	100.6
Water and sewerage maintenance	239.3	244.6	245.3	245.6	247.1	247.2	250.0	239.6	244.6	245.5	245.8	247.2	247.3	250.5
Household furnishings and operations	184.8	191.2	192.2	193.3	195.1	195.8	196.9	183.6	189.8	190.6	191.7	193.2	193.9	194.9
Housefurnishings	158.9	163.2	164.1	165.2	166.6	166.9	167.6	158.5	163.0	163.5	164.4	165.5	165.9	166.5
Textile housefurnishings	167.1	172.8	175.3	177.8	178.9	178.6	176.7	168.5	173.0	174.9	177.2	178.4	177.3	175.3
Household linens (12/77 = 100)	101.1	103.6	106.7	107.7	108.8	108.3	105.4	102.4	103.7	106.3	107.4	108.3	107.2	106.0
Curtains, drapes, slipcovers, and sewing materials (12/77 = 100)	107.3	112.0	112.0	114.2	114.4	114.6	115.1	108.1	112.7	112.2	114.1	114.5	114.4	113.2
Furniture and bedding	171.6	177.1	178.3	180.0	182.2	182.8	184.0	171.1	177.3	178.5	180.3	182.1	182.7	183.6
Bedroom furniture (12/77 = 100)	109.3	114.0	114.8	116.4	117.7	118.3	119.1	107.8	112.7	113.0	114.8	115.9	116.0	116.8
Sofas (12/77 = 100)	103.0	106.3	107.1	107.3	107.9	108.2	108.2	104.1	108.2	108.6	109.6	111.7	111.6	110.6
Living room chairs and tables (12/77 = 100)	103.1	104.9	105.1	106.2	107.7	108.1	108.9	103.8	106.1	106.7	107.5	108.6	109.2	109.4
Other furniture (12/77 = 100)	109.5	112.7	113.9	115.0	116.8	117.1	118.1	108.6	112.5	114.2	114.7	115.3	115.9	117.8
Appliances including TV and sound equipment	133.9	135.8	136.2	136.9	137.5	137.5	137.8	133.3	135.5	135.7	135.7	136.2	136.9	137.2
Television and sound equipment (12/77 = 100)	103.8	104.3	104.7	104.9	105.0	105.3	105.3	102.9	104.0	104.4	104.1	104.4	104.8	104.9
Television	102.9	102.8	102.9	103.4	103.6	103.6	103.7	101.9	101.9	101.9	102.0	102.4	102.2	102.2
Sound equipment (12/77 = 100)	105.6	106.8	107.5	107.4	107.4	107.8	107.8	104.8	106.7	107.4	106.9	107.1	108.0	108.2
Household appliances	152.1	155.5	155.8	156.9	158.2	157.9	158.5	151.9	155.1	155.2	155.6	156.2	157.1	157.7
Refrigerators and home freezer	150.2	154.6	154.1	155.3	156.0	156.7	156.7	152.7	157.9	156.5	157.9	158.1	159.0	159.4
Laundry equipment (12/77 = 100)	107.4	110.7	110.9	112.1	113.1	113.6	114.1	107.0	110.2	111.2	111.3	112.2	112.8	113.8
Other household appliances (12/77 = 100)	107.1	108.6	109.1	109.8	110.8	109.9	110.5	106.0	107.1	107.2	107.2	107.6	108.2	108.6
Stoves, dishwashers, vacuums, and sewing machines (12/77 = 100)	108.5	108.5	108.6	109.0	109.7	108.6	110.0	107.2	107.7	107.7	106.9	107.1	108.1	109.2
Office machines, small electric appliances, and air conditioners (12/77 = 100)	105.4	108.8	109.7	110.7	112.1	111.4	111.1	104.6	106.4	106.8	107.6	108.2	108.3	107.8
Other household equipment (12/77 = 100)	106.5	110.7	110.9	111.2	112.4	113.0	114.6	106.2	110.6	110.3	110.8	111.6	111.8	113.3
Floor and window coverings, infants' laundry cleaning and outdoor equipment (12/77 = 100)	106.0	109.5	111.1	109.8	111.1	111.7	113.1	102.5	105.9	105.8	105.5	107.7	107.4	108.9
Clocks, lamps, and decor items (12/77 = 100)	103.0	107.1	108.0	108.6	110.0	110.1	111.6	103.8	106.7	107.0	107.1	108.2	107.3	109.4
Tableware, serving pieces, and nonelectric kitchenware (12/77 = 100)	109.5	115.1	114.7	115.4	116.8	117.2	119.9	108.7	113.9	114.5	114.7	115.2	115.2	117.3
Lawn equipment, power tools, and other hardware (12/77 = 100)	105.4	108.5	107.6	108.5	109.0	110.3	110.6	106.7	111.5	109.5	111.0	111.1	112.5	113.0
Housekeeping supplies	215.9	223.4	224.1	224.8	228.3	229.2	231.1	214.9	221.6	222.6	223.9	225.7	227.2	228.8
Soaps and detergents	209.0	212.5	215.1	217.9	220.6	221.2	224.1	207.6	210.9	214.5	216.3	218.2	219.7	222.2
Other laundry and cleaning products (12/77 = 100)	108.0	112.0	112.3	113.7	114.1	114.7	116.1	107.4	111.9	112.4	113.5	113.7	114.5	115.6
Cleansing and toilet tissue, paper towels and napkins (12/77 = 100)	112.5	116.2	116.4	117.2	119.2	120.5	120.6	112.4	116.3	117.1	117.9	119.6	120.9	121.8
Stationery, stationery supplies, and gift wrap (12/77 = 100)	105.7	109.5	109.9	109.5	111.3	111.9	111.6	104.7	108.5	108.3	108.6	109.2	109.3	109.0
Miscellaneous household products (12/77 = 100)	109.5	112.9	113.3	114.3	115.6	116.9	117.7	108.0	111.3	111.6	112.7	114.1	114.7	115.0
Lawn and garden supplies (12/77 = 100)	107.0	113.8	112.7	110.0	113.8	112.5	114.4	107.2	111.3	109.9	108.8	113.2	109.9	111.3
Housekeeping services	239.6	251.6	253.4	254.6	256.6	258.1	260.0	238.5	250.4	252.1	253.8	255.9	257.5	259.2
Postage	257.3	257.3	257.3	257.3	257.3	257.3	257.3	257.2	257.2	257.2	257.2	257.2	257.2	257.2
Moving, storage, freight, household laundry, and drycleaning services (12/77 = 100)	109.4	117.3	118.1	118.8	120.4	121.2	122.9	109.9	117.7	118.6	119.7	121.2	122.3	123.3
Appliance and furniture repair (12/77 = 100)	106.4	110.7	111.7	112.3	112.9	113.4	114.0	105.5	110.3	111.1	112.1	112.9	113.4	114.4
APPAREL AND UPKEEP	160.7	166.3	169.8	171.0	171.7	172.2	171.0	161.1	166.2	169.3	170.8	171.3	171.4	169.8
Apparel commodities	155.8	160.6	164.2	165.2	165.9	166.1	164.3	156.4	160.7	163.9	165.3	165.7	165.7	163.6
Apparel commodities less footwear	153.6	157.7	161.5	162.3	162.9	163.0	161.1	154.3	157.9	161.2	162.4	162.7	162.6	160.2
Men's and boys'	157.4	159.6	162.7	164.2	165.4	165.4	162.8	158.1	161.1	163.2	164.4	165.3	165.0	162.4
Men's (12/77 = 100)	99.7	100.6	102.7	103.5	104.3	104.3	102.6	100.3	101.9	103.2	103.8	104.5	104.2	102.3
Suits, sport coats, and jackets (12/77 = 100)	97.7	97.1	100.0	101.5	101.2	100.9	98.8	96.6	96.2	98.3	99.1	98.7	96.8	94.9
Coats and jackets (12/77 = 100)	95.3	95.5	96.5	97.8	98.1	98.0	95.5	98.4	99.2	99.1	99.5	99.7	99.1	95.6
Furnishings and special clothing (12/77 = 100)	104.8	109.3	110.6	109.9	112.4	112.3	112.2	104.1	107.0	108.6	109.1	110.0	109.9	109.3
Shirts (12/77 = 100)	101.5	103.2	107.2	108.5	109.7	110.5	108.6	101.5	104.9	107.1	108.3	109.4	111.5	108.3
Dungarees, jeans, and trousers (12/77 = 100)	98.6	98.1	99.0	99.5	100.5	100.4	98.2	100.7	101.9	102.5	102.8	104.0	103.4	102.2
Boys' (12/77 = 100)	99.9	103.3	104.8	106.3	106.6	106.6	105.6	99.5	102.7	103.9	105.3	105.6	105.8	104.7
Coats, jackets, sweaters, and shirts (12/77 = 100)	93.2	101.1	102.7	103.9	103.2	102.4	99.3	92.9	100.3	102.0	103.8	103.4	103.1	98.8
Furnishings (12/77 = 100)	105.8	107.9	109.4	110.8	111.5	111.9	111.5	105.6	107.0	108.8	110.1	109.7	110.2	109.7
Suits, trousers, sport coats, and jackets (12/77 = 100)	102.9	103.1	104.5	106.5	107.4	107.8	108.2	102.3	102.9	103.5	104.7	105.8	106.2	106.6
Women's and girls'	148.9	151.3	156.9	155.5	155.1	154.6	151.5	147.2	150.5	154.4	154.8	154.5	153.5	149.9
Women's (12/77 = 100)	98.0	100.7	103.9	103.4	103.0	102.8	100.8	98.5	100.4	103.0	103.3	103.0	102.3	100.1
Coats and jackets	158.0	170.4	174.1	173.9	173.3	170.0	166.4	159.2	173.1	175.7	174.1	172.4	167.9	165.0
Dresses	158.9	162.8	171.1	167.2	164.3	165.3	161.3	158.1	152.8	158.5	159.1	158.8	155.7	150.0
Separates and sportswear (12/77 = 100)	97.1	98.3	99.8	99.6	99.2	98.6	96.1	96.0	97.7	100.4	100.4	100.7	99.5	97.1
Underwear, nightwear, and hosiery (12/77 = 100)	102.7	106.2	106.2	106.6	105.1	106.2	106.6	103.4	107.0	107.4	107.9	108.9	109.3	109.1
Suits (12/77 = 100)	88.9	89.8	96.7	97.1	95.2	95.8	91.0	91.0	91.0	98.1	99.9	97.5	98.1	94.0
Girls (12/77 = 100)	96.1	100.5	102.4	103.6	103.9	102.8	100.5	95.2	98.8	101.1	101.5	101.7	101.4	97.9
Coats, jackets, dresses, and suits (12/77 = 100)	92.8	100.8	102.8	102.8	102.2	100.3	97.5	92.1	95.9	98.5	97.9	97.5	97.7	91.9
Separates and sportswear (12/77 = 100)	95.6	98.3	100.3	102.5	103.6	102.6	99.9	94.7	99.7	102.1	103.5	104.3	102.9	99.8
Underwear, nightwear, hosiery, and accessories (12/77 = 100)	102.5	104.1	105.7	108.7	107.2	107.3	106.7	101.0	101.8	103.5	103.9	104.2	104.4	104.4

23. Continued—Consumer Price Index—U.S. city average

[1967 = 100 unless otherwise specified]

General summary	All Urban Consumers							Urban Wage Earners and Clerical Workers (revised)						
	1979						1980	1979						1980
	Jan.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Jan.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.
APPAREL AND UPKEEP—Continued														
Apparel commodities—Continued														
Apparel commodities less footwear—Continued														
Infants' and toddlers'	215.9	221.2	223.4	224.8	226.3	227.1	224.9	215.6	224.2	226.0	228.7	228.7	230.5	229.1
Other apparel commodities	161.9	169.8	172.6	175.5	177.8	180.9	184.4	165.0	170.2	174.9	176.7	179.8	182.9	185.5
Sewing materials and notions (12/77 = 100)	98.7	102.3	102.3	102.2	100.8	102.4	103.2	98.7	96.8	100.4	100.8	99.7	100.8	101.2
Jewelry and luggage (12/77 = 100)	107.2	113.0	115.6	118.3	121.0	123.1	126.1	110.4	116.1	118.9	122.3	123.8	126.2	128.4
Footwear	168.7	177.5	180.1	182.6	183.8	184.3	183.7	168.0	176.9	179.4	181.9	183.2	183.8	183.3
Men's (12/77 = 100)	106.5	114.5	115.0	116.7	117.7	117.3	117.8	106.7	115.2	116.3	118.0	119.1	119.4	119.3
Boys' and girls' (12/77 = 100)	106.1	112.0	111.6	113.0	114.0	115.8	117.3	105.9	111.4	111.6	113.0	114.5	114.7	116.9
Womens' (12/77 = 100)	104.8	108.1	112.0	113.5	113.9	113.8	111.6	103.5	106.5	109.6	111.1	111.2	111.8	109.4
Apparel services	194.6	207.7	210.2	212.5	214.2	216.6	220.7	194.1	206.7	208.7	210.8	212.0	213.4	216.9
Laundry and drycleaning other than coin operated (12/77 = 100)	112.6	122.1	123.6	125.2	126.3	127.1	129.3	112.4	121.8	123.2	124.7	125.7	126.6	129.0
Other apparel services (12/77 = 100)	107.4	111.9	113.0	114.0	114.7	117.0	119.6	107.8	111.5	112.3	112.9	113.3	113.7	115.1
TRANSPORTATION	193.9	219.6	221.4	222.7	224.9	227.7	233.5	194.5	220.7	222.4	223.4	225.7	228.3	234.1
Private	193.9	220.4	222.0	223.1	225.0	227.5	233.5	194.2	221.2	222.7	223.7	225.7	228.2	234.1
New cars	161.2	166.6	166.1	167.5	170.6	171.7	173.9	160.8	166.3	165.9	167.4	170.9	171.7	174.1
Used cars	193.6	207.0	202.9	199.9	198.4	198.2	197.2	193.6	207.0	202.9	199.9	198.4	198.3	197.2
Gasoline	209.1	292.0	301.0	303.8	306.9	313.9	334.6	209.5	293.3	302.3	305.2	308.3	315.6	335.9
Automobile maintenance and repair	231.3	245.7	247.1	249.1	250.8	252.6	255.1	231.7	246.0	247.5	249.4	251.1	253.4	256.2
Body work (12/77 = 100)	110.4	118.6	119.4	120.6	121.6	123.3	125.0	111.2	118.6	119.2	120.4	121.7	123.1	124.3
Automobile drive train, brake, and miscellaneous mechanical repair (12/77 = 100)	110.8	117.4	118.1	119.4	120.1	120.6	121.8	111.6	118.2	119.0	120.2	120.8	121.8	123.6
Maintenance and servicing (12/77 = 100)	108.8	116.3	116.9	117.5	118.4	119.2	120.2	109.2	116.0	116.8	117.3	118.2	119.3	120.4
Power plant repair (12/77 = 100)	108.2	116.0	116.7	117.8	118.5	119.2	120.4	109.7	116.3	117.0	118.0	118.6	119.6	120.9
Other private transportation	191.4	200.5	201.7	203.7	205.5	207.5	209.6	192.0	201.0	202.3	204.0	206.3	208.4	210.6
Other private transportation commodities	165.6	175.1	177.7	182.0	183.4	185.6	188.4	168.1	176.1	178.7	181.6	183.9	186.4	188.0
Motor oil, coolant, and other products (12/77 = 100)	105.4	112.2	114.4	115.9	117.4	118.1	120.9	105.8	112.0	114.5	115.9	118.1	119.3	122.4
Automobile parts and equipment (12/77 = 100)	107.3	113.4	114.9	117.9	118.7	120.3	121.9	109.1	114.1	115.7	117.6	119.0	120.6	121.4
Tires	147.9	154.7	156.4	160.7	161.5	163.8	165.6	150.7	156.1	158.1	161.1	163.0	165.7	166.3
Other parts and equipment (12/77 = 100)	107.8	116.7	119.1	121.8	123.0	124.4	126.6	109.1	116.8	118.6	120.0	121.5	122.4	124.0
Other private transportation services	200.1	209.1	210.1	211.4	213.4	215.3	217.6	200.2	209.6	210.6	211.9	214.3	216.3	218.7
Automobile insurance	221.8	232.3	233.5	233.8	233.9	235.3	237.1	221.9	232.3	233.5	233.7	233.9	235.2	236.8
Automobile finance charges (12/77 = 100)	111.1	117.2	117.7	120.4	124.6	127.2	129.9	110.1	116.4	117.0	119.4	124.1	128.5	129.4
Automobile rental, registration, and other fees (12/77 = 100)	104.6	107.5	107.8	107.9	106.3	108.5	109.1	105.0	108.1	108.4	108.6	108.9	109.2	109.8
State registration	143.8	144.0	144.0	144.0	144.1	144.1	144.2	143.6	143.9	143.9	143.9	144.0	144.0	144.1
Drivers' license (12/77 = 100)	104.5	104.5	104.5	104.5	104.5	104.5	104.7	104.3	104.3	104.3	104.2	104.2	104.2	104.5
Vehicle inspection (12/77 = 100)	110.2	114.6	114.6	114.8	115.6	117.5	117.5	111.4	115.5	115.5	115.5	116.5	118.3	118.3
Other vehicle related fees (12/77 = 100)	108.6	115.5	116.1	116.4	117.1	117.6	118.8	111.2	119.3	120.3	120.8	121.3	122.2	123.8
Public	190.0	200.8	205.2	209.1	216.5	223.0	226.8	190.9	200.6	204.1	207.3	214.0	219.1	221.9
Airline fare	189.8	205.2	214.1	220.6	232.1	245.5	251.1	189.4	205.2	214.2	220.7	232.4	245.8	251.0
Intercity bus fare	243.9	263.2	268.0	276.0	279.8	282.2	284.7	244.1	263.0	268.0	275.5	279.9	282.3	284.8
Intracity mass transit	186.4	190.5	190.5	191.3	195.6	196.4	198.5	186.3	190.2	190.2	191.0	195.1	195.7	196.7
Taxi fare	208.6	224.7	228.5	233.6	237.0	238.5	243.1	213.0	230.3	233.9	238.7	242.4	243.9	248.9
Intercity train fare	192.8	220.6	221.0	221.1	231.0	236.3	237.2	192.8	220.8	221.3	221.4	232.1	236.6	237.1
MEDICAL CARE	230.7	241.8	243.7	245.9	248.0	250.7	253.9	230.2	242.6	244.7	247.2	249.1	251.7	254.9
Medical care commodities	148.8	155.0	155.8	156.6	157.8	159.2	160.5	149.6	156.2	156.7	157.4	158.5	159.9	161.0
Prescription drugs	137.3	142.8	143.5	144.5	145.5	146.4	147.9	138.1	143.7	144.4	146.2	146.2	147.4	148.8
Anti-infective drugs (12/77 = 100)	108.6	112.5	113.1	113.5	113.9	114.8	115.8	109.8	113.2	114.1	114.8	115.5	116.8	118.2
Tranquilizers and sedatives (12/77 = 100)	111.4	114.6	114.9	115.8	117.1	118.4	119.9	111.2	114.8	115.0	115.6	116.9	118.3	119.7
Circulatories and diuretics (12/77 = 100)	105.3	109.3	109.3	109.7	111.0	111.4	112.4	106.2	109.7	110.0	110.6	111.6	112.3	113.0
Hormones, diabetic drugs, biologicals, and prescription and supplies (12/77 = 100)	113.2	120.3	120.9	122.5	123.2	123.8	126.0	113.6	120.4	120.8	122.2	122.6	123.1	124.8
Pain and symptom control drugs (12/77 = 100)	109.4	113.7	114.8	115.6	116.8	117.8	118.8	109.8	115.2	116.0	116.3	117.5	118.2	119.0
Supplements, cough and cold preparations, and respiratory agents (12/77 = 100)	106.4	110.3	110.9	111.3	111.9	112.1	112.6	107.5	111.7	112.2	112.6	112.8	113.7	114.2
Nonprescription drugs and medical supplies (12/77 = 100)	106.8	111.4	112.0	112.5	113.4	114.6	115.3	107.5	112.5	112.8	113.2	114.0	115.1	115.6
Eyeglasses (12/77 = 100)	104.6	108.7	109.2	110.2	110.9	110.9	111.5	105.0	108.9	109.3	110.0	110.4	110.5	111.4
Internal and respiratory over-the-counter drugs	164.5	172.2	173.0	173.7	175.4	177.9	179.1	165.7	174.3	174.7	175.2	176.6	178.5	179.0
Nonprescription medical equipment and supplies (12/77 = 100)	106.4	110.4	110.8	111.0	111.8	113.1	113.8	106.8	111.3	111.2	111.8	112.7	114.2	115.0
Medical care services	248.3	260.6	262.8	265.3	267.6	270.7	274.4	247.4	261.2	263.8	266.8	268.8	271.6	275.6
Professional services	219.2	229.9	230.3	231.6	233.0	236.9	238.9	219.3	231.1	233.1	234.9	235.9	236.3	241.7
Physicians' services	234.5	246.6	248.4	249.7	250.8	252.5	256.0	233.7	248.7	251.5	254.4	255.5	256.5	260.3
Dental services	207.9	216.0	217.2	218.5	220.7	224.5	227.4	209.7	219.0	220.7	221.2	222.7	226.1	229.5
Other professional services (12/77 = 100)	108.3	111.9	112.4	112.7	112.8	115.1	116.6	107.6	111.5	111.7	112.1	112.2	114.8	115.9
Other medical care services	283.7	290.0	302.0	306.2	309.5	312.8	317.4	281.7	298.1	301.3	305.9	309.3	313.0	317.3
Hospital and other medical services (12/77 = 100)	112.8	118.6	118.6	121.3	122.6	123.8	125.6	112.2	117.8	118.9	120.5	121.8	123.2	124.9
Hospital room	355.9	374.2	376.4	380.2	385.1	389.4	395.3	354.0	371.7	374.1	379.4	383.6	388.7	393.9
Other hospital and medical care services	111.8	117.4	118.8	120.8	122.0	122.9	124.7	111.1	116.7	118.0	119.5	120.8	122.1	123.8

23. Continued—Consumer Price Index—U.S. city average

[1967 = 100 unless otherwise specified]

General summary	All Urban Consumers							Urban Wage Earners and Clerical Workers (revised)						
	1979						1980	1979						1980
	Jan.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Jan.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.
ENTERTAINMENT	182.3	190.2	191.1	192.0	192.8	193.4	195.3	182.1	188.9	190.2	191.4	192.0	^{r}192.3	193.9
Entertainment commodities	182.6	191.0	192.0	193.1	194.0	195.2	197.6	181.9	188.4	189.9	190.7	191.3	192.4	194.2
Reading materials (12/77 = 100)	106.9	111.1	111.9	113.8	114.5	115.1	116.7	106.6	110.7	111.4	113.3	114.2	114.8	116.2
Newspapers	206.2	214.0	214.5	217.7	222.4	223.5	226.8	205.8	213.7	214.2	217.4	222.2	223.3	226.4
Magazines, periodicals, and books (12/77 = 100)	109.2	113.7	115.0	117.2	116.0	116.8	118.1	109.3	113.5	114.8	117.2	115.8	116.6	117.8
Sporting goods and equipment (12/77 = 100)	104.4	110.4	111.3	111.2	111.7	112.2	113.8	103.2	105.4	107.5	106.7	106.9	107.7	108.6
Sport vehicles (12/77 = 100)	104.3	111.3	112.3	111.5	112.2	112.9	114.9	103.3	103.9	106.7	104.6	104.8	105.8	106.6
Indoor and warm weather sport equipment (12/77 = 100)	104.5	105.9	106.1	107.5	107.8	107.5	107.6	101.6	104.7	104.7	106.0	106.1	106.3	106.4
Bicycles	154.0	163.8	165.6	167.1	167.1	167.1	170.5	153.5	162.9	164.7	166.9	167.4	167.0	170.5
Other sporting goods and equipment (12/77 = 100)	103.8	108.6	109.3	110.0	110.3	111.0	111.8	102.7	107.2	108.5	109.8	110.2	111.3	111.9
Toys, hobbies and other entertainment (12/77 = 100)	105.6	110.2	110.4	110.8	111.2	112.1	113.2	105.7	110.2	110.4	111.0	111.2	111.8	112.6
Toys, hobbies and music equipment (12/77 = 100)	106.2	110.0	110.4	110.7	110.5	111.2	112.1	105.5	109.8	109.6	110.1	109.8	109.9	110.9
Photographic supplies and equipment (12/77 = 100)	105.0	108.2	108.9	109.4	109.9	109.7	110.8	104.9	107.6	108.8	109.3	109.6	110.1	111.2
Pet supplies and expense (12/77 = 100)	105.1	111.8	111.6	112.1	113.5	115.5	116.8	106.5	112.6	112.9	113.9	114.6	116.1	116.7
Entertainment services	182.3	189.4	190.2	190.8	191.5	191.1	192.5	183.4	190.7	191.8	193.5	194.3	^{r}193.0	194.4
Fees for participant sports (12/77 = 100)	106.8	112.3	113.0	113.2	113.8	113.8	114.6	108.0	112.3	113.4	114.9	115.2	^{r}115.0	115.6
Admissions (12/77 = 100)	111.1	114.7	115.2	115.7	116.1	116.6	117.9	110.9	115.9	116.3	116.8	117.3	117.8	119.4
Other entertainment services (12/77 = 100)	107.2	109.7	109.4	110.0	110.0	108.6	109.1	106.8	110.9	110.9	111.4	112.0	109.0	109.3
OTHER GOODS AND SERVICES	190.5	197.0	201.7	202.3	202.9	204.0	206.3	190.3	197.2	200.6	201.4	202.0	203.0	206.0
Tobacco products	183.0	188.9	190.9	191.3	191.5	192.1	196.7	183.1	190.1	190.9	191.2	191.4	192.1	197.1
Cigarettes	185.5	192.6	193.6	193.8	194.0	194.7	199.7	185.8	193.1	193.7	193.9	194.1	194.8	200.3
Other tobacco products and smoking accessories (12/77 = 100)	107.3	111.1	112.2	113.0	112.8	113.2	113.9	106.5	110.0	111.0	112.3	112.4	112.7	113.4
Personal care	188.9	197.5	199.0	199.8	200.9	203.0	204.2	188.8	197.6	198.4	199.4	200.5	202.3	204.4
Toilet goods and personal care appliances	182.5	189.7	191.4	192.5	193.1	195.8	196.4	182.4	190.2	191.0	191.6	192.4	194.5	196.2
Products for the hair, hairpieces and wigs (12/77 = 100)	105.8	111.1	111.6	111.9	112.2	113.0	114.2	104.4	110.5	110.6	111.1	111.4	112.4	114.0
Dental and shaving products (12/77 = 100)	106.8	113.6	114.3	114.1	115.6	117.3	117.8	107.0	112.1	112.5	112.7	113.9	114.7	115.3
Cosmetics, bath and nail preparations, manicure and eye makeup implements (12/77 = 100)	105.2	108.9	110.4	110.7	111.4	113.0	112.9	104.7	110.0	110.6	110.1	110.2	112.1	112.9
Other toilet goods and small personal care appliances (12/77 = 100)	106.4	107.6	108.6	110.9	109.9	112.1	112.1	108.5	109.7	110.3	111.7	112.3	113.1	114.0
Personal care services	195.2	205.0	206.4	207.0	208.5	210.0	211.6	195.2	205.0	205.8	207.3	208.6	210.2	212.7
Beauty parlor services for women	196.7	206.1	207.7	208.3	210.3	212.1	213.3	197.5	206.7	207.4	209.1	210.2	212.0	214.2
Haircuts and other barber shop services for men (12/77 = 100)	109.0	115.1	115.5	115.9	116.1	116.8	118.1	108.1	114.2	114.7	115.4	116.3	117.1	118.8
Personal and educational expenses	207.4	210.8	223.3	224.0	224.2	224.6	226.3	207.7	211.2	223.5	224.2	224.4	224.8	226.2
School books and supplies	190.7	192.6	201.5	202.3	202.3	202.5	206.0	193.1	195.2	205.0	205.8	205.9	206.0	209.8
Personal and educational services	211.7	215.4	228.6	229.4	229.6	229.9	231.4	211.7	215.5	228.4	229.0	229.3	229.7	230.6
Tuition and other school fees	108.4	109.4	117.7	118.1	118.1	118.1	118.3	108.3	109.4	117.9	118.2	118.2	118.2	118.4
College tuition (12/77 = 100)	108.6	109.7	116.9	117.3	117.3	117.3	117.6	108.6	109.7	116.8	117.3	117.3	117.3	117.6
Elementary and high school tuition (12/77 = 100)	107.5	108.3	120.9	120.9	120.9	120.9	120.9	107.4	108.4	120.7	120.7	120.7	120.7	120.7
Personal expenses (12/77 = 100)	109.3	114.8	115.1	115.8	116.3	117.3	120.1	109.3	114.4	114.4	114.9	115.5	116.3	117.7
Special indexes:														
Gasoline, motor oil, coolant and other products	207.4	288.2	297.1	299.8	302.9	309.7	329.9	207.8	289.5	298.3	301.2	304.3	311.4	331.3
Insurance and finance	249.1	278.7	283.5	288.9	296.0	302.1	310.5	249.0	278.3	283.1	228.5	295.8	301.6	310.0
Utilities and public transportation	202.9	217.0	219.3	220.7	220.5	223.5	225.0	203.3	217.4	219.5	220.7	220.3	223.0	224.4
Housekeeping and home maintenance services	259.5	274.4	276.6	278.7	280.6	282.2	284.7	258.9	275.3	277.8	279.9	281.3	283.4	286.0

24. Consumer Price Index for All Urban Consumers: Cross classification of region and population size class by expenditure category and commodity and service group

[December 1977 = 100]

Category and group	Size class A (1.25 million or more)			Size class B (385,000 - 1.250 million)			Size class C (75,000 - 385,000)			Size class D (75,000 or less)		
	1979			1979			1979			1979		
	Aug.	Oct.	Dec.	Aug.	Oct.	Dec.	Aug.	Oct.	Dec.	Aug.	Oct.	Dec.
	Northeast											
EXPENDITURE CATEGORY												
All items	115.0	117.3	119.0	117.3	120.2	122.2	120.2	123.0	125.7	116.9	119.2	121.8
Food and beverages	117.9	119.2	120.6	118.9	119.6	121.9	121.7	121.9	123.2	120.4	119.4	121.2
Housing	114.8	117.9	119.8	116.7	121.3	123.7	122.5	127.7	132.1	116.1	119.9	123.2
Apparel and upkeep	104.9	107.7	108.9	106.1	109.2	109.0	104.3	107.8	108.5	103.4	108.3	109.8
Transportation	119.6	121.1	123.7	123.4	125.0	127.6	123.6	124.9	127.0	122.5	124.5	127.3
Medical care	113.6	115.4	117.3	115.3	118.5	120.0	114.8	117.0	118.9	114.8	116.3	119.0
Entertainment	110.6	111.4	111.5	110.9	113.6	113.5	110.4	110.0	109.8	113.6	114.1	115.1
Other goods and services	108.3	111.7	112.7	111.4	114.1	114.3	113.0	115.6	116.3	109.2	112.5	113.1
COMMODITY AND SERVICE GROUP												
Commodities	116.6	118.6	120.5	119.0	121.8	123.7	120.8	122.8	125.1	117.7	120.0	122.5
Commodities less food and beverages	115.8	118.3	120.4	119.0	122.8	124.6	120.4	123.2	126.0	116.5	120.4	123.2
Services	113.0	115.6	117.2	114.6	117.8	119.9	119.1	123.3	126.6	115.7	117.9	120.7
	North Central											
EXPENDITURE CATEGORY												
All items	121.0	123.2	126.3	120.5	122.3	124.6	119.0	121.9	123.7	119.5	122.0	123.0
Food and beverages	120.2	121.2	123.2	118.6	119.2	120.2	120.4	121.6	123.4	122.0	122.8	124.8
Housing	125.8	128.7	133.1	124.1	125.7	129.3	120.3	124.5	125.9	120.5	124.0	123.6
Apparel and upkeep	102.8	105.3	105.6	104.6	109.9	110.9	105.3	107.4	109.0	104.0	110.0	111.9
Transportation	122.8	125.0	127.9	122.9	125.2	127.5	123.7	126.0	129.1	123.2	124.3	127.3
Medical care	115.0	115.9	119.6	117.2	118.6	119.3	116.4	117.5	119.7	117.5	119.1	121.8
Entertainment	111.9	112.6	113.9	109.2	110.7	111.0	110.5	112.7	114.4	111.3	112.7	113.8
Other goods and services	109.0	112.5	113.6	114.9	117.8	117.7	110.0	112.3	114.0	112.7	115.7	116.1
COMMODITY AND SERVICE GROUP												
Commodities	120.7	122.5	125.4	119.4	120.8	122.5	119.1	121.7	123.5	118.9	121.1	122.5
Commodities less food and beverages	120.9	123.0	126.4	119.7	121.5	123.5	118.5	121.7	123.6	117.6	120.4	121.6
Services	121.5	124.3	127.7	122.4	124.7	128.0	118.8	122.2	124.1	120.4	123.3	123.8
	South											
EXPENDITURE CATEGORY												
All items	118.7	120.7	123.1	120.1	122.4	124.6	119.9	122.1	124.3	118.5	120.6	122.5
Food and beverages	121.1	122.2	123.5	120.3	121.3	122.9	121.6	122.1	123.9	120.0	121.0	122.5
Housing	119.9	122.0	125.0	122.4	125.8	128.4	122.7	125.9	128.4	119.3	121.6	123.9
Apparel and upkeep	107.5	111.2	112.3	107.3	110.8	110.3	104.5	106.4	105.7	102.8	103.9	104.8
Transportation	122.6	124.2	127.6	123.5	124.5	127.8	121.8	123.2	126.4	122.4	124.4	126.3
Medical care	113.3	116.0	117.7	115.7	116.9	118.3	115.5	117.6	120.7	118.5	122.5	124.9
Entertainment	108.1	109.4	109.5	111.9	113.2	113.9	111.8	113.6	113.8	115.9	117.1	119.4
Other goods and services	111.5	114.4	115.8	110.8	114.0	115.1	111.4	114.2	115.5	114.3	117.3	118.3
COMMODITY AND SERVICE GROUP												
Commodities	118.9	120.5	122.6	119.3	121.2	123.1	119.3	120.7	122.7	118.6	120.2	121.9
Commodities less food and beverages	118.0	119.8	122.2	118.9	121.2	123.2	118.3	120.1	122.2	118.0	119.9	121.6
Services	118.4	121.0	123.8	121.2	124.3	126.8	120.8	124.2	126.7	118.5	121.1	123.5
	West											
EXPENDITURE CATEGORY												
All items	118.7	120.8	124.8	120.9	123.6	126.6	119.5	122.2	124.5	118.8	122.8	124.3
Food and beverages	119.4	121.2	123.4	121.4	123.1	125.8	120.1	121.1	122.9	121.6	121.5	123.7
Housing	119.0	121.2	127.0	122.4	126.2	130.2	120.5	124.8	127.8	117.8	124.8	125.4
Apparel and upkeep	104.8	107.9	110.0	108.8	111.0	111.5	103.9	104.4	104.4	109.5	114.0	114.9
Transportation	125.3	127.2	129.9	124.8	126.7	128.8	125.0	126.3	129.0	123.1	124.6	128.2
Medical care	116.8	119.8	121.9	116.6	117.8	121.3	116.5	118.4	119.9	119.0	120.7	122.7
Entertainment	109.3	109.3	111.1	114.4	115.6	115.9	112.6	113.8	114.9	115.7	117.8	119.2
Other goods and services	112.4	115.2	115.5	112.5	115.3	116.5	110.7	113.0	113.6	114.4	116.0	116.4
COMMODITY AND SERVICE GROUP												
Commodities	118.7	120.5	123.1	120.8	123.1	125.3	119.4	121.7	123.6	119.1	120.7	123.0
Commodities less food and beverage	118.3	120.2	123.0	120.6	123.1	125.1	119.1	121.9	123.8	118.0	120.4	122.7
Services	118.8	121.3	126.9	121.0	124.4	128.4	119.6	122.8	125.9	118.5	125.9	126.3

25. Consumer Price Index—U.S. city average, and selected areas

[1967 = 100 unless otherwise specified]

Area[1]	All Urban Consumers							Urban Wage Earners and Clerical Workers (revised)						
	1979						1980	1979						1980
	Jan.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Jan.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.
U.S. city average[2]	204.7	221.1	223.4	225.4	227.5	229.9	233.2	204.7	221.5	223.7	225.6	227.6	230.0	233.3
Anchorage, Alaska (10/67 = 100)	198.1	...	213.2	...	213.7	...	218.2	197.3	...	210.9	...	211.8	...	215.9
Atlanta, Ga.	201.8	216.9	...	220.8	...	223.3	...	202.7	219.0	...	223.5	...	227.0	...
Baltimore, Md.	204.2	...	224.9	...	227.2	...	234.4	205.0	...	224.9	...	227.9	...	234.5
Boston, Mass.	201.6	...	218.1	...	222.7	...	227.3	200.7	...	217.9	...	222.5	...	226.9
Buffalo, N.Y.	...	214.6	...	218.7	...	221.2	...	...	215.3	...	218.6	...	220.7	...
Chicago, Ill.-Northwestern Ind.	199.7	218.6	221.3	221.8	225.9	228.4	230.3	199.7	218.2	220.6	221.7	225.6	227.8	229.9
Cincinnati, Ohio-Ky.-Ind.	211.2	...	229.0	...	233.4	...	239.5	212.3	...	230.8	...	235.6	...	241.0
Cleveland, Ohio	...	221.4	...	224.7	...	232.5	...	...	222.6	...	225.5	...	233.2	...
Dallas-Ft. Worth, Tex.	...	222.9	...	228.2	...	234.1	...	...	223.0	...	228.0	...	233.3	...
Denver-Boulder, Colo.	216.2	...	240.8	...	245.9	...	247.3	218.0	...	243.6	...	248.6	...	250.9
Detroit, Mich.	205.1	222.2	223.7	227.2	231.3	233.2	237.2	204.9	222.6	223.5	226.9	230.8	232.2	236.4
Honolulu, Hawaii	...	207.2	...	210.5	...	214.8	...	...	207.2	...	211.1	...	215.5	...
Houston, Tex.	...	240.6	...	244.2	...	248.7	...	...	239.0	...	241.8	...	246.0	...
Kansas City, Mo.-Kansas	...	224.6	...	229.9	...	233.7	...	...	223.1	...	227.9	...	232.4	...
Los Angeles-Long Beach, Anaheim, Calif.	199.6	217.5	220.7	221.8	224.2	228.0	232.6	199.7	219.6	223.0	224.0	225.8	229.9	235.0
Miami, Fla. (11/77 = 100)	108.9	...	117.4	...	119.4	...	123.3	109.2	...	118.7	...	120.5	...	124.9
Milwaukee, Wis.	200.6	...	226.0	...	229.8	...	236.4	201.6	...	228.7	...	232.5	...	240.8
Minneapolis-St. Paul, Minn.-Wis.	...	227.0	...	231.2	...	234.0	...	...	228.5	...	233.0	...	234.8	...
New York, N.Y.-Northeastern N.J.	202.9	215.4	218.1	219.9	221.3	222.9	226.1	202.3	215.3	217.8	219.3	220.7	222.4	225.5
Northeast, Pa. (Scranton)	200.2	...	215.4	...	220.0	...	224.4	202.1	...	217.1	...	221.1	...	225.8
Philadelphia, Pa.-N.J.	202.3	217.7	219.5	220.1	222.4	223.7	227.2	203.9	218.1	220.3	221.3	223.8	224.6	228.0
Pittsburgh, Pa.	...	219.1	...	226.0	...	229.2	...	...	220.0	...	226.1	...	229.7	...
Portland, Oreg.-Wash.	211.7	...	232.2	...	236.6	...	244.6	212.1	...	232.6	...	236.7	...	243.5
St. Louis, Mo.-Ill.	203.4	...	222.2	...	225.7	...	232.7	201.4	...	222.5	...	226.3	...	233.5
San Diego, Calif.	214.8	...	240.4	...	247.8	...	254.0	212.5	...	237.7	...	244.8	...	251.0
San Francisco-Oakland, Calif.	...	218.3	...	221.5	...	230.2	...	...	218.6	...	220.8	...	229.0	...
Seattle-Everett, Wash.	202.0	...	222.8	...	227.6	...	236.0	200.4	...	221.0	...	225.5	...	233.8
Washington, D.C.-Md.-Va.	208.7	...	222.9	...	225.4	...	231.9	209.4	...	224.4	...	226.7	...	233.0

[1] The areas listed include not only the central city but the entire portion of the Standard Metropolitan Statistical Area, as defined for the 1970 Census of Population, except that the Standard Consolidated Area is used for New York and Chicago.

[2] Average of 85 cities.

26. Producer Price Indexes, by stage of processing

[1967 = 100]

Commodity grouping	Annual average 1978	1979											1980	
		Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.
FINISHED GOODS														
Finished goods	194.6	207.7	209.1	211.4	212.7	213.7	216.2	217.3	220.7	224.2	225.9	227.8	232.1	235.4
Finished consumer goods	192.6	206.3	207.9	210.2	211.5	212.7	215.6	217.5	221.7	224.7	226.6	228.8	233.2	237.3
Finished consumer foods	206.7	225.1	226.3	227.8	226.6	223.6	224.9	223.5	228.1	226.7	230.5	232.0	231.4	231.6
Crude	215.5	257.2	244.6	241.8	226.7	227.1	224.9	231.7	214.0	215.5	228.0	227.8	225.9	220.0
Processed	204.1	220.5	222.8	224.6	224.4	221.3	222.8	220.7	227.0	225.5	228.6	230.1	229.7	230.4
Other nondurable goods	195.4	207.2	209.8	213.1	217.1	221.7	227.1	233.4	'239.0	243.3	245.2	247.8	254.4	263.0
Durable goods	165.8	176.2	176.8	178.4	179.5	180.4	181.6	181.6	182.9	189.0	188.5	191.2	198.2	200.7
Capital Equipment	199.1	210.8	211.7	214.0	215.1	215.8	217.2	216.5	217.8	222.8	223.8	225.1	229.1	230.3
INTERMEDIATE MATERIALS														
Intermediate materials, supplies, and components	215.5	226.5	231.5	235.8	238.2	240.3	244.6	247.5	251.0	255.0	256.1	258.4	265.6	271.1
Materials and components for manufacturing	208.3	221.6	224.5	229.0	230.9	232.1	236.0	238.0	240.7	244.3	245.2	247.5	255.2	259.2
Materials for food manufacturing	202.3	217.3	219.6	222.2	222.5	222.3	226.7	225.1	228.9	225.5	227.7	230.5	225.8	245.1
Materials for nondurable manufacturing	195.8	205.3	208.7	213.7	216.7	218.1	222.5	225.3	227.6	231.4	233.1	235.1	240.6	243.3
Materials for durable manufacturing	237.2	256.8	260.0	266.0	267.2	268.9	273.3	275.2	278.8	284.7	284.2	287.5	303.5	305.9
Components for manufacturing	189.1	199.0	200.3	203.1	204.5	205.3	207.7	209.3	211.3	213.2	214.5	215.9	218.9	222.7
Materials and components for construction	224.4	230.0	241.3	244.5	245.2	245.6	247.4	249.2	252.5	254.7	253.8	253.6	257.5	261.6
Processed fuels and lubricants	296.4	304.8	312.9	323.9	336.8	349.5	364.8	384.6	'399.4	410.6	416.5	424.6	443.9	464.3
Manufacturing industries	270.4	269.0	275.4	280.7	287.4	293.8	304.0	311.2	317.2	322.5	325.3	332.3	340.6	352.2
Nonmanufacturing industries	320.0	339.1	348.9	365.9	385.5	404.9	425.5	458.8	483.0	500.6	509.7	518.8	549.8	579.7
Containers	212.5	224.3	229.3	231.8	234.5	234.9	235.4	237.6	237.9	242.6	243.5	246.1	250.9	250.8
Supplies	196.9	209.6	211.1	212.8	213.7	216.1	219.6	219.6	221.2	224.9	226.0	228.4	232.2	238.3
Manufacturing industries	183.6	194.3	197.4	199.4	201.5	202.7	204.2	208.6	209.4	212.2	213.1	215.3	220.9	222.0
Nonmanufacturing industries	204.0	217.7	218.4	219.9	220.3	223.2	227.8	225.4	227.5	231.7	232.9	235.3	238.2	247.0
Manufactured animal feeds	200.2	221.6	219.3	219.5	214.6	226.2	241.3	220.8	224.0	228.9	227.3	230.8	224.2	223.3
Other supplies	201.9	213.6	215.0	216.8	218.3	219.2	221.5	223.1	224.9	228.9	230.7	232.9	237.8	248.6
CRUDE MATERIALS														
Crude materials for further processing	240.1	270.4	276.6	279.9	282.3	283.0	287.1	281.7	288.3	289.5	290.8	296.7	296.9	308.3
Foodstuffs and feedstuffs	215.3	243.7	247.4	251.5	251.9	248.2	254.1	243.7	248.7	247.5	246.4	249.7	243.0	252.6
Nonfood materials	286.7	320.7	331.6	333.3	339.6	348.7	349.3	353.6	363.1	368.9	374.8	385.8	399.0	413.9
Nonfood materials except fuel	235.4	264.7	275.5	276.5	276.6	286.6	285.2	286.1	293.3	298.1	304.6	311.5	329.9	341.5
Manufacturing industries	240.8	271.9	283.8	284.8	284.7	295.9	294.0	294.9	302.8	307.8	314.9	322.5	342.0	354.7
Construction	185.7	200.4	201.9	203.6	204.5	205.4	207.2	208.6	209.9	212.6	214.6	216.6	225.7	228.3
Crude fuel	463.7	513.9	525.2	529.2	556.8	563.1	570.7	586.2	604.0	612.9	616.8	641.8	637.2	663.5
Manufacturing industries	481.9	541.6	555.4	580.0	593.8	601.3	610.4	629.2	651.8	662.5	667.0	697.7	691.7	724.4
Nonmanufacturing industries	459.6	502.7	512.1	515.8	536.8	544.3	550.7	563.6	577.8	585.5	589.0	609.7	606.2	627.7
SPECIAL GROUPINGS														
Finished goods excluding foods	188.9	200.2	201.7	204.2	206.3	208.5	211.4	213.2	216.2	221.3	222.2	224.3	230.1	234.3
Finished consumer goods excluding Foods	183.7	194.9	196.7	199.3	202.1	205.2	208.4	212.3	216.3	220.6	222.4	225.0	231.8	237.8
Intermediate materials, supplies, and Components, excluding intermediate materials for food manufacturing and manufactured animal feeds	216.4	229.1	232.3	236.7	238.8	241.3	245.4	249.0	252.5	256.8	257.8	260.1	268.1	273.2
Intermediate foods and feeds	201.0	218.2	218.9	220.7	219.3	223.0	231.0	223.1	226.6	226.0	227.0	230.0	224.7	237.1
Crude materials for further processing excluding crude foodstuffs and feedstuffs, plant and animal fibers, oilseeds, and leaf tobacco	316.6	356.4	370.6	372.4	379.2	389.5	391.7	396.9	408.6	417.0	423.9	437.1	453.0	468.8

NOTE: Data for October 1979 have been revised to reflect the availability of late reports and corrections by respondents. All data are subject to revision 4 months after original publication.

27. Producer Price Indexes, by commodity groupings[1]

[1967 = 100 unless otherwise specified]

Code	Commodity group and subgroup	Annual average 1978	1979											1980	
			Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.
	All commodities	209.3	224.1	226.7	230.0	232.0	233.5	236.9	238.3	242.0	245.6	246.9	249.4	254.7	259.8
	All commodities (1957-59 = 100)	222.1	237.7	240.5	243.7	245.7	247.7	251.4	252.8	256.7	260.6	262.0	264.6	270.2	275.6
	Farm products and processed foods and feeds	206.6	227.2	229.0	244.0	230.8	229.0	232.2	227.5	231.8	230.6	232.3	234.5	231.9	236.9
	Industrial commodities	209.4	222.5	225.4	229.0	231.6	234.0	237.5	240.6	244.2	249.0	250.2	252.8	260.3	265.4
	FARM PRODUCTS AND PROCESSED FOODS AND FEEDS														
01	Farm products	212.5	240.9	242.8	223.3	245.4	242.8	246.8	238.5	241.0	239.6	240.2	242.5	236.4	242.3
01-1	Fresh and dried fruits and vegetables	216.5	263.0	235.7	234.7	228.2	226.4	226.7	241.7	208.3	218.0	216.4	210.5	218.9	220.5
01-2	Grains	182.5	189.3	192.0	198.3	210.3	218.7	247.4	229.1	224.4	229.0	226.6	227.9	214.6	223.3
01-3	Livestock	220.1	266.5	275.8	284.0	280.7	264.0	256.0	240.2	256.4	251.7	248.3	252.5	247.8	257.2
01-4	Live poultry	199.8	217.8	217.6	209.4	216.3	182.9	183.8	171.9	173.5	162.0	195.5	194.7	195.2	184.6
01-5	Plant and animal fibers	193.4	205.1	197.8	197.8	207.6	219.5	207.6	207.9	211.3	212.9	215.4	222.0	239.0	269.5
01-6	Fluid milk	219.7	244.6	243.7	242.4	242.0	243.8	247.6	250.0	258.5	260.8	262.5	264.0	262.3	263.8
01-7	Eggs	158.6	176.7	199.9	185.5	163.8	170.7	167.6	166.8	175.4	155.9	178.7	198.4	165.6	150.4
01-8	Hay, hayseeds, and oilseeds	215.8	246.1	249.5	248.3	240.7	258.4	260.1	251.9	240.9	235.6	229.8	230.3	218.1	224.7
01-9	Other farm products	274.9	253.6	254.6	255.1	264.1	281.0	311.9	310.8	315.9	313.6	318.3	319.4	301.1	304.7
02	Processed foods and feeds	202.6	218.9	220.5	222.3	222.0	220.6	223.3	220.5	225.8	224.8	227.1	229.2	228.5	233.1
02-1	Cereal and bakery products	190.3	199.1	200.1	203.0	204.9	206.3	212.4	216.0	218.7	219.8	222.3	223.7	225.4	229.7
02-2	Meats, poultry, and fish	217.1	248.5	250.6	253.0	250.4	241.4	237.7	225.5	239.9	234.2	239.5	242.8	239.5	239.5
02-3	Dairy products	188.4	203.2	204.9	207.1	207.9	208.4	209.0	215.2	218.3	218.1	219.0	219.6	221.4	221.2
02-4	Processed fruits and vegetables	202.6	219.5	219.6	220.5	221.4	221.5	223.6	224.6	225.1	223.4	222.5	222.3	222.8	223.1
02-5	Sugar and confectionery	197.8	208.4	208.4	208.7	207.6	211.1	215.7	218.3	217.2	218.9	222.7	234.4	234.8	287.1
02-6	Beverages and beverage materials	200.0	201.1	201.2	201.5	205.3	208.5	214.1	216.5	217.9	218.9	221.4	221.9	224.1	224.7
02-7	Fats and oils	225.3	237.5	238.6	246.2	241.8	243.6	253.2	251.7	253.3	246.0	242.1	235.8	224.9	225.9
02-8	Miscellaneous processed foods	199.0	208.0	217.5	219.3	220.2	211.1	212.7	217.6	219.0	220.8	222.1	222.0	225.4	223.5
02-9	Manufactured animal feeds	197.4	217.2	215.7	215.6	210.8	220.5	234.9	216.2	219.2	224.0	222.7	225.3	219.5	219.8
	INDUSTRIAL COMMODITIES														
03	Textile products and apparel	159.8	164.2	165.2	166.4	167.2	168.4	169.3	170.5	171.3	172.0	172.4	172.8	174.9	176.5
03-1	Synthetic fibers (12/75 = 100)	109.6	113.5	113.6	115.1	117.4	118.5	119.5	120.6	123.6	124.7	124.9	124.5	126.9	127.1
03-2	Processed yarns and threads (12/75 = 100)	102.4	105.3	107.0	106.8	107.8	108.6	109.5	110.6	111.7	112.1	113.0	113.1	114.4	117.3
03-3	Gray fabrics (12/75 = 100)	118.6	123.2	123.1	124.5	124.7	125.4	128.3	128.7	128.7	129.7	130.6	132.5	132.2	131.7
03-4	Finished fabrics (12/75 = 100)	103.8	104.1	105.4	105.9	107.0	107.6	108.2	109.0	109.1	108.9	108.5	109.3	109.8	110.8
03-81	Apparel	152.4	157.6	158.3	159.8	159.8	160.2	160.3	161.4	161.6	162.2	162.9	162.3	165.3	167.3
03-82	Textile housefurnishings	178.6	186.0	187.4	188.0	188.0	189.3	189.9	190.5	193.9	196.3	194.8	197.0	199.2	200.0
04	Hides, skins, leather, and related products	200.0	232.2	253.3	258.9	269.6	268.0	261.9	257.9	251.1	253.9	248.5	248.9	255.3	251.0
04-1	Hides and skins	360.5	497.8	639.6	642.2	666.9	611.0	566.5	511.9	465.3	478.8	447.6	443.9	468.8	404.8
04-2	Leather	238.6	309.2	371.9	393.6	429.4	414.6	385.2	365.9	330.0	343.6	319.8	324.8	347.6	340.3
04-3	Footwear	183.0	203.0	209.9	212.0	216.3	221.1	221.8	225.4	226.9	227.5	227.3	227.3	228.5	228.1
04-4	Other leather and related products	177.0	192.2	195.9	200.4	209.1	212.3	212.1	210.9	210.1	209.7	208.5	208.1	213.2	214.9
05	Fuels and related products and power	322.5	342.5	350.9	361.5	377.6	393.7	411.8	432.8	454.8	468.5	476.7	488.7	507.8	533.0
05-1	Coal	430.0	444.0	445.3	447.1	450.8	452.0	452.5	454.2	452.5	454.6	455.4	457.8	458.1	458.7
05-2	Coke	411.8	423.7	428.5	430.1	430.6	430.6	430.6	430.6	430.6	431.2	431.2	431.2	430.6	430.6
05-3	Gas fuels[1]	428.7	458.1	471.0	477.4	507.2	522.3	548.4	572.4	603.4	619.9	637.1	670.5	679.6	719.8
05-4	Electric power	250.6	251.1	257.3	260.6	265.9	269.9	274.8	278.8	280.5	283.5	282.1	287.2	290.7	299.5
05-61	Crude petroleum[2]	300.1	322.3	324.2	326.2	335.7	356.4	370.6	385.7	422.1	436.7	450.4	470.8	513.6	515.1
05-7	Petroleum products, refined[3]	321.0	350.0	360.3	378.6	400.0	423.6	449.8	482.8	513.7	533.7	544.9	554.8	582.4	620.3
06	Chemicals and allied products	198.8	207.3	209.9	215.1	218.0	219.2	225.0	228.5	230.8	234.2	235.6	238.1	245.5	247.6
06-1	Industrial chemicals[4]	225.6	237.4	239.7	248.2	255.6	259.3	270.4	277.1	280.0	285.7	287.2	291.6	302.6	306.7
06-21	Prepared paint	192.3	202.3	202.3	203.3	201.3	201.3	205.3	205.3	206.0	206.7	206.9	210.7	223.1	223.3
06-22	Paint materials	212.7	224.3	227.0	231.6	236.1	239.5	246.7	247.9	252.0	253.6	254.8	255.4	258.9	262.7
06-3	Drugs and pharmaceuticals	148.1	156.2	156.6	157.5	157.7	159.0	159.2	159.6	161.0	162.8	163.0	164.4	166.5	167.7
06-4	Fats and oils, inedible	315.8	367.9	398.5	448.7	418.3	374.1	381.6	376.4	379.9	366.9	344.3	327.1	325.6	302.2
06-5	Agricultural chemicals and chemical products	198.4	203.1	206.3	209.8	210.0	209.2	211.2	215.3	219.4	224.3	229.2	232.7	238.1	242.8
06-6	Plastic resins and materials	199.8	206.3	210.9	220.6	228.5	230.1	244.5	250.1	252.0	260.0	261.7	262.7	270.0	271.1
06-7	Other chemicals and allied products	181.8	184.7	186.5	186.9	188.9	190.5	191.8	194.4	195.8	197.0	199.3	201.9	209.6	211.0
07	Rubber and plastic products	174.8	183.2	185.9	188.8	190.8	193.1	195.5	198.8	200.7	203.0	204.3	205.7	208.2	210.9
07-1	Rubber and rubber products	185.3	197.6	199.4	201.2	202.6	204.8	209.5	214.6	217.1	220.3	223.3	223.9	227.1	232.2
07-11	Crude rubber	187.2	201.1	204.8	211.6	214.2	222.0	226.1	233.0	232.2	236.5	236.4	239.4	251.9	263.1
07-12	Tires and tubes	179.2	194.1	195.0	196.1	197.3	196.9	206.2	211.6	215.0	218.3	222.7	222.7	224.7	231.2
07-13	Miscellaneous rubber products	189.6	198.1	200.3	201.3	202.6	203.5	205.4	209.4	211.9	214.7	216.9	217.4	219.1	220.4
07-2	Plastic products (6/78 = 100)		103.5	105.7	108.0	109.5	111.0	111.2	112.2	113.0	114.0	113.8	115.2	116.2	116.5
08	Lumber and wood products	276.0	293.9	300.5	304.9	302.8	299.8	300.1	304.7	309.7	308.8	299.0	289.8	290.0	294.8
08-1	Lumber	322.4	339.9	350.5	355.4	354.8	354.8	355.0	365.3	373.9	370.3	355.5	338.9	336.3	341.5
08-2	Millwork	235.4	251.5	257.8	266.0	261.6	258.9	252.5	249.6	250.9	255.6	252.3	250.3	254.1	258.0
08-3	Plywood	235.6	257.1	254.7	252.4	249.3	238.6	249.7	254.3	257.9	254.0	242.9	237.7	238.2	243.7
08-4	Other wood products	211.8	226.2	232.2	235.5	238.4	238.5	237.6	237.4	238.0	237.7	239.9	240.5	242.2	243.4

See footnotes at end of table.

27. Continued—Producer Price Indexes, by commodity groupings[1]

[1967 = 100 unless otherwise specified]

Code	Commodity groups and subgroups	Annual average 1978	1979											1980	
			Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.
	INDUSTRIAL COMMODITIES — Continued														
09	Pulp, paper, and allied products	195.5	208.8	212.3	215.0	216.2	216.6	218.3	222.2	223.0	227.5	229.3	231.0	237.4	238.9
09-1	Pulp, paper, and products, excluding building paper and board	195.6	209.5	213.2	216.0	217.2	217.8	219.6	223.6	224.3	229.0	230.9	232.6	239.1	240.5
09-11	Woodpulp	266.5	291.4	294.3	303.8	306.9	308.3	320.3	320.6	320.6	337.5	339.9	339.9	358.8	358.5
09-12	Wastepaper	191.2	194.1	203.2	206.5	206.2	207.2	207.9	206.6	206.7	206.7	220.0	221.2	222.7	223.2
09-13	Paper	206.1	221.2	223.3	226.3	227.2	227.5	228.2	229.5	230.3	238.7	242.1	243.0	245.5	247.5
09-14	Paperboard	179.6	190.2	192.9	197.9	199.2	199.8	201.7	206.4	209.6	211.3	212.8	215.4	221.8	223.4
09-15	Converted paper and paperboard products	185.6	199.8	204.1	205.8	207.0	207.6	209.0	214.4	214.6	217.3	218.4	220.3	227.5	228.7
09-2	Building paper and board	187.4	183.6	182.6	183.4	183.3	180.8	178.0	179.1	182.6	183.5	183.6	184.4	186.0	191.1
10	Metals and metal products	227.1	247.3	251.7	256.0	256.2	258.2	260.8	261.8	263.7	269.6	270.9	273.5	284.5	288.6
10-1	Iron and steel	253.6	274.9	279.9	280.2	279.5	283.2	286.8	286.1	285.5	289.2	291.6	292.7	297.3	300.2
10-13	Steel mill products	254.5	271.8	272.5	275.0	276.7	277.3	284.6	284.7	284.8	288.3	288.7	289.3	293.7	294.2
10-2	Nonferrous metals	207.8	239.2	246.6	259.6	258.2	259.7	262.3	263.1	269.3	283.1	283.7	291.2	326.1	336.5
10-3	Metal containers	243.4	256.8	264.5	270.1	268.5	267.3	267.2	268.4	268.7	279.9	280.7	280.7	283.3	283.3
10-4	Hardware	200.4	213.3	214.2	215.8	216.9	217.1	218.5	220.1	221.5	224.0	225.4	226.5	228.4	229.4
10-5	Plumbing fixtures and brass fittings	199.1	207.8	209.7	212.0	213.8	217.0	219.6	222.4	223.0	223.5	225.4	226.4	229.7	236.6
10-6	Heating equipment	174.4	180.9	183.4	183.8	185.7	185.2	186.0	188.1	191.3	192.2	192.7	195.2	197.3	199.9
10-7	Fabricated structural metal products	226.4	240.5	241.3	243.8	247.0	248.2	250.5	252.2	253.7	256.3	256.6	257.7	258.8	259.5
10-8	Miscellaneous metal products	212.0	223.4	225.2	227.0	228.5	230.1	231.8	235.6	236.7	238.5	239.4	239.9	241.5	242.5
11	Machinery and equipment	196.1	206.5	207.9	209.8	211.4	212.4	214.8	216.0	217.7	220.0	221.0	222.9	227.1	229.7
11-1	Agricultural machinery and equipment	213.1	223.9	224.8	226.4	228.3	229.4	231.2	233.3	237.4	240.0	241.4	243.2	247.6	249.1
11-2	Construction machinery and equipment	232.9	247.9	248.7	251.7	253.7	254.0	257.0	258.5	258.9	263.9	264.5	268.2	275.4	277.5
11-3	Metalworking machinery and equipment	217.0	232.0	233.0	235.3	237.6	239.1	241.4	243.5	246.4	249.6	251.4	254.6	258.7	261.3
11-4	General purpose machinery and equipment	216.6	227.7	230.4	232.6	234.0	235.1	237.1	238.3	240.2	242.8	243.7	246.1	249.6	252.0
11-6	Special industry machinery and equipment	223.0	237.0	239.1	243.4	245.1	246.1	249.8	251.0	251.2	253.8	255.3	256.2	260.7	262.9
11-7	Electrical machinery and equipment	164.9	172.8	173.8	175.0	176.5	177.6	179.9	181.2	182.5	184.3	185.0	186.5	190.5	194.2
11-9	Miscellaneous machinery	194.7	203.4	204.0	205.4	207.1	207.4	209.7	209.7	212.0	213.6	214.5	215.7	220.0	220.8
12	Furniture and household durables	160.4	167.9	168.3	168.7	169.6	170.2	170.7	171.5	172.7	175.1	175.6	177.0	182.1	183.4
12-1	Household furniture	173.5	181.3	181.8	182.7	184.8	185.3	185.8	186.2	188.5	190.1	192.4	194.3	195.4	196.5
12-2	Commercial furniture	201.5	221.2	221.2	221.7	221.9	221.8	222.7	222.7	222.7	223.3	223.3	225.1	227.1	230.1
12-3	Floor coverings	141.6	143.6	144.0	144.4	146.0	146.5	149.1	150.0	150.4	152.1	152.8	152.9	159.8	159.4
12-4	Household appliances	153.0	158.3	158.8	158.7	159.3	160.0	161.1	162.2	162.7	163.2	164.5	165.2	166.6	168.7
12-5	Home electronic equipment	90.2	92.3	92.3	92.3	92.4	92.8	90.2	90.2	90.3	90.3	87.9	88.1	88.5	88.7
12-6	Other household durable goods	203.1	216.6	217.9	218.6	219.5	220.6	223.7	226.6	231.0	245.6	246.6	252.1	283.1	284.2
13	Nonmetallic mineral products	222.8	240.5	240.8	243.4	245.6	246.9	249.5	249.9	254.6	256.2	257.1	259.2	268.0	272.6
13-11	Flat glass	172.8	183.1	183.1	183.1	183.1	184.0	184.1	184.1	184.5	184.7	185.4	186.4	190.9	190.9
13-2	Concrete ingredients	217.7	238.2	239.8	242.0	242.5	243.3	245.1	245.9	246.7	248.3	248.4	249.9	263.5	265.2
13-3	Concrete products	214.0	236.4	237.8	240.5	241.6	243.7	245.2	246.3	248.7	250.1	250.5	253.2	264.9	266.2
13-4	Structural clay products excluding refractories	197.2	210.7	212.8	214.8	215.7	216.5	220.3	222.3	223.7	221.1	221.1	226.8	229.6	231.1
13-5	Refractories	216.5	227.8	228.3	228.4	228.5	232.6	240.8	241.7	242.4	244.6	248.2	248.7	249.3	251.9
13-6	Asphalt roofing	292.0	317.8	303.1	316.4	317.9	323.0	328.4	325.9	333.0	337.5	345.9	342.9	356.5	372.3
13-7	Gypsum products	229.1	250.6	251.0	252.2	248.8	251.3	251.8	252.3	254.9	255.3	256.2	255.0	255.4	262.2
13-8	Glass containers	244.4	250.7	250.7	250.7	265.2	265.2	265.2	265.2	265.2	265.2	265.5	273.6	274.5	274.6
13-9	Other nonmetallic minerals	275.6	293.7	294.5	300.0	303.0	302.0	310.5	309.9	336.0	341.2	342.2	342.2	351.6	374.3
14	Transportation equipment (12/68 = 100)	173.5	183.5	183.8	186.8	187.2	187.5	188.4	185.9	186.6	194.2	194.4	195.1	198.3	198.1
14-1	Motor vehicles and equipment	176.0	185.9	186.1	189.4	189.8	190.1	190.8	187.8	188.6	197.1	197.0	197.6	200.3	199.9
14-4	Railroad equipment	252.8	268.0	268.9	271.7	271.6	274.7	280.6	280.9	281.6	286.3	288.2	289.0	295.0	299.3
15	Miscellaneous products	184.3	199.8	200.6	201.4	203.3	205.2	207.0	208.9	213.1	218.9	219.0	227.2	242.2	261.8
15-1	Toys, sporting goods, small arms, ammunition	163.2	171.0	171.5	173.2	174.3	174.7	176.9	177.6	179.8	181.1	181.7	183.5	190.4	193.2
15-2	Tobacco products	198.5	213.6	214.0	214.4	214.4	214.4	214.8	221.3	221.9	222.1	221.9	226.3	236.3	236.9
15-3	Notions	182.0	188.2	190.2	190.2	190.6	190.6	192.0	191.9	191.9	195.7	196.0	197.0	203.1	203.2
15-4	Photographic equipment and supplies	145.7	150.2	150.2	150.1	150.6	151.6	152.0	152.2	154.3	157.4	161.3	164.5	166.0	218.7
15-51	Mobile Homes (12/74 = 100)	126.4	132.5	133.8	135.2	137.2	137.9	138.2	139.5	140.7	142.9	143.5	143.6	144.2	146.0
15-9	Other miscellaneous products	210.6	244.0	245.5	246.1	250.6	255.8	261.4	261.4	272.5	288.3	284.9	307.9	349.7	375.3

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[1] Prices for natural gas are lagged 1 month.

[2] Includes only domestic production.

[3] Most prices for refined petroleum products are lagged 1 month.

[4] Some prices for industrial chemicals are lagged 1 month.

[5] Not available.

NOTE: Data for October 1979 have been revised to reflect the availability of late reports and corrections by respondents. All data are subject to revision 4 months after original publication.

28. Producer Price Indexes, for special commodity groupings

[1967 = 100 unless otherwise specified]

Commodity grouping	Annual average 1978	1979 Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	1980 Jan.	Feb.
All commodities — less farm products	206.4	222.0	224.7	228.0	230.1	232.0	235.4	237.5	241.4	245.3	246.7	249.2	219.3	260.5
All foods	206.4	225.0	225.9	227.7	226.4	223.8	225.4	224.7	228.5	226.9	229.9	232.1	219.9	235.7
Processed foods	206.7	223.5	225.6	227.8	227.5	224.7	226.4	224.8	230.8	228.9	231.8	234.1	219.8	238.5
Industrial commodities less fuels	197.2	209.6	211.9	214.7	216.0	217.0	219.0	220.3	222.0	225.9	226.4	228.1	207.3	237.5
Selected textile mill products (Dec. 1975 = 100)	108.8	110.8	111.6	112.3	112.8	113.5	114.0	115.1	115.8	116.4	116.1	117.0	109.8	119.4
Hosiery	106.3	109.9	110.5	112.5	112.5	112.7	114.1	113.0	112.7	113.3	114.6	115.3	110.1	119.6
Underwear and nightwear	158.9	166.3	167.1	167.3	167.7	168.3	168.5	170.8	170.8	171.2	171.6	172.9	164.6	177.8
Chemicals and allied products, including synthetic rubber and manmade fibers and yarns	190.5	198.0	200.0	204.1	207.6	209.5	215.0	218.6	220.9	224.3	226.0	228.6	196.3	238.2
Pharmaceutical preparations	140.6	149.0	149.4	150.0	150.1	151.7	151.7	152.0	153.6	155.6	155.4	156.9	148.1	160.4
Lumber and wood products, excluding millwork and other wood products	298.3	317.0	323.7	326.4	325.1	321.7	325.3	333.9	341.0	337.3	323.5	310.3	314.8	314.0
Special metals and metal products	209.6	225.6	228.2	232.7	232.4	233.7	235.5	234.9	236.4	243.4	244.2	245.9	222.0	255.7
Fabricated metal products	216.2	228.6	230.6	232.9	234.6	235.7	237.4	239.8	241.1	244.0	244.8	245.6	227.0	248.3
Copper and copper products	155.6	188.2	197.9	212.1	199.0	193.0	191.9	197.1	200.5	212.2	213.6	216.1	168.8	258.2
Machinery and motive products	190.4	200.8	201.7	204.1	206.3	206.0	207.7	207.2	208.5	213.4	214.0	215.4	199.6	220.6
Machinery and equipment, except electrical	214.3	226.1	227.7	230.0	231.8	232.6	235.1	236.2	238.2	240.8	242.0	244.1	224.9	250.4
Agricultural machinery, including tractors	216.3	228.5	229.6	230.8	232.1	233.8	235.8	238.4	243.6	246.3	247.9	250.0	227.6	256.0
Metalworking machinery	228.8	247.4	248.9	251.2	254.3	256.8	260.1	261.7	265.6	268.5	272.5	276.2	245.2	284.8
Numerically controlled machine tools (Dec. 1971 = 100)	179.1	190.9	192.6	192.7	195.7	195.8	202.2	204.2	206.5	208.5	209.0	211.3	188.9	215.6
Total tractors	228.7	242.5	243.1	245.4	247.7	248.2	251.2	253.8	256.0	261.2	260.9	264.9	240.8	273.5
Agricultural machinery and equipment less parts	212.7	224.4	225.6	226.7	228.1	229.5	231.4	233.7	238.4	241.0	242.4	244.6	223.5	250.4
Farm and garden tractors less parts	216.1	225.8	226.7	228.5	230.5	231.8	233.9	237.6	244.1	247.6	248.8	250.4	225.6	256.7
Agricultural machinery excluding tractors less parts	216.7	230.9	232.1	233.0	233.6	235.7	237.6	239.2	243.5	245.4	247.4	250.0	229.5	255.6
Industrial valves	232.3	247.8	249.5	252.4	255.0	255.8	257.0	258.2	260.1	261.8	261.1	265.2	245.4	272.2
Industrial fittings	232.7	249.9	252.0	255.5	259.3	260.4	260.8	262.3	264.3	272.6	276.8	276.8	249.9	280.4
Abrasive grinding wheels	208.1	220.2	220.3	220.3	221.6	222.8	222.8	224.6	224.6	239.0	235.3	239.0	220.2	244.0
Construction materials	228.3	244.1	246.9	250.0	250.3	250.3	252.3	254.3	256.6	258.5	256.5	255.3	241.4	262.2

NOTE: Data for October 1979 have been revised to reflect the availability of late reports and corrections by respondents. All data are subject to revision 4 months after original publication.

29. Producer Price Indexes, by durability of product

[1967 = 100]

Commodity grouping	Annual average 1978	1979 Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	1980 Jan.	Feb.
Total durable goods	204.9	218.9	221.0	223.9	224.7	225.8	227.6	228.0	230.1	234.6	234.9	236.6	243.4	246.4
Total nondurable goods	211.9	227.3	230.4	234.1	236.9	238.8	243.7	245.8	251.1	253.7	256.0	259.2	263.0	270.0
Total manufactures	204.2	217.5	219.7	223.1	225.0	226.5	229.8	231.7	235.2	239.0	240.2	242.3	248.2	252.7
Durable	204.7	218.0	219.8	222.7	223.8	224.6	226.6	227.2	229.4	234.0	234.1	235.8	242.2	245.0
Nondurable	203.0	216.1	219.0	222.8	225.6	227.8	232.5	235.9	241.0	244.0	246.3	248.8	253.8	260.7
Total raw or slightly processed goods	234.6	258.5	263.3	266.1	268.2	269.7	274.3	272.1	276.9	278.7	281.1	286.4	287.5	295.9
Durable	209.6	253.9	273.6	272.5	262.9	272.8	265.4	259.8	255.7	259.2	265.8	267.8	282.7	305.2
Nondurable	235.6	256.0	261.6	264.7	267.6	268.5	274.0	272.0	277.5	276.2	281.3	286.8	286.9	294.2

NOTE: Data for October 1979 have been revised to reflect the availability of late reports and corrections by respondents. All data are subject to revision 4 months after original publication.

30. Producer Price Indexes for the output of selected SIC industries

[1967 = 100 unless otherwise specified]

1972 SIC code	Industry Description	Annual average 1978	1979 Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	1980 Jan.	Feb.
	MINING														
1011	Iron ores (12/75 = 100)	121.9	127.3	127.3	131.9	131.9	136.0	136.0	138.8	138.1	140.2	140.2	142.0	142.0	147.3
1092	Mercury ores (12/75 = 100)	126.6	168.7	178.3	202.1	237.5	277.0	270.8	245.8	252.1	275.0	252.1	300.0	308.3	335.4
1211	Bituminous coal and lignite	430.2	444.4	445.7	447.5	451.3	452.5	453.1	454.8	452.9	455.1	455.8	458.1	458.0	458.7
1311	Crude petroleum and natural gas	358.2	397.2	403.8	407.6	427.2	444.1	457.5	476.0	508.4	522.1	533.5	553.3	583.2	597.4
1442	Construction sand and gravel	194.6	210.4	210.9	214.1	216.0	217.0	219.3	220.1	221.0	224.0	224.3	225.7	238.0	242.1
1455	Kaolin and ball clay (6/76 = 100)	111.8	125.4	125.4	125.4	125.4	125.5	125.5	125.5	125.5	126.7	114.7	119.7	128.5	128.5
	MANUFACTURING														
2011	Meat packing plants	216.7	250.8	256.6	265.0	259.2	249.1	243.8	229.3	247.2	238.9	211.6	243.9	240.7	240.1
2013	Sausages and other prepared meats	215.2	230.4	235.6	224.4	227.7	217.1	214.7	203.4	211.7	211.9	214.2	219.9	211.5	207.4
2016	Poultry dressing plants	192.5	204.6	206.1	199.7	203.5	177.8	178.4	166.6	171.2	163.1	188.3	188.5	186.1	178.2
2021	Creamery butter	205.2	211.1	216.1	224.7	225.3	225.3	227.5	237.9	240.6	240.1	241.7	243.1	241.9	242.8

See footnotes at end of table.

30. Continued—Producer Price Indexes for the output of selected SIC Industries

[1967 = 100 unless otherwise specified]

1972 SIC code	Industry description	Annual average 1978	1979											1980	
			Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.
	MANUFACTURING—Continued														
2022	Cheese natural and processed (12/72= 100)	169.6	179.4	182.5	186.8	185.2	185.6	186.3	195.4	200.8	196.8	193.4	192.6	197.1	194.6
2024	Ice cream and frozen desserts (12/72 = 100)	154.8	166.7	166.7	167.3	171.0	171.5	171.5	175.0	176.1	177.5	178.4	180.2	180.9	181.5
2033	Canned fruits and vegetables	193.2	204.4	205.2	206.2	207.2	207.5	208.9	210.5	212.0	212.9	212.4	212.0	213.5	213.5
2034	Dehydrated food products (12/73 = 100)	131.3	181.2	180.9	181.7	182.1	181.0	182.0	180.7	170.0	158.2	156.3	157.3	157.6	159.0
2041	Flour mills (12/71 = 100)	147.0	160.5	157.5	158.1	166.7	174.6	190.9	176.9	183.5	184.2	184.9	184.9	181.7	183.6
2044	Rice milling	207.6	166.6	171.0	206.8	206.8	206.8	206.8	218.7	223.5	227.3	231.8	218.1	217.5	233.0
2048	Prepared foods, n.e.c. (12/75 = 100)	107.3	118.4	118.3	117.5	115.2	118.9	120.1	119.4	120.9	123.6	124.6	125.3	122.3	122.9
2061	Raw cane sugar	190.7	198.2	195.7	197.5	195.6	207.0	209.0	216.8	216.7	224.3	223.3	248.4	260.5	374.9
2063	Beet sugar	186.5	197.0	198.6	199.3	199.7	199.7	202.0	199.4	200.0	204.7	209.6	223.4	223.5	290.6
2067	Chewing gum	218.0	242.5	242.5	242.6	242.2	242.2	242.9	242.9	242.9	242.9	262.2	262.2	262.3	262.3
2074	Cottonseed oil mills	183.1	204.5	202.8	196.5	192.5	210.4	224.5	214.1	217.9	214.9	204.7	205.6	182.2	184.3
2075	Soybean oil mills	225.6	241.2	242.0	244.7	237.7	251.1	262.8	250.0	248.6	244.7	242.6	241.8	230.2	226.2
2077	Animal and marine fats and oils	287.9	344.5	362.6	393.1	363.8	335.3	352.0	321.4	333.8	333.7	315.2	300.7	296.0	292.6
2083	Malt	181.5	190.8	190.8	190.8	190.8	201.4	201.4	201.4	214.9	214.9	228.2	228.2	244.1	244.1
2085	Distilled liquor, except brandy (12/75 = 100)	106.7	109.4	109.4	109.4	113.6	113.6	113.6	115.7	117.1	117.1	118.1	118.1	118.6	118.7
2091	Canned and cured seafoods (12/73 = 100)	136.4	137.9	138.5	139.2	140.9	142.1	148.5	148.2	154.0	154.3	155.6	159.8	160.9	164.0
2092	Fresh or frozen packaged fish	303.8	361.9	359.4	375.8	382.4	397.6	403.7	391.5	389.2	400.1	392.4	389.3	390.7	386.6
2095	Roasted coffee (12/72 = 100)	262.3	222.5	221.6	220.5	231.7	244.2	271.0	279.2	279.2	280.0	287.5	287.5	281.3	273.9
2098	Macaroni and spaghetti	176.9	184.7	184.7	184.7	186.6	188.6	203.5	210.4	210.4	210.4	221.5	227.7	227.7	227.7
2111	Cigarettes	204.6	221.2	221.3	221.4	221.4	221.4	221.5	228.9	229.1	229.2	229.2	234.3	245.8	245.9
2121	Cigars	141.4	143.0	145.0	145.4	145.4	145.3	149.8	150.1	150.1	149.8	147.2	147.2	147.9	151.6
2131	Chewing and smoking tobacco	222.0	236.4	240.9	245.9	245.9	245.9	246.4	246.4	255.8	260.4	260.8	260.8	260.9	265.1
2211	Weaving mills, cotton (12/72 = 100)	181.1	190.1	190.4	191.8	192.7	194.3	196.1	196.5	198.7	201.1	200.1	200.8	203.1	206.5
2221	Weaving mills, synthetic (12/77 = 100)	109.0	112.7	112.4	113.3	113.6	114.1	116.2	116.3	116.2	116.8	116.9	117.3	117.6	117.8
2251	Women's hosiery, except socks (12/75 = 100)	91.5	94.3	94.4	97.3	97.3	97.6	99.6	98.1	97.5	98.2	100.3	100.2	103.6	103.6
2254	Knit underwear mills	164.1	169.9	172.6	172.8	173.1	173.3	172.9	174.0	174.0	174.3	174.6	178.2	182.9	184.5
2257	Circular knit fabric mills (6/76 = 100)	98.5	91.7	93.9	93.2	94.1	95.8	96.1	96.4	96.2	96.9	96.4	98.4	98.8	100.0
2261	Finishing plants, cotton (6/76 = 100)	111.0	117.4	118.2	119.0	120.8	120.9	122.5	123.2	124.0	126.1	123.1	123.4	124.9	129.5
2262	Finishing plants, synthetics, silk (6/76 = 100)	101.4	105.0	105.2	105.9	106.3	107.0	107.5	108.2	108.3	109.3	108.9	109.2	109.8	109.3
2271	Woven carpets and rugs (12/75 = 100)	114.7	115.8	116.0	116.0	116.7	117.1	(1)	(1)	(1)	(1)	...	...	...	...
2272	Tufted carpets and rugs	125.3	126.0	126.5	127.0	127.7	128.1	127.6	128.6	129.0	129.8	130.0	130.1	135.6	135.2
2281	Yarn mills, except wool (12/71= 100)	167.4	171.4	172.3	173.1	174.5	175.7	177.5	177.4	179.4	181.2	182.9	184.6	188.3	197.4
2282	Throwing and winding mills (6/76 = 100)	99.2	102.7	106.0	104.4	106.3	107.5	106.5	109.7	111.2	110.4	111.0	109.2	109.3	108.8
2284	Thread mills (6/76 = 100)	114.6	120.3	120.3	120.4	120.4	120.4	120.5	128.1	128.1	128.4	128.4	128.5	128.7	129.2
2298	Cordage and twine (12/77 = 100)	99.3	98.6	98.6	101.7	102.8	105.4	105.4	113.5	115.1	114.9	114.9	115.0	115.0	117.2
2311	Men's and boys' suits and coats	194.3	199.6	199.9	203.9	204.2	204.5	205.8	206.5	206.5	206.6	206.8	206.6	207.5	209.6
2321	Men's and boys' shirts and nightwear	180.8	191.4	191.6	191.8	192.4	193.5	194.7	195.9	196.0	196.1	194.7	194.5	198.8	196.6
2322	Men's and boys' underwear	180.6	184.6	188.7	188.7	188.7	188.7	188.7	190.0	190.0	190.0	190.0	194.0	200.0	202.2
2323	Men's and boys' neckwear (12/75 = 100)	102.3	103.4	103.4	103.4	103.4	103.4	103.4	110.9	110.9	110.9	110.9	110.9	112.4	112.4
2327	Men's and boys' separate trousers	152.7	157.8	157.8	162.3	162.3	162.5	162.5	162.7	162.7	162.9	163.4	163.4	164.2	174.3
2328	Men's and boys' work clothing	195.2	199.8	200.0	206.5	206.5	209.0	208.9	210.7	210.9	213.4	218.9	219.4	225.3	234.1
2331	Women's and misses' blouses and waists (6/78 = 100)	...	99.1	99.2	99.1	100.3	100.5	102.6	102.7	102.8	103.0	105.9	106.8	107.0	107.2
2335	Women's and misses' dresses (12/77 = 100)	100.7	104.9	106.6	106.6	105.9	105.9	106.4	108.3	108.3	108.7	108.8	108.8	112.9	113.9
2341	Women's and children's underwear (12/72 = 100)	132.1	142.3	142.3	142.6	143.3	143.3	144.2	145.3	145.3	146.7	147.4	147.7	149.4	150.1
2342	Brassieres and allied garments (12/75 = 100)	111.7	116.0	116.0	116.1	116.2	117.5	117.5	117.8	117.8	117.8	117.8	118.8	119.7	123.0
2361	Children's dresses and blouses (12/77 = 100)	(1)	105.4	105.5	106.7	106.7	102.1	102.4	102.4	103.7	105.7	105.7	105.6	106.1	105.3
2381	Fabric dress and work gloves	214.4	232.2	232.2	241.5	243.9	243.9	245.4	245.4	245.4	245.4	246.9	246.9	257.7	261.7
2394	Canvas and related products (12/77 = 100)	99.6	105.9	105.9	105.9	105.9	106.9	108.4	111.0	111.4	112.3	112.1	120.1	122.1	122.8
2396	Automotive and apparel trimmings (12/77 = 100)	106.3	107.1	107.1	107.1	107.1	114.3	114.3	114.3	114.3	114.3	114.3	114.3	114.3	114.3
2421	Sawmills and planing mills (12/71 = 100)	228.9	241.9	249.5	252.5	251.6	250.9	251.3	259.1	265.6	262.2	250.1	237.5	234.8	239.6
2436	Softwood veneer and plywood (12/75 = 100)	150.1	162.2	160.1	157.3	151.1	140.7	148.1	153.4	156.0	153.1	143.3	138.7	138.5	143.9
2439	Structural wood members, n.e.c. (12/75 = 100)	136.2	148.1	148.3	150.1	150.1	150.0	150.0	149.9	150.8	158.2	158.2	158.2	158.2	158.2
2448	Wood pallets and skids (12/75 = 100)	149.4	161.8	163.8	166.8	166.7	167.0	166.9	166.8	167.9	167.9	171.0	170.5	169.8	167.0
2451	Mobile homes (12/74 = 100)	126.5	132.5	133.8	135.3	137.3	138.0	138.2	139.6	140.7	143.0	143.5	143.6	144.2	146.1
2492	Particleboard (12/75 = 100)	159.7	141.9	142.7	143.8	141.6	137.4	134.3	134.7	138.5	139.5	136.9	134.1	136.5	140.0
2511	Wood household furniture (12/71 = 100)	152.4	160.3	160.9	162.7	164.6	164.0	164.5	164.6	168.0	169.3	171.3	173.6	175.7	177.4
2512	Upholstered household furniture (12/71 = 100)	143.1	146.9	147.6	147.4	149.2	149.4	150.0	150.2	151.6	151.8	153.9	155.8	155.9	156.6
2515	Mattresses and bedsprings	156.3	162.9	162.9	163.1	163.2	164.1	164.5	165.8	165.8	168.9	172.1	172.1	169.7	169.7
2521	Wood office furniture	194.4	213.1	213.1	214.2	214.3	214.2	216.8	216.8	216.8	217.6	217.6	221.9	226.2	233.7
2611	Pulp mills (12/73 = 100)	178.5	187.3	189.9	192.5	195.2	196.6	205.4	205.7	205.8	213.5	215.6	215.6	227.2	227.0
2621	Paper mills, except building (12/74 = 100)	115.7	124.7	126.0	128.5	129.3	129.5	130.2	131.0	131.4	135.1	136.7	137.0	139.2	140.0
2631	Paperboard mills (12/74 = 100)	106.4	112.9	114.4	117.1	118.1	118.5	119.7	121.9	123.4	125.4	126.4	127.7	131.4	132.3
2647	Sanitary paper products	251.4	267.6	269.2	270.8	271.7	271.9	276.4	285.9	285.4	286.3	286.5	289.1	294.0	303.8
2654	Sanitary food containers	170.8	179.4	179.5	184.1	189.1	189.1	189.6	189.6	191.8	195.8	198.1	199.9	202.6	202.6
2655	Fiber cans, drums, and similar products (12/75 = 100)	123.0	130.4	130.8	130.9	132.2	134.0	136.6	136.6	136.6	138.5	137.2	140.9	143.2	143.2
2812	Alkalies and chlorine (12/73 = 100)	198.8	203.2	201.8	203.7	204.9	206.3	209.5	212.2	213.1	214.1	216.5	217.1	220.3	224.9
2821	Plastics materials and resins (6/76 = 100)	103.8	106.9	109.2	113.8	117.7	118.6	124.9	127.8	128.9	132.9	133.9	134.3	138.2	139.3
2822	Synthetic rubber	180.5	191.4	192.7	196.5	200.9	206.6	214.2	223.4	223.8	225.7	227.0	229.4	240.0	243.2
2824	Organic fiber, noncellulosic	107.6	111.0	111.5	113.1	115.9	117.4	118.6	119.8	123.5	123.6	124.1	123.5	124.3	124.8
2873	Nitrogenous fertilizers (12/75 = 100)	96.6	96.6	98.0	101.5	101.9	101.4	102.8	104.1	106.1	108.0	111.7	113.6	114.5	119.4
2874	Phosphatic fertilizers	166.0	173.3	179.1	185.2	186.1	184.2	188.9	199.4	204.3	213.2	221.2	223.4	230.0	233.9
2875	Fertilizers, mixing only	181.9	187.5	192.8	197.3	197.8	197.8	198.1	205.6	211.1	218.3	226.9	227.1	233.8	240.8
2892	Explosives	217.3	227.1	226.9	227.9	239.0	239.3	240.1	240.7	250.3	250.8	251.8	252.7	253.9	256.5
2911	Petroleum refining (6/76 = 100)	119.6	129.3	132.8	138.8	146.6	156.1	165.5	176.6	188.9	196.4	200.9	204.8	213.6	228.7
2951	Paving mixtures and blocks (12/75 = 100)	117.1	124.8	125.9	128.5	130.1	131.2	134.4	134.9	141.6	145.6	146.6	145.7	150.0	157.3
2952	Asphalt felts and coatings (12/75) = 100)	128.2	139.3	132.8	138.6	139.3	141.6	143.6	142.7	145.8	147.6	151.6	150.4	156.1	162.4
3011	Tires and inner tubes (12/73 = 100)	154.0	166.2	167.1	168.0	169.2	170.6	176.8	181.2	184.2	186.9	190.9	191.0	192.7	198.2

30. Continued—Producer Price Indexes for the output of selected SIC industries

[1967 = 100 unless otherwise specified]

1972 SIC code	Industry description	Annual average 1978	1979											1980	
			Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.
3021	Rubber and plastic footwear (12/71 = 100)	158.7	169.0	169.0	169.0	169.5	169.6	171.0	173.4	173.4	173.5	173.4	173.4	173.7	173.8
3031	Reclaimed rubber (12/73 = 100)	154.3	161.3	162.1	164.5	167.6	169.1	169.2	169.2	177.7	178.8	177.1	177.4	177.6	177.9
3079	Miscellaneous plastic products (6/78 = 100)	...	103.4	105.4	107.5	109.0	110.7	111.4	112.3	113.1	114.3	114.1	115.6	116.6	116.8
3111	Leather tanning and finishing (12/77 = 100)	119.1	143.7	173.8	182.9	201.3	195.8	181.8	172.9	155.2	161.9	150.8	153.5	164.3	160.8
3142	House slippers (12/75 = 100)	122.5	134.7	136.3	136.3	138.5	142.0	135.0	135.0	135.0	135.8	137.0	137.0	144.8	146.7
3143	Men's footwear, except athletic (12/75 = 100)	127.1	141.0	145.6	147.6	152.8	155.4	155.4	158.2	160.1	160.4	159.2	159.2	159.3	157.9
3144	Women's footwear, except athletic	164.1	178.4	189.2	190.3	192.2	195.4	198.7	201.5	201.6	202.3	204.0	204.0	205.7	206.4
3171	Women's handbags and purses (12/75 = 100)	111.4	123.0	123.0	123.0	131.7	131.8	131.8	131.8	131.8	131.8	131.8	131.8	131.9	131.9
3211	Flat glass (12/71 = 100)	142.7	150.8	150.8	150.8	150.8	151.8	151.9	151.9	152.3	152.6	153.3	153.9	157.4	157.4
3221	Glass containers	244.3	250.7	250.7	250.7	265.2	265.2	265.2	265.2	265.2	265.2	265.5	273.6	274.5	274.5
3241	Cement, hydraulic	251.2	278.8	280.3	283.1	283.2	283.7	285.4	285.4	285.4	285.4	282.9	283.6	302.8	303.2
3251	Brick and structural clay tile	230.8	250.9	252.8	256.7	258.3	259.7	261.0	263.3	265.9	261.3	261.3	262.7	268.3	270.4
3253	Ceramic wall and floor tile (12/75 = 100)	107.7	111.6	113.0	113.0	113.0	113.0	120.2	120.2	120.2	120.2	120.2	130.3	130.4	130.4
3255	Clay refractories	221.4	233.2	234.1	234.4	234.6	236.9	246.5	246.7	247.1	251.0	254.4	255.4	256.5	260.9
3259	Structural clay products, n.e.c.	176.3	184.4	186.7	186.8	186.8	187.8	188.2	192.1	192.1	192.8	192.6	196.9	196.7	198.6
3261	Vitreous plumbing fixtures	189.7	198.6	198.9	201.6	204.6	206.4	210.1	212.4	213.1	214.5	215.7	217.3	219.2	224.6
3262	Vitreous china food utensils	268.8	290.6	290.6	290.6	290.6	290.6	297.5	297.5	298.0	298.0	305.3	307.9	307.9	307.9
3263	Fine earthenware food utensils	228.1	237.0	237.1	237.1	237.1	236.4	238.8	238.8	246.0	246.0	246.9	290.3	290.3	290.3
3269	Pottery products, n.e.c. (12/75 = 100)	122.2	129.2	129.2	129.2	129.2	129.0	131.0	131.0	133.3	133.3	135.0	148.8	148.8	148.8
3271	Concrete block and brick	202.0	223.1	227.0	230.8	232.6	232.7	232.7	235.7	237.8	240.0	240.0	240.1	249.5	250.6
3273	Ready-mixed concrete	217.6	241.1	241.7	244.5	245.2	247.5	249.6	250.5	252.4	254.0	254.5	257.0	270.1	271.9
3274	Lime (12/75 = 100)	129.5	136.6	137.5	139.9	139.8	140.1	141.8	142.9	144.2	144.6	144.4	144.7	149.6	153.7
3275	Gypsum products	229.5	251.1	251.5	252.7	249.4	251.9	252.3	252.8	255.4	255.9	256.8	255.6	255.9	262.8
3291	Abrasive products (12/71 = 100)	172.3	182.2	182.4	184.0	185.1	185.8	187.7	188.6	190.4	195.1	194.7	197.1	199.2	202.2
3297	Nonclay refractories (12/74 = 100)	133.6	140.3	140.4	140.5	140.5	143.9	148.1	149.1	149.7	150.1	152.3	152.4	152.6	153.3
3312	Blast furnaces and steel mills	262.3	280.3	281.1	283.5	285.3	285.8	292.8	293.0	293.2	296.4	297.0	297.6	302.3	302.9
3313	Electrometallurgical products (12/75 = 100)	94.8	104.0	104.0	106.8	111.7	112.3	116.5	116.5	116.0	116.2	117.5	117.6	117.8	117.8
3316	Cold finishing of steel shapes	241.0	258.3	258.4	259.1	259.8	261.3	270.6	270.8	270.9	271.7	273.2	273.9	274.2	277.2
3317	Steel pipes and tubes	255.2	265.1	265.8	265.0	264.5	264.5	271.9	271.3	271.3	272.7	272.8	273.0	280.9	281.2
3321	Gray iron foundries (12/68 = 100)	233.5	244.7	249.4	253.9	253.3	254.5	253.9	253.8	254.8	267.1	266.0	268.3	272.3	275.4
3333	Primary zinc	223.2	260.6	260.9	274.2	274.5	275.2	281.4	265.5	264.2	265.2	257.9	265.7	266.1	272.4
3334	Primary aluminum	217.4	226.1	232.4	235.8	237.4	238.5	244.9	247.4	248.2	256.0	263.2	266.6	267.0	267.0
3351	Copper rolling and drawing	170.2	199.9	211.0	220.1	215.6	211.7	211.2	213.6	216.7	226.3	222.7	225.1	231.1	253.2
3353	Aluminum sheet plate and foil (12/75 = 100)	137.6	146.4	146.5	148.0	148.7	148.8	149.6	149.8	150.0	150.7	151.5	151.9	153.4	153.5
3354	Aluminum extruded products (12/75 = 100)	134.3	141.6	142.5	146.1	147.5	147.6	150.3	151.9	151.9	155.2	157.3	157.8	158.8	158.9
3355	Aluminum rolling, drawing, n.e.c. (12/75 = 100)	119.7	126.5	127.5	129.6	131.5	131.6	132.7	133.1	133.5	136.9	139.9	140.3	140.5	140.8
3411	Metal cans	238.5	253.9	260.9	264.4	263.8	262.2	262.2	262.9	263.5	273.8	273.8	273.9	276.6	276.6
3425	Hand saws and saw blades (12/72 = 100)	147.9	157.8	157.9	159.6	161.9	162.5	162.8	166.3	166.4	167.1	169.4	169.6	173.0	173.6
3431	Metal sanitary ware	209.1	217.4	219.2	220.8	222.2	224.1	226.4	228.9	229.2	230.1	231.7	232.9	237.3	242.1
3465	Automotive stampings (12/75 = 100)	118.8	125.0	125.7	126.2	127.0	127.1	127.8	130.9	131.6	132.4	132.7	132.7	132.8	132.8
3482	Small arms ammunition (12/75 = 100)	119.5	129.3	125.9	128.3	130.4	131.4	134.0	134.0	134.0	133.2	137.9	149.2	147.9	147.9
3493	Steel springs, except wire	204.6	212.6	216.7	218.1	218.7	220.5	221.6	222.1	222.8	223.7	223.9	225.4	226.0	226.5
3494	Valves and pipe fittings (12/71 = 100)	185.5	197.6	199.0	201.4	203.6	204.2	205.3	206.2	207.5	210.4	211.6	213.9	216.5	218.8
3498	Fabricated pipe and fittings	265.5	276.7	276.8	284.9	288.2	290.7	294.8	294.8	294.9	297.3	297.4	297.4	301.7	301.8
3519	Internal combustion engines, n.e.c.	220.1	233.8	234.0	237.1	239.0	239.2	242.3	245.7	251.8	254.2	253.7	253.7	259.2	260.5
3531	Construction machinery (12/76 = 100)	114.0	121.1	121.6	123.0	123.9	124.0	125.6	126.3	126.5	128.9	129.0	130.7	134.2	135.3
3532	Mining machinery (12/72 = 100)	209.5	223.4	224.2	228.0	228.4	226.4	231.2	231.5	232.7	233.1	234.7	235.8	243.1	244.2
3533	Oilfield machinery and equipment	246.2	281.4	281.8	283.5	288.4	290.0	292.0	293.3	296.8	300.5	301.3	308.0	314.0	308.0
3534	Elevators and moving stairways	204.2	214.1	213.4	213.8	213.6	214.2	215.4	214.6	219.1	219.4	220.6	220.9	223.9	220.9
3542	Machine tools, metal forming types (12/71 = 100)	213.6	233.3	234.1	237.9	238.8	240.6	244.6	245.1	247.9	249.8	253.5	256.7	266.0	256.7
3546	Power driven hand tools (12/76 = 100)	111.1	116.3	116.9	117.7	117.8	118.7	119.2	120.2	120.4	122.0	122.7	124.2	126.2	124.2
3552	Textile machinery (12/69 = 100)	179.9	189.6	190.4	191.6	191.7	192.6	195.0	197.5	198.2	199.3	200.6	200.6	202.7	200.6
3553	Woodworking machinery (12/72 = 100)	168.1	177.3	179.2	181.0	183.2	184.5	185.9	187.7	190.0	192.6	193.1	193.3	201.7	219.3
3576	Scales and balances, excluding laboratory	179.7	191.1	191.1	191.3	192.8	193.7	194.8	195.4	195.4	195.7	196.6	197.7	200.9	197.7
3592	Carburetors, pistons, rings, valves (6/76 = 100)	128.2	135.7	136.9	137.6	138.6	138.7	139.2	139.6	140.7	142.8	143.5	144.6	147.3	144.6
3612	Transformers	158.3	165.4	167.0	168.5	168.0	168.5	167.9	167.6	168.4	171.2	170.5	171.7	173.0	171.7
3623	Welding apparatus, electric (12/72 = 100)	178.1	186.0	186.6	187.3	191.5	191.9	193.5	194.1	195.1	196.9	197.9	199.6	200.6	199.6
3631	Household cooking equipment (12/75 = 100)	114.8	119.2	120.2	120.3	120.7	120.9	122.0	123.4	124.3	124.4	125.8	126.1	128.6	126.1
3632	Household refrigerators, freezers (6/76 = 100)	109.6	112.5	112.7	111.8	111.9	112.6	113.6	114.3	115.1	115.1	115.3	115.9	116.6	115.9
3633	Household laundry equipment (12/73 = 100)	141.0	146.3	146.9	146.9	147.0	147.2	148.8	149.9	150.6	150.9	153.5	154.7	155.2	154.7
3635	Household vacuum cleaners	135.5	138.1	140.4	140.4	141.2	141.5	141.6	141.7	141.9	144.5	144.7	145.8	146.2	145.8
3636	Sewing machines (12/75 = 100)	111.2	119.8	119.8	121.1	121.1	121.1	121.8	122.2	122.2	122.6	122.0	122.0	122.0	122.0
3641	Electric lamps	214.7	226.8	227.1	229.8	229.8	229.7	240.8	244.3	242.7	244.8	240.8	240.5	248.3	240.5
3644	Noncurrent-carrying wiring devices (12/72 = 100)	185.8	197.1	198.0	200.4	202.6	203.0	203.3	207.7	209.1	210.5	214.2	217.3	215.2	217.3
3646	Commercial lighting fixtures (12/75 = 100)	112.7	119.6	121.2	124.3	126.8	127.4	127.9	127.9	130.5	131.4	132.0	132.3	133.9	132.3
3648	Lighting equipment, n.e.c. (12/75 = 100)	114.6	121.9	122.3	123.5	124.0	124.6	127.6	128.2	128.5	129.6	129.8	130.5	133.0	130.5
3671	Electron tubes receiving type	200.9	210.9	211.0	211.2	211.3	226.4	226.5	226.6	227.2	227.2	227.3	227.6	229.1	227.6
3674	Semiconductors and related devices	85.3	84.2	84.4	84.7	84.7	84.7	84.2	84.3	84.7	85.1	85.0	86.0	86.6	86.0
3675	Electronic capacitors (12/75 = 100)	111.5	114.4	115.9	119.8	120.1	122.1	126.7	129.3	134.1	133.9	134.9	137.9	147.7	137.9
3676	Electronic resistors (12/75 = 100)	118.3	122.8	123.1	123.2	123.2	123.2	124.0	124.6	125.2	126.6	127.8	127.3	127.4	127.3
3678	Electronic connectors (12/75 = 100)	118.9	125.4	125.6	125.8	126.6	126.9	133.4	134.1	137.6	138.9	140.7	141.0	143.6	141.0
3692	Primary batteries, dry and wet	162.0	162.7	164.8	167.9	172.1	172.7	172.8	172.8	172.8	173.1	173.1	174.1	174.2	171.1
3711	Motor vehicles and car bodies (12/75 = 100)	115.9	122.3	122.3	124.5	124.6	124.8	125.1	122.1	122.5	130.2	129.8	130.0	132.5	130.0
3942	Dolls (12/75 = 100)	103.2	109.0	108.6	109.3	109.3	109.3	111.8	112.6	112.6	112.9	113.0	113.0	121.2	113.0
3944	Games, toys, and children's vehicles	172.3	178.8	179.2	179.6	182.3	183.1	183.5	184.4	185.1	186.2	186.3	186.6	195.5	186.6
3955	Carbon paper and inked ribbons (12/75 = 100)	105.1	114.3	115.5	119.6	120.2	116.7	117.1	118.3	116.7	123.1	125.5	125.6	126.5	125.6
3995	Burial caskets (6/76 = 100)	113.0	120.9	120.9	121.0	121.7	121.7	123.3	123.8	124.8	123.1	124.8	124.8	128.3	124.8
3996	Hard surface floor coverings (12/75 = 100)	116.3	120.7	120.7	120.7	123.7	124.5	128.3	128.3	128.3	131.0	134.1	134.1	138.6	134.1

[1] Not available.

NOTE: Data for October 1979 have been revised to reflect the availability of late reports and corrections by respondents. All data are subject to revision 4 months after original publication.

PRODUCTIVITY DATA

PRODUCTIVITY DATA are compiled by the Bureau of Labor Statistics from establishment data and from estimates of compensation and output supplied by the U.S. Department of Commerce and the Federal Reserve Board.

Definitions

Output is the constant dollar gross domestic product produced in a given period. Indexes of **output per hour of labor input,** or labor productivity, measure the value of goods and services produced per hour of labor. **Compensation per hour** includes wages and salaries of employees plus employers' contributions for social insurance and private benefit plans. The data also include an estimate of wages, salaries, and supplementary payments for the self-employed, except for nonfinancial corporations, in which there are no self-employed. **Real compensation per hour** is compensation per hour adjusted by the Consumer Price Index for All Urban Consumers.

Unit labor cost measures the labor compensation cost required to produce one unit of output and is derived by dividing compensation by output. **Unit nonlabor payments** include profits, depreciation, interest, and indirect taxes per unit of output. They are computed by subtracting compensation of all persons from the current dollar gross domestic product and dividing by output. In these tables, **Unit nonlabor costs** contain all the components of unit nonlabor payments except unit profits. **Unit profits** include corporate profits and inventory valuation adjustments per unit of output.

The **implicit price deflator** is derived by dividing the current dollar estimate of gross product by the constant dollar estimate, making the deflator, in effect, a price index for gross product of the sector reported.

The use of the term "man-hours" to identify the labor component of productivity and costs, in tables 31 through 34, has been discontinued. **Hours of all persons** is now used to describe the labor input of payroll workers, self-employed persons, and unpaid family workers. **Output per all-employee hour** is now used to describe labor productivity in nonfinancial corporations where there are no self-employed.

Notes on the data

In the private business sector and the nonfarm business sector, the basis for the output measure employed in the computation of output per hour is Gross Domestic Product rather than Gross National Product. Computation of hours includes estimates of nonfarm and farm proprietor hours.

Output data are supplied by the Bureau of Economic Analysis, U.S. Department of Commerce, and the Federal Reserve Board. Quarterly manufacturing output indexes are adjusted by the Bureau of Labor Statistics to annual estimates of output (gross product originating) from the Bureau of Economic Analysis. Compensation and hours data are from the Bureau of Economic Analysis and the Bureau of Labor Statistics.

Beginning with the September 1976 issue of the *Review,* tables 31–34 were revised to reflect changeover to the new series—private business sector and nonfarm business sector—which differ from the previously published total private economy and nonfarm sector in that output imputed for owner-occupied dwellings and the household and institutions sectors, as well as the statistical discrepancy, are omitted. For a detailed explanation, see J. R. Norsworthy and L. J. Fulco, "New sector definitions for productivity series," *Monthly Labor Review,* October 1976, pages 40–42.

31. Indexes of productivity and related data, selected years, 1950–79

[1967 = 100]

Item	1950	1955	1960	1965	1970	1972	1973	1974	1975	1976	1977	1978	1979
Private business sector:													
Output per hour of all persons	61.0	70.3	78.7	95.0	104.2	111.4	113.6	110.1	112.4	116.4	118.6	119.2	118.1
Compensation per hour	42.4	55.8	71.9	88.7	123.1	139.7	151.2	164.9	181.3	197.2	213.0	231.2	252.8
Real compensation per hour	58.9	69.6	81.1	93.8	105.8	111.5	113.6	111.7	112.5	115.6	117.3	118.3	116.3
Unit labor cost	69.6	79.4	91.3	93.3	118.2	125.4	133.1	149.8	161.3	169.4	179.6	194.0	[1]214.0
Unit nonlabor payments	73.2	80.5	85.5	95.9	105.8	119.0	124.9	130.4	150.4	158.0	165.6	174.3	[1]184.6
Implicit price deflator	70.8	79.8	89.3	94.2	113.9	123.2	130.3	143.1	157.5	165.5	174.8	187.2	203.8
Nonfarm business sector:													
Output per hour of all persons	66.9	74.3	80.9	95.9	103.0	110.1	112.0	108.5	110.5	114.4	116.2	116.8	115.5
Compensation per hour	45.4	58.7	74.2	89.4	121.7	138.4	149.2	162.8	178.9	193.8	209.3	227.3	247.6
Real compensation per hour	63.0	73.2	83.7	94.6	104.6	110.4	112.1	110.2	111.0	113.7	115.3	116.3	113.9
Unit labor cost	67.9	79.1	91.7	93.2	118.1	125.7	133.2	150.0	161.8	169.4	180.1	194.5	214.3
Unit nonlabor payments	71.5	80.1	84.5	95.8	106.0	117.5	117.8	124.7	146.0	156.0	163.9	169.9	178.8
Implicit price deflator	69.1	79.4	89.2	94.1	114.0	122.9	127.9	141.4	156.4	164.8	174.5	186.1	202.2
Nonfinancial corporations:													
Output per hour of all employees	(1)	(1)	80.2	96.8	103.5	110.5	112.8	108.5	111.9	115.5	116.8	117.9	P 117.5
Compensation per hour	(1)	(1)	75.7	90.0	121.5	136.7	147.5	161.4	177.4	192.2	207.6	224.8	P 244.7
Real compensation per hour	(1)	(1)	85.4	95.3	104.4	109.1	110.8	109.3	110.1	112.7	114.4	115.0	P 112.6
Unit labor cost	(1)	(1)	94.3	93.0	117.4	123.7	130.7	148.8	158.6	166.4	177.7	190.6	P 208.3
Unit nonlabor payments	(1)	(1)	90.8	100.1	103.5	114.8	116.8	124.8	148.1	156.8	164.4	170.6	P 179.8
Implicit price deflator	(1)	(1)	93.1	95.5	112.5	120.5	125.8	140.2	154.9	163.0	173.0	183.5	P 188.2
Manufacturing:													
Output per hour of all persons	65.0	74.1	78.9	98.3	104.5	115.7	118.8	112.6	118.2	123.4	127.2	128.0	130.2
Compensation per hour	45.1	60.5	77.1	91.0	121.8	136.6	146.4	161.1	180.2	195.1	212.0	229.5	250.5
Real compensation per hour	62.5	75.4	87.0	96.3	104.7	109.0	110.0	109.1	111.8	114.5	116.8	117.5	115.2
Unit labor cost	69.4	81.6	97.7	92.6	116.5	118.1	123.2	143.1	152.4	158.2	166.6	179.4	192.4
Unit nonlabor payments	82.4	88.6	92.4	103.3	96.2	107.4	106.4	105.6	128.4	139.6	147.4	152.4	(1)
Implicit price deflator	73.3	83.8	96.1	95.9	110.3	114.8	118.0	131.6	145.1	152.5	160.7	171.1	(1)

[1] Not available

32. Annual percent change in productivity and related data, 1969–79

Item	Year											Annual rate of change	
	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1950-78	1960-78
Private business sector:													
Output per hour of all persons	0.2	0.7	3.3	3.5	1.9	-3.0	2.1	3.5	1.9	0.5	-0.9	2.6	2.2
Compensation per hour	6.8	7.1	6.7	6.3	8.2	9.1	9.9	8.8	8.0	8.5	9.3	5.8	6.8
Real compensation per hour	1.4	1.1	2.4	2.9	1.9	-1.7	.7	2.8	1.5	0.8	-1.7	2.6	2.1
Unit labor cost	6.6	6.4	3.3	2.8	6.2	12.5	7.7	5.0	6.0	8.0	'10.3	3.2	4.5
Unit nonlabor payments	1.0	1.2	6.8	5.2	5.0	4.4	15.3	5.1	4.8	5.3	'5.9	2.8	4.0
Implicit price deflator	4.7	4.7	4.4	3.6	5.8	9.8	10.1	5.0	5.6	7.1	8.9	3.1	4.3
Nonfarm business sector:													
Output per hour of all persons	-.3	.1	3.1	3.7	1.7	-3.1	1.9	3.5	1.6	.5	-1.2	2.2	2.0
Compensation per hour	6.3	6.7	6.7	6.5	7.8	9.1	9.9	8.3	8.0	8.6	8.9	5.5	6.5
Real compensation per hour	.9	.7	2.3	3.1	1.5	-1.7	.7	2.4	1.4	.9	-2.1	2.3	1.9
Unit labor cost	6.7	6.5	3.5	2.8	6.0	12.7	7.9	4.7	6.3	8.0	10.2	3.2	4.5
Unit nonlabor payments	.4	1.6	6.7	3.8	.3	5.9	17.1	6.9	5.0	3.7	5.2	2.8	3.9
Implicit price deflator	4.5	4.9	4.5	3.1	4.1	10.5	10.6	5.4	5.9	6.6	'8.6	3.1	4.3
Nonfinancial corporations:													
Output per hour of all employees	.3	-.1	3.4	3.3	2.1	-3.8	3.1	3.2	1.1	1.0	p-.4	(1)	2.0
Compensation per hour	6.7	6.7	6.2	5.9	7.9	9.4	10.0	8.3	8.0	8.3	p8.9	(1)	6.3
Real compensation per hour	1.2	.7	1.9	2.5	1.6	-1.4	.7	2.4	1.5	.5	p-2.1	(1)	1.7
Unit labor cost	6.3	6.8	2.7	2.5	5.7	13.8	6.6	4.9	6.8	7.3	p9.3	(1)	4.2
Unit nonlabor payments	0	.5	7.3	3.3	1.8	6.8	18.7	5.8	4.9	3.8	p5.4	(1)	3.4
Implicit price deflator	4.1	4.6	4.2	2.8	4.4	11.5	10.5	5.2	6.1	6.1	p8.0	(1)	3.9
Manufacturing:													
Output per hour of all persons	1.1	-.3	5.3	5.1	2.7	-5.2	4.9	4.4	3.1	.6	1.8	2.6	2.6
Compensation per hour	6.4	6.9	6.3	5.5	7.2	10.1	11.8	8.3	8.6	8.3	'9.2	5.4	6.3
Real compensation per hour	1.0	.9	2.0	2.1	.9	-.8	2.4	2.4	2.0	.6	-1.9	2.2	1.6
Unit labor cost	5.2	7.2	.9	.4	4.3	16.1	6.6	3.8	5.3	7.7	7.2	2.7	3.6
Unit nonlabor payments	-4.4	-3.2	9.2	2.3	-1.0	-.7	21.6	8.8	5.5	3.4	NA	1.8	2.3
Implicit price deflator	2.3	4.2	3.1	1.0	2.8	11.5	10.2	5.1	5.4	6.5	NA	2.5	3.3

[1] Not available.

33. Indexes of productivity, hourly compensation, unit costs, and prices, seasonally adjusted

[1967 = 100]

Item	Annual average		Quarterly indexes										
			1977			1978				1979			
	1978	1979	II	III	IV	I	II	III	IV	I	II	III	IV
Private business sector:													
Output per hour of all persons	119.2	118.1	117.9	119.4	118.8	118.4	119.0	119.7	119.8	118.9	118.2	117.8	'117.6
Compensation per hour	231.2	252.8	210.8	215.3	218.5	224.2	228.5	233.6	237.4	244.8	250.3	255.6	'260.1
Real compensation per hour	118.3	116.3	116.7	117.6	117.9	118.7	118.1	118.2	118.0	118.0	116.9	115.8	114.2
Unit labor cost	194.0	'214.0	178.8	180.2	183.8	189.4	192.1	195.2	199.0	205.9	211.7	217.0	'221.1
Unit nonlabor payments	174.3	'184.6	164.7	167.9	168.6	164.8	173.9	177.0	181.3	180.8	183.7	185.6	'189.0
Implicit price deflator	187.2	203.8	173.9	176.0	178.6	180.9	185.8	188.9	192.9	197.2	202.0	206.1	210.0
Nonfarm business sector:													
Output per hour of all persons	116.8	115.5	115.8	116.7	116.3	116.0	116.5	117.3	117.6	116.6	115.4	115.0	'115.1
Compensation per hour	227.3	247.6	207.3	211.2	214.8	220.6	224.6	229.4	234.3	240.2	244.4	249.9	'255.4
Real compensation per hour	116.3	113.9	114.7	115.4	115.9	116.8	116.1	116.1	116.0	115.8	114.3	113.2	'112.2
Unit labor cost	194.5	'214.3	179.0	180.9	184.7	190.2	192.7	195.6	199.3	206.0	212.1	217.3	'221.8
Unit nonlabor payments	169.9	178.8	163.2	167.1	166.0	161.1	169.2	173.0	176.1	174.3	177.6	180.5	183.3
Implicit price deflator	186.1	202.2	173.6	176.2	178.3	180.2	184.7	187.8	191.4	195.1	200.3	204.7	'208.6
Nonfinancial corporations:													
Output per hour of all employees	117.9	p117.5	116.5	117.4	116.7	116.7	117.8	118.4	118.8	118.1	117.3	117.2	(1)
Compensation per hour	224.8	p244.7	205.7	209.5	212.8	218.5	222.3	226.9	231.3	237.4	242.1	247.1	(1)
Real compensation per hour	115.0	p112.6	113.8	114.5	114.8	115.7	114.9	114.8	114.5	114.5	113.1	112.0	(1)
Total unit costs	193.3	p210.3	180.5	182.4	186.3	180.8	191.6	194.0	196.5	202.3	208.0	213.2	(1)
Unit labor cost	190.6	p208.3	176.6	178.4	182.3	187.3	188.7	191.5	194.8	201.0	206.4	210.8	(1)
Unit nonlabor costs	201.8	p216.6	192.4	194.8	198.7	201.5	200.8	201.6	203.1	206.5	213.2	220.5	(1)
Unit profits	127.2	p128.4	123.3	130.9	122.2	107.1	129.2	132.7	138.7	130.3	129.2	127.5	(1)
Implicit price deflator	183.5	p198.2	172.0	174.7	176.8	178.3	182.3	184.9	188.2	191.6	196.3	200.4	(1)
Manufacturing:													
Output per hour for all persons	128.0	130.2	127.3	128.4	127.8	125.7	127.2	129.2	129.8	129.0	130.0	131.1	130.6
Compensation per hour	229.5	250.5	209.7	214.1	217.5	223.2	226.6	231.4	236.5	242.4	248.2	253.0	'258.2
Real compensation per hour	117.5	115.2	116.1	117.0	117.4	118.1	117.1	117.0	117.1	116.9	115.9	114.6	'113.4
Unit labor cost	179.4	192.4	164.7	166.7	170.2	177.5	178.1	179.1	182.2	187.9	190.9	193.0	197.6

34. Percent change from preceding quarter and year in productivity, hourly compensation, unit costs, and prices, seasonally adjusted at annual rate

[1967 = 100]

Item	Quarterly percent change at annual rate						Percent change from same quarter a year ago					
	II 1978 to III 1978	III 1978 to IV 1978	IV 1978 to I 1979	I 1979 to II 1979	II 1979 to III 1979	III 1979 to IV 1979	III 1977 to III 1978	IV 1977 to IV 1978	I 1978 to I 1979	II 1978 to II 1979	III 1978 to III 1979	IV 1978 to IV 1979
Private business sector:												
Output per hour of all persons	2.4	0.3	−3.0	−2.2	−1.3	' −0.6	0.2	0.8	0.4	−0.6	−1.6	' −1.8
Compensation per hour	9.2	8.5	11.1	9.3	8.8	'7.2	8.5	9.1	9.2	9.5	9.4	'9.1
Real compensation per hour	.3	' −.7	.1	−3.8	−3.6	' −5.4	0.4	.1	−.6	−1.0	−2.0	−3.2
Unit labor cost	6.6	8.1	14.6	11.8	10.3	'7.8	8.3	8.3	8.7	10.2	11.2	'11.1
Unit nonlabor payments	7.4	9.9	−1.0	6.5	4.1	'7.7	5.4	7.5	9.7	5.6	4.8	'4.3
Implicit price deflator	6.9	8.7	9.3	10.1	8.3	7.8	7.4	8.0	9.0	8.7	9.1	8.9
Nonfarm business sector:												
Output per hour of all persons	2.7	.8	−3.2	−4.1	−1.4	' −.5	.5	1.1	'.5	−1.0	−2.0	' −2.0
Compensation per hour	8.8	8.8	10.4	7.9	8.5	'9.2	8.7	9.1	8.9	9.0	8.9	'9.0
Real compensation per hour	.0	−.4	−.6	−5.0	−3.9	'3.6	.6	.1	−.8	−1.5	−2.5	−3.3
Unit labor cost	6.0	8.0	14.0	12.5	10.1	'8.6	8.1	7.9	8.3	10.1	11.1	11.1
Unit nonlabor payments	9.4	7.3	−4.0	7.8	6.6	6.4	3.5	6.1	8.2	5.0	4.3	4.1
Implicit price deflator	7.0	7.8	8.1	11.0	9.0	'7.9	6.6	7.3	8.3	8.5	9.0	'9.0
Nonfinancial corporations:												
Output per hour of all employees	2.0	1.1	−2.1	−2.6	−0.2	(¹)	0.8	1.8	1.3	.5	−1.0	(¹)
Compensation per hour	8.4	8.1	11.0	8.0	8.6	(¹)	8.3	8.7	8.7	8.9	8.9	(¹)
Real compensation per hour	−.4	−1.0	0	−4.9	−3.8	(¹)	.2	−.3	−1.0	−1.6	−2.5	(¹)
Total unit costs	5.1	5.9	11.7	11.8	10.2	(¹)	6.4	5.6	6.1	8.6	9.9	(¹)
Unit labor costs	6.2	6.9	13.4	11.2	8.8	(¹)	7.4	6.8	7.3	9.4	10.1	(¹)
Unit nonlabor costs	1.7	2.9	6.8	13.5	'14.6	(¹)	3.5	2.2	2.5	6.2	'9.4	(¹)
Unit profits	11.4	19.5	−22.1	−3.4	−5.3	(¹)	1.4	13.6	21.7	0	−3.9	(¹)
Implicit price deflator	5.7	7.3	7.6	10.2	8.6	(¹)	5.8	6.4	7.5	7.7	8.4	(¹)
Manufacturing:												
Output per hour of all persons	6.3	2.0	−2.4	2.9	3.5	' −1.3	.6	1.6	2.6	2.2	1.5	0.6
Compensation per hour	8.7	9.3	10.3	9.8	8.1	'8.4	8.1	8.7	8.6	9.5	9.4	'9.2
Real compensation per hour	−.1	0	−.6	−3.4	−4.3	'4.3	0	−.3	−1.1	−1.0	−2.1	' −3.1
Unit labor cost	2.2	7.1	13.0	6.7	4.4	'9.9	7.4	7.1	5.9	7.2	7.8	8.5

LABOR-MANAGEMENT DATA

MAJOR COLLECTIVE BARGAINING DATA are obtained from contracts on file at the Bureau of Labor Statistics, direct contact with the parties, and from secondary sources. Additional detail is published in *Current Wage Developments,* a monthly periodical of the Bureau. Data on work stoppages are based on confidential responses to questionnaires mailed by the Bureau of Labor Statistics to parties involved in work stoppages. Stoppages initially come to the attention of the Bureau from reports of Federal and State mediation agencies, newspapers, and union and industry publications.

Definitions

Data on wage changes apply to private nonfarm industry agreements covering 1,000 workers or more. Data on wage and benefit changes *combined* apply only to those agreements covering 5,000 workers or more. **First-year wage settlements** refer to pay changes going into effect within the first 12 months after the effective date of the agreement. **Changes over the life of the agreement** refer to total agreed upon settlements (exclusive of potential cost-of-living escalator adjustments) expressed at an average annual rate. **Wage-rate changes** are expressed as a percent of straight-time hourly earnings, while **wage and benefit changes** are expressed as a percent of total compensation.

Effective wage-rate adjustments going into effect in major bargaining units measure changes actually placed into effect during the reference period, whether the result of a newly negotiated increase, a deferred increase negotiated in an earlier year, or as a result of a cost-of-living escalator adjustment. Average adjustments are affected by workers receiving no adjustment, as well as by those receiving increases or decreases.

Work stoppages include all known strikes or lockouts involving six workers or more and lasting a full shift or longer. Data cover all workers idle one shift or more in establishments directly involved in a stoppage. They do not measure the indirect or secondary effect on other establishments whose employees are idle owing to material or service shortages.

35. Wage and benefit settlements in major collective bargaining units, 1975 to date
[In percent]

Sector and measure	Annual average					Quarterly average						
	1975	1976	1977	1978	1979 [p]	1978			1979 [p]			
						II	III	IV	I	II	III	IV
Wage and benefit settlements, all industries:												
First-year settlements	11.4	8.5	9.6	8.3	8.9	6.8	7.2	6.1	2.5	10.6	9.0	8.1
Annual rate over life of contract	8.1	6.6	6.2	6.3	6.6	6.0	5.9	5.2	5.2	7.7	6.0	6.0
Wage rate settlements, all industries:												
First-year settlements	10.2	8.4	7.8	7.6	7.4	6.9	7.5	7.4	4.8	9.0	6.6	6.3
Annual rate over life of contract	7.8	6.4	5.8	6.4	6.0	6.2	6.4	5.8	6.6	7.0	4.8	4.9
Manufacturing:												
First-year settlements	9.8	8.9	8.4	8.3	7.0	7.1	8.4	9.5	8.7	9.9	6.2	5.9
Annual rate over life of contract	8.0	6.0	5.5	6.6	5.4	5.8	7.2	7.4	8.6	8.1	4.6	4.2
Nonmanufacturing (excluding construction):												
First-year settlements	11.9	8.6	8.0	8.0	7.5	7.7	7.4	6.4	2.3	8.5	9.1	7.2
Annual rate over life of contract	8.0	7.2	5.8	6.5	5.9	6.9	5.9	5.1	5.6	5.7	5.8	7.5
Construction:												
First-year settlements	8.0	6.1	6.3	6.5	8.9	6.4	7.0	8.4	11.0	9.1	10.4	7.9
Annual rate over life of contract	7.5	6.2	6.3	6.2	8.4	6.0	7.2	7.1	7.7	8.2	9.1	7.1

36. Effective wage adjustments going into effect in major collective bargaining units, 1975 to date

[In percent]

Sector and measure	Average annual changes					Average quarterly changes								
	1975	1976	1977	1978	1979	1977	1978				1979 p			
						IV	I	II	III	IV	I	II	III	IV
Total effective wage rate adjustment, all industries	8.7	8.1	8.0	8.2	8.8	1.1	1.3	2.6	2.7	1.4	1.4	2.6	3.2	1.5
Change resulting from—														
Current settlement	2.8	3.2	3.0	2.0	2.8	0.5	0.5	0.6	0.5	0.4	0.2	1.1	1.0	0.4
Prior settlement	3.7	3.2	3.2	3.7	3.0	.3	.6	1.4	1.2	.5	.6	.9	1.0	.4
Escalator provision	2.2	1.6	1.7	2.4	3.0	.3	.3	.6	1.0	.5	.6	.5	1.2	.6
Manufacturing	8.5	8.5	8.4	8.6	9.2	1.4	1.4	2.2	2.9	1.9	1.4	2.3	3.1	2.2
Nonmanufacturing	8.9	7.7	7.8	7.9	8.5	.8	1.3	2.9	2.5	1.1	1.4	2.8	3.4	.9

p = preliminary
NOTE: Because of rounding and compounding, the sums of individual items may not equal totals.

37. Work stoppages, 1947 to date

Month and year	Number of stoppages		Workers involved		Days idle	
	Beginning in month or year	In effect during month	Beginning in month or year (thousands)	In effect during month (thousands)	Number (thousands)	Percent of estimated working time
1947	3,693	...	2,170	...	34,600	.30
1948	3,419	...	1,960	...	34,100	.28
1949	3,606	...	3,030	...	50,500	.44
1950	4,843	...	2,410	...	38,800	.33
1951	4,737	...	2,220	...	22,900	.18
1952	5,117	...	3,540	...	59,100	.48
1953	5,091	...	2,400	...	28,300	.22
1954	3,468	...	1,530	...	22,600	.18
1955	4,320	...	2,650	...	28,200	.22
1956	3,825	...	1,900	...	33,100	.24
1957	3,673	...	1,390	...	16,500	.12
1958	3,694	...	2,060	...	23,900	.18
1959	3,708	...	1,880	...	69,000	.50
1960	3,333	...	1,320	...	19,100	.14
1961	3,367	...	1,450	...	16,300	.11
1962	3,614	...	1,230	...	18,600	.13
1963	3,362	...	941	...	16,100	.11
1964	3,655	...	1,640	...	22,900	.15
1965	3,963	...	1,550	...	23,300	.15
1966	4,405	...	1,960	...	25,400	.15
1967	4,595	...	2,870	...	42,100	.25
1968	5,045	...	2,649	...	49,018	.28
1969	5,700	...	2,481	...	42,869	.24
1970	5,716	...	3,305	...	66,414	.37
1971	5,138	...	3,280	...	47,589	.26
1972	5,010	...	1,714	...	27,066	.15
1973	5,353	...	2,251	...	27,948	.14
1974	6,074	...	2,778	...	47,991	.24
1975	5,031	...	1,746	...	31,237	.16
1976	5,648	...	2,420	...	37,859	.19
1977	5,506	...	2,040	...	35,822	.17
1978: September	453	854	448	551	4,446	.25
October	370	721	117	216	2,352	.13
November	268	569	64	136	1,691	.09
December	157	408	53	143	1,377	.08
1979: January	262	...	66	...	1,925	.10
February	290	...	75	...	1,670	.10
March	391	...	112	...	1,871	.10
April	512	...	426	...	5,126	.27
May	556	...	132	...	3,682	.19
June	536	...	137	...	2,989	.16
July	471	...	168	...	3,001	.16
August	463	...	119	...	3,152	.15
September	464	...	135	...	2,319	.13
October	443	...	230	...	2,968	.15
November	257	...	91	...	2,720	.15
December	134	...	42	...	1,876	.11
1980: January p	352	441	207	292	3,142	.16
February p	354	590	114	332	3,025	.17

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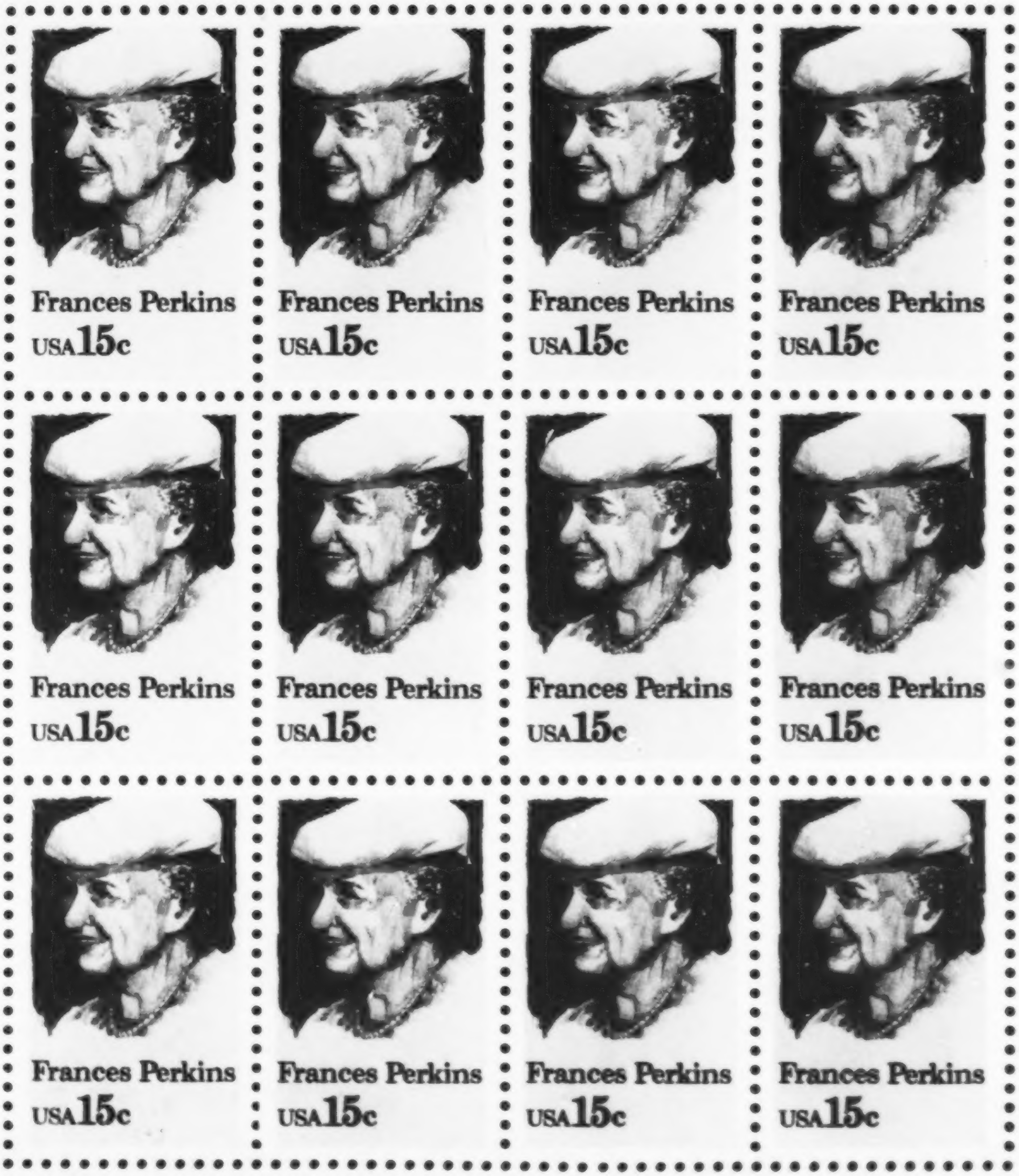

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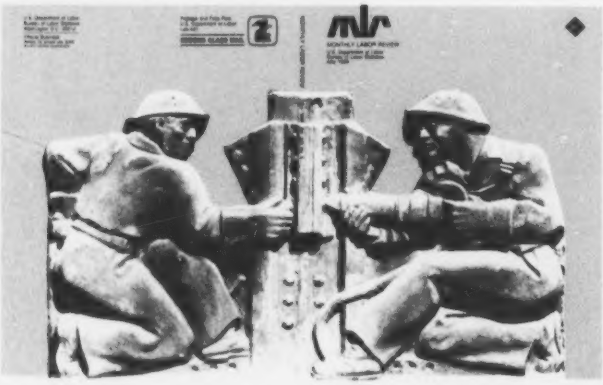

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Labor Month In Review

KLEIN AWARD. The trustees of the Lawrence R. Klein Fund selected a single article to receive the 11th annual Klein Award. The article, "The effect of demographic changes on the Nation's unemployment rate," appeared in the March 1979 *Monthly Labor Review*. Its author, Paul O. Flaim, is chief of the Division of Labor Force Studies in the BLS Office of Current Employment Analysis.

Runners-up among articles by BLS authors were "Young and marginal: an overview of youth employment," by Norman Bowers, October 1979, and "The influence of energy on industry output and employment," by Ronald E. Kutscher, December 1979.

The trustees presented no award this year to an author outside BLS. Nevertheless, the trustees expressed admiration for Thomas A. Kochan's "How American workers view labor unions," April 1979, Graham L. Staines' and Robert P. Quinn's "American workers evaluate the quality of their jobs," January 1979, and Joseph H. Wex's and William S. McGee's "Unionization of court employees has raised legal, practical questions," August 1979. The Kochan and Staines-Quinn articles were based on the Quality of Employment Survey, conducted by the Survey Research Center of the University of Michigan for the U.S. Department of Labor. The trustees also cited several "excellent" articles based on papers commissioned by the National Commission on Employment and Unemployment Statistics.

Flaim's article separates cyclical influences on the unemployment rate from noncyclical factors such as changes in the composition of the labor force. Flaim finds that the large increase in the proportion of the labor force which resulted from the maturing of the post-World War II baby boom was one of the demographic factors which exerted upward pressure on the unemployment rate over the past two decades. Flaim estimates that from 0.6 to 1.0 percentage point of the increase in the overall unemployment rate over the 1957-77 period can be attributed to the changing composition of the labor force. The effect of the demographic factors should dissipate gradually during the 1980's, Flaim concludes.

Origin of the award. For more than half a century, writing for the *Monthly Labor Review* was its own reward. Lawrence R. Klein changed that when he retired as *Review* editor in 1968. Instead of accepting a retirement gift, he matched the money collected for that purpose and established a fund to reward good writing and original research in the *Review*.

Since 1969, fund trustees (including Klein) have presented awards to authors of 19 *Review* articles on the basis of these criteria: originality of ideas or method of analysis, adherence to principles of scientific inquiry, and good writing. Awards, which initially carried cash prizes of $100 each, are now $200.

Contributions to the Lawrence R. Klein Award Fund are tax deductible and may be sent to Ben Burdetsky, Secretary-Treasurer, Lawrence R. Klein Award Fund, c/o School of Government and Business Administration, The George Washington University, Washington, D.C. 20052. □

The winners

Mollie Orshansky, a social insurance research analyst at the Social Security Administration, won the first Lawrence R. Klein Award in 1970 for her article explaining "How poverty is measured" in the February 1969 *Monthly Labor Review*. Eighteen other BLS and outside authors have been honored since. Here is the complete list of winners:

1970	Mollie Orshansky	1976	Curtis Gilroy Nicholas Ashford
1971	Hyman Kaitz		
1972	Janice N. Hedges Denis Johnston	1977	Constance Sorrentino Rita M. Maldonado
1973	Peter Henle T. Aldrich Finegan	1978	William Deuterman Harold Douty
1974	Robert W. Fisher Jonathan Grossman	1979	Morris Newman Fred Best
1975	John Early Joseph Mire	1980	Paul O. Flaim

Double-digit inflation today and in 1973–74: a comparison

Energy, housing, and materials spurred the acceleration of prices in both periods; how inflation slowed dramatically in 1975 points to factors to watch currently

BY JOHN F. EARLY, CRAIG HOWELL
AND ANDREW CLEM

The decade just ended was marked by two distinct periods of double-digit inflation, a combination unprecedented in peacetime. The first price surge occurred in 1973–74, and the second began in 1978 and has continued into 1980.

In this article, we describe the life cycle of the first period and examine the first two stages of the current inflation. We identify factors which generated and sustained inflation rates in the neighborhood of 13 percent and reduced inflation to an average of about half that rate for more than 2 years in the intervening period. This comparison can provide a basis for a better understanding of the current situation.

The two periods have a number of similarities, including:

- Rapid runups in prices for energy, especially petroleum-based fuels, which occurred just as prices for other items were approaching double-digit inflation;
- Early, sharp increases in food prices;
- Steep rises in home prices and mortgage interest rates for at least 2 years after the housing market began to soften;
- Major indirect effects from the increases in energy prices within 3 to 6 months of the crude energy price boosts;
- Rapid commodity inflation among crude and intermediate materials other than food and energy; and
- Significant declines in the value of the dollar in international markets, which further aggravated inflation.

Some of the differences between the two periods include:

- The larger relative increases in the price of oil imported from members of the Organization of Petroleum Exporting Countries during the earlier period;
- The more protracted OPEC increases in the current period;
- The greater role of shortages and worldwide commodity inflation in the earlier period;
- The effect of speculation in the current period;
- The greater inflationary impact of energy costs on retail food prices in the current period;
- The impact of an inflationary-expectations psychology on saving, debt, and prices in the current period; and
- The delay in rapid price rises for natural gas until relatively late in the earlier period.

We also discuss factors contributing to the slowdown in price increases during 1974–75, including:

- The precipitous drop in business activity in late 1974;
- The substantial deceleration in prices of crude and intermediate materials; and
- The cessation of major crude petroleum price increases and the completion of most indirect pass-through effects on prices of other goods and services.

As an analytical aid, we have identified four stages in these two periods of inflation. The first is the *low plateau.* From January 1971 until May 1972, the Consumer Price Index increased at an annual rate of about

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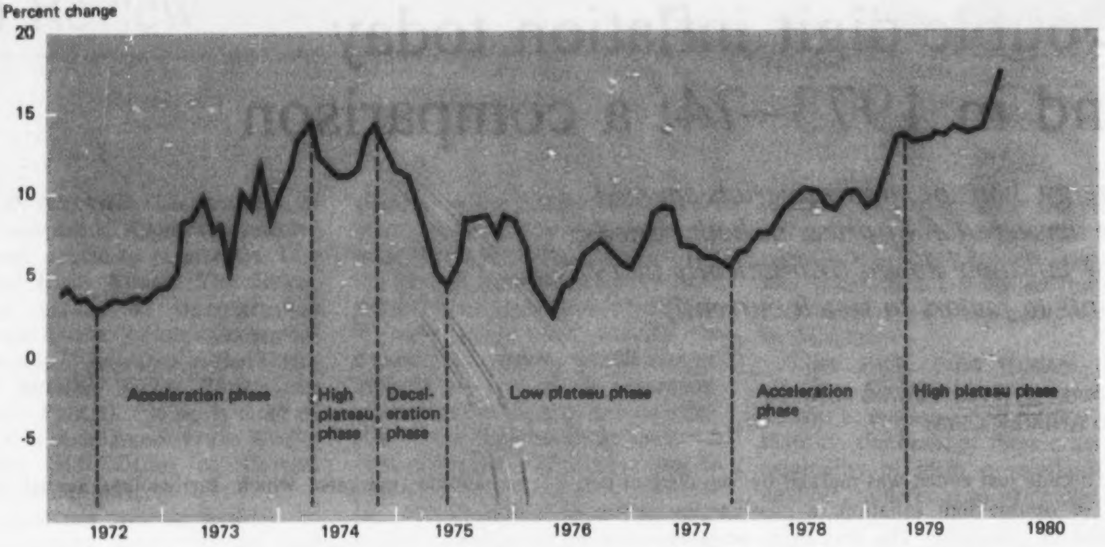
Chart 1. Inflation rate[1] of the Consumer Price Index for All Urban Consumers, 1972-80



[1] Inflation rate is the 3-month change, seasonally adjusted at annual rates.

3.5 percent. During that time, the seasonally adjusted 3-month annual rate of change generally varied between 2 and 5 percent, partly as the result of the Government's comprehensive wage and price controls, which started in August 1971.[1] A similar low plateau lasted from May 1975 until October 1977. During this time, prices were rising at an average rate of about 6 percent; however, there was somewhat greater volatility around this average, reflecting, in part, wide swings in food prices. But once again the variation was within a relatively narrow range. (See chart 1.)

After both May 1972 and October 1977, prices began to rise at generally increasing rates. This signaled the beginning of the *acceleration* phase. In the earlier case, it lasted 22 months, with price increases accelerating from a 3-month annual rate of 2.6 percent to 14.3 percent; in the later case, it lasted 17 months, as prices accelerated from a 5.1-percent rate to 13 percent.

What can be characterized as *high plateaus* followed the rapid accelerations. From March through October 1974, inflation averaged about 12.5 percent. For the 11 months ended in February 1980, inflation averaged about 14 percent. In both cases there were some changes in the inflation rate during this high plateau phase, but, by definition, a high plateau is not marked by a clear acceleration or deceleration. Because the current period of double-digit inflation has not yet come to an end as of this writing, there is some ambiguity in dating its phases. It is not yet clear whether the 17.2-percent annual rate of advance in the All Items CPI for the 3 months ended in February 1980 represents a short-term fluctuation within the high plateau stage or a resumption of acceleration.

Finally, the CPI began its *deceleration* phase in October 1974. Over the next 7 months, inflation plummeted from a rate of 14.2 percent to 4.4 percent.

A profile of the two periods

1973–74. An upturn in food prices in the spring of 1972 was directly responsible for the acceleration in the All Items CPI, as prices for most other goods were subject to the strict provisions of the Administration's Phase II price control program. (See table 1 and chart 2.) In May 1972, the CPI for food was rising at a 3-month annual rate of only 1.3 percent; but by the following April it was climbing at a 25.4-percent rate. Food price increases slowed considerably in mid-1973 when a 60-day price freeze was imposed, and surged again after the freeze was lifted. Food price increases

Table 1. Timing and magnitude of specific inflationary cycles of the Consumer Price Index and selected components

Index	Timing of phase				Length of phase (months)			Percent change over phase		
	Acceleration		Deceleration		Acceleration	High plateau	Deceleration	Acceleration	High plateau	Deceleration
	Start	End	Start	End						
All items	May 1972	Mar. 1974	Oct. 1974	May 1975	22	7	7	14.8	6.7	4.2
	Oct. 1977	Mar. 1979	(1)	(1)	17	[1]11	(1)	13.7	[1]11.5	(1)
Food	May 1972	Apr. 1973	Oct. 1973	July 1974	11	6	9	11.3	9.2	7.0
	Jan. 1977	June 1978	June 1978	Sept. 1978	17	0	3	15.3	....	1.6
	Sept. 1978	Feb. 1979	Feb. 1979	Aug. 1979	5	0	6	5.6	....	3.1
Energy	Sept. 1973	Mar. 1974	Mar. 1974	Dec. 1974	6	0	9	25.7	....	7.1
	July 1978	June 1979	Aug. 1979	(2)	11	2	(2)	24.3	7.3	(2)
Gasoline	Sept. 1973	Mar. 1974	Mar. 1974	Oct. 1974	6	0	7	36.8	....	1.1
	June 1978	June 1979	June 1979	(2)	12	0	(2)	36.3	....	(2)
Fuel oil, coal, and bottled gas	Sept. 1973	Jan. 1974	Jan. 1974	Mar. 1975	4	0	14	45.7	....	17.3
	July 1978	Aug. 1979	Aug. 1979	(2)	13	0	(2)	48.9	....	(2)
Piped gas and electricity	July 1973	Mar. 1974	(3)	(3)	8	(3)	(3)	11.6	(3)	(3)
	Nov. 1978	July 1979	July 1979	Jan. 1980	8	0	6	12.6	....	10.5
All items less food and energy	July 1973	Aug. 1974	Oct. 1974	July 1975	13	2	9	10.2	2.0	5.6
	Oct. 1977	(4)	(4)	(4)	[4]28	(4)	(4)	[4]23.7	(4)	(4)
Commodities less food and energy	Sept. 1973	Aug. 1974	Oct. 1974	July 1975	11	2	9	8.9	2.3	5.4
	Sept. 1977	(4)	(4)	(4)	[4]29	(4)	(4)	[4]20.1	(4)	(4)
Home purchase	Mar. 1973	Feb. 1975	Apr. 1975	Apr. 1976	23	2	12	17.8	2.9	4.1
	Nov. 1976	(4)	(4)	(4)	[4]39	(4)	(4)	[4]41.5	(4)	(4)
Services less energy	Nov. 1972	July 1974	Sept. 1974	May 1975	20	2	8	12.9	2.0	5.4
	Oct. 1977	(4)	(4)	(4)	[4]28	(4)	(4)	[4]27.7	(4)	(4)
Home financing, taxes, and insurance	Nov. 1972	Oct. 1973	Dec. 1974	Sept. 1975	11	14	9	10.1	16.3	4.3
	Oct. 1977	(4)	(4)	(4)	[4]28	(4)	(4)	[4]54.7	(4)	(4)

[1] Computations are made as though the end of the All Items CPI high plateau phase were February 1980. However, there is yet no evidence of any deceleration.

[2] Energy price increases at the beginning of 1980 may indicate the start of a new acceleration phase.

[3] Phase was not well defined.

[4] No evidence that the acceleration phase has ended for these indexes. For purposes of computation, February 1980 was assumed to be the end of the acceleration phase.

fluctuated widely thereafter, rising a total of 12.2 percent in 1974.

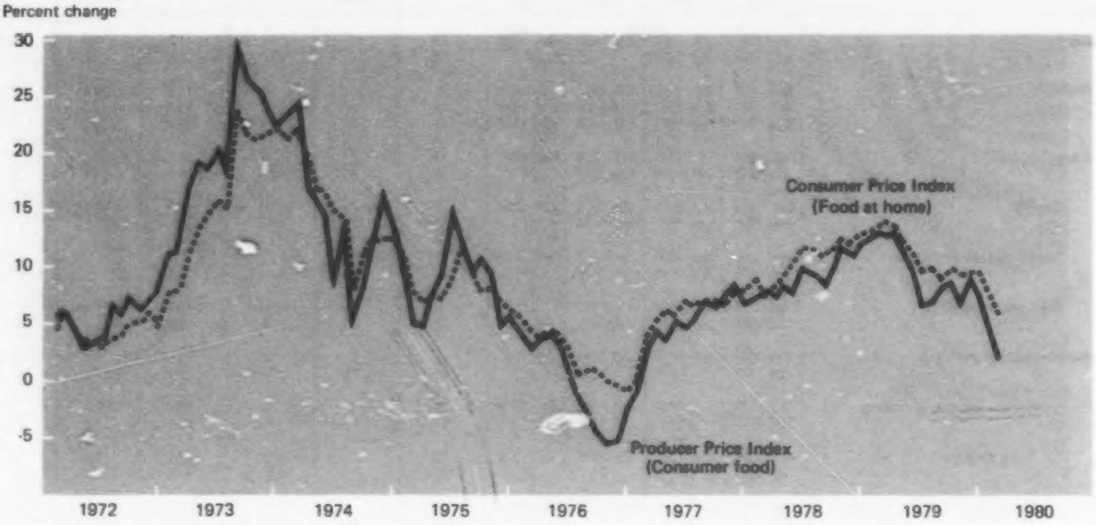
Energy prices boomed at the end of 1973 and the beginning of the next year. (See chart 3.) After rising at a rate of only 2.3 percent in the third quarter of 1973, energy prices soared at a 49.8-percent rate in the fourth quarter and a 66.8-percent rate in the first 3 months of 1974. The index did not remain on a high plateau but immediately began to slow down; by the summer of 1974, energy prices were no longer rising at a double-digit rate.

The CPI for all items other than food and energy started its acceleration phase in the late summer of 1973 after the freeze on prices. Through the rest of 1973 and into the spring of 1974, the Administration gradually dismantled its comprehensive program to control prices and wages. All remaining general price controls lapsed as of April 30, 1974, as Congress did not renew the President's authority to impose such controls. By October 1974, the CPI for nonfood nonenergy items was advancing at an annual rate of 14.2 percent. Some increases reflected the pass-through of sharply higher costs for fuels and energy-intensive materials and thus would have been allowed even under the former controls. Other advances reflected attempts by producers to restore traditional profit margins and to recover costs which could not be fully passed through under the rules of the controls program.

The indexes for food, energy, and other items each contributed roughly one-third of the total acceleration in the All Items CPI from May 1972 through March 1974. (See table 2.) Food prices were the dominant factor until mid-1973, when the acceleration in increases for energy and other items became crucial. The high plateau in the overall inflation rate during much of 1974 reflected a balance between slower rates for energy and steeper rates for items other than food and energy, with food prices climbing briskly throughout the period. The deceleration of the CPI from October 1974 through May 1975 showed the combined impact of food prices, which moved from a 19.3-percent rate of increase to a 1.2-percent rate of decline, and other nonenergy prices, which slowed from a rate of increase of 14.2 percent to 5.9 percent. Energy price increases had already decelerated to a rate of less than 5 percent by the time the CPI started to slow down, but then moved back up to a 3-month rate of 10 percent by May 1975.

1978–79. The acceleration of the All Items CPI after October 1977 followed the trough of the previous recession

Chart 2. Inflation rates for retail and producer prices of food, 1972-80[1]



[1] Twelve-month percent changes in Consumer Price Index for All Urban Consumers (food at home) and the Producer Price Index for consumer food.

by about two and one-half years. As of October 1977, the indexes for food, energy, and other items were all rising at rates between 5 and 6 percent. By the time the CPI had reached a high plateau in March 1979, energy prices were surging at a 25.7-percent rate, food prices were climbing at a 16-percent rate, and prices for other items were increasing at a rate of just over 10 percent.

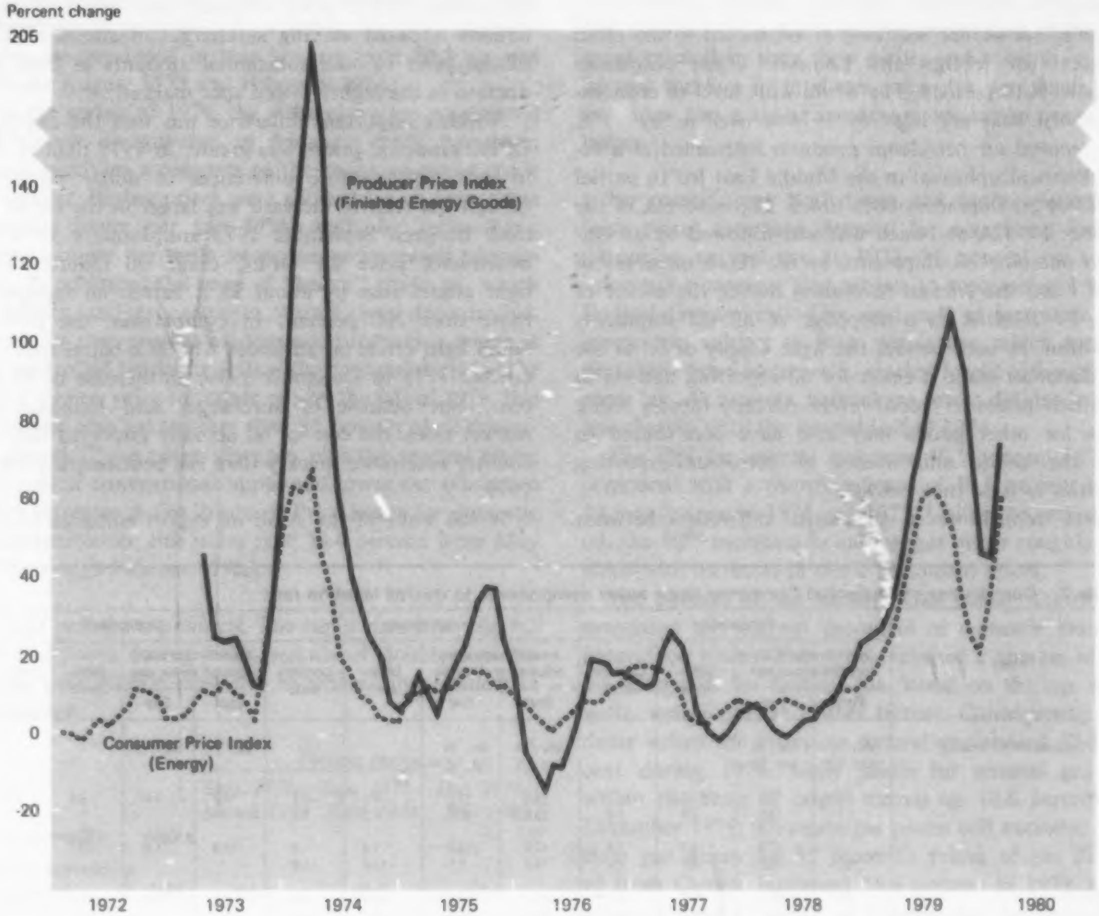
Food prices seemed to follow a pattern of their own during the 1977–79 period and are thus more difficult to integrate into the overall inflation picture. In each of these three years, food prices climbed sharply early in the year when unusually harsh winter weather damaged crops and disrupted normal transportation and distribution channels. Poor weather in the United States and in many other major producing countries early in the year also raised fears that summer and fall harvests would be inadequate. Food price inflation eased later each year as generally favorable growing conditions led to excellent harvests for many crops

During the acceleration phase of the current inflation, the food index accounted for about one-fourth of the acceleration in the All Items CPI, compared with one-third of the earlier acceleration. When the All Items inflation rate was on a high plateau from early 1979 into early 1980, food prices provided a major decelerating pressure. Food prices were rising at a rate of 5.6 percent in February 1980, considerably less than the 16.0-percent rate registered in March 1979. A more moderate winter in 1979–80 was an important factor in preventing the bulge in food price increases that had marked the previous three years.

As in the earlier period, energy prices did not begin to accelerate until some time after the All Items CPI had started to speed up. In the latter half of 1978, energy prices rose at an annual rate of 10 percent; but by mid-1979, energy prices were soaring at a rate of about 60 percent. Energy prices, like food prices, played a somewhat smaller role during the acceleration phase of the current inflation. But, unlike the earlier period, energy prices did not slow down as dramatically as they had speeded up; the energy CPI was still rising at a rate of 19.2 percent in the final quarter of the year. Another round of sharply higher prices for gasoline and home heating oil resulted in a much higher rate of increase for the energy index in the opening months of 1980, a situation without parallel in 1973–74.

In the remainder of this article, we examine some of the major factors that have helped to determine the course of double-digit inflation through both periods—the rapid rise in energy prices, the indirect effects of energy price increases, inflation in manufacturing materials, the role of food prices, the behavior of prices of

Chart 3. Inflation rates for retail and producer prices of energy, 1972-80[1]



[1] Three-month change seasonally adjusted at annual rates for Consumer Price Index for All Urban Consumers (energy) and Producer Price Index for finished energy goods.

other goods and services, capital equipment prices, mortgage interest rates, and house prices. Based on that discussion, our final section presents a detailed analysis of the inflation picture as of early 1980, noting those factors which are continuing to produce double-digit inflation, as well as other influences which may eventually slow inflation.

Energy prices explode

There were marked similarities in the timing of energy price increases relative to the two inflationary cycles. Sharp increases in world crude petroleum prices occurred on both occasions after inflation had already approached double-digit rates for other reasons. Prices for domestic crude oil also climbed sharply both times as controls were relaxed to encourage greater energy independence by spurring production and conservation. Prices for other forms of energy moved up sharply in the wake of higher crude oil costs. The added impetus of higher energy costs pushed the overall rate of inflation to its highest point.

The United States became increasingly dependent on imported crude petroleum during the 1970's. The ratio of imports to total domestic consumption of crude oil rose from 26 percent in 1973 to 45 percent in 1977. The import ratio has since varied between 40 and 45 percent. As a result, the cost impacts of OPEC price changes are now much greater than they were in 1973.

Crude oil. A similar sequence of events led to the rapid advances for foreign and domestic crude petroleum prices in both periods. The world-wide level of economic activity was very high by 1973 as well as by 1978, and demand for petroleum products intensified as a result. Political upheaval in the Middle East led to partial cutoffs of oil shipments both times. The outbreak of the October 1973 Arab-Israeli war was followed by an embargo on some oil shipments by the Arab members of OPEC, and the Iranian revolution during the winter of 1978–79 resulted in a stoppage of all oil shipments from Iran. In each period, the tight supply of oil in the world market made it easier for oil-exporting nations to raise their prices to record levels. Already rapidly rising prices for other goods may also have contributed to both the desire and ability of petroleum-exporting countries to raise their prices.

There were, however, substantial differences between the two periods. The price increase in 1973 was uniform for all OPEC members and was implemented at essentially one time. In 1979, by contrast, a number of increases were effected throughout the year, and the disciplined OPEC price structure was broken; several nations imposed varying surcharges in addition to the official price or sold substantial amounts of their production in the higher-priced spot market.

Another important difference was that the change in OPEC crude oil prices was greater in 1979 than in 1973 in terms of absolute differences of dollar prices, although the relative increase was larger in the earlier period. Between September 1973 and January 1974, the benchmark price for OPEC crude oil (Saudi Arabia light grade) rose by about $8 a barrel, an increase of more than 260 percent. In comparison, the price of Saudi light crude oil advanced $11.30 a barrel from December 1978 to December 1979, an increase of 89 percent. But because of surcharges and frequent spot market sales, the cost of oil actually imported into this country rose more quickly than the benchmark prices in 1979.[2]

In the wake of the Arab oil export embargo in 1973

Table 2. Contributions of selected Consumer Price Index components to overall inflation rate

Index	Acceleration				High plateau				Deceleration			
	3-month seasonally adjusted annual rate		Difference	Contribution[1]	3-month seasonally adjusted annual rate		Difference	Contribution[1]	3-month seasonally adjusted annual rate		Difference	Contribution[1]
	Start	End			Start	End			Start	End		
Reference cycle for All items CPI	May '72 Oct '77	Mar '74 Mar '79			Mar '74 Mar '79	Oct '74 Feb '80[2]			Oct '74	May '75		
All items	2.6 5.1	14.3 13.0	11.7 7.9	11.7 7.9	14.3 13.0	14.2 17.2	-0.1 4.2	-0.1 4.2	14.2	4.4	-9.8	-9.8
Food	1.3 5.9	17.9 16.0	16.6 10.1	3.9 1.9	17.9 16.0	19.3 5.6	1.4 -10.4	.3 -1.9	19.3	-1.2	-20.5	-5.0
Energy	2.5 5.9	66.8 25.7	64.3 19.8	4.1 1.8	66.8 25.7	3.5 60.0	-63.3 34.3	-4.4 2.9	3.5	10.0	6.5	.6
Gasoline	-.8 3.7	106.1 38.0	106.9 34.3	2.9 1.4	106.1 38.0	-9.6 95.4	-115.7 57.4	-3.4 2.4	-9.6	6.6	16.2	.5
Home heating oil	4.6 5.5	79.6 44.3	75.0 38.8	.5 .3	79.6 44.3	11.8 63.1	-67.8 18.8	-.6 .1	11.8	0	-11.8	-.1
Piped gas and electricity	4.1 6.3	30.4 13.9	26.3 7.6	.6 .3	30.4 13.9	15.3 18.4	-15.1 4.5	-.4 .2	15.3	11.8	-3.5	-.1
All items less food and energy	2.9 5.1	8.0 10.2	5.1 5.1	3.8 4.1	8.0 10.2	14.2 15.5	6.2 5.3	4.0 3.3	14.2	5.9	-8.3	-5.4
Commodities less food and energy	2.7 4.0	8.2 9.1	5.5 5.1	2.0 1.9	8.2 9.1	15.8 11.1	7.6 2.0	2.9 .7	15.8	6.0	-9.8	-3.4
Home purchase	1.6 7.3	11.3 11.3	9.7 4.0	.6 .4	11.3 11.3	11.4 10.0	.1 -1.3	0 -.1	11.4	16.2	4.8	.3
Services less energy	4.0 6.1	8.9 11.7	4.9 5.6	1.7 2.1	8.9 11.7	11.7 18.7	2.8 7.0	1.1 2.6	11.7	5.8	-5.9	-2.0
Contracted mortgage interest cost	-2.1 8.9	8.7 28.8	10.8 19.9	.4 1.3	8.7 28.8	27.4 48.0	18.7 19.2	.8 1.4	27.4	3.0	-24.4	-1.1

[1] Entries in this column show how much of the difference in the rate of change for the All items CPI during each phase was accounted for by the difference in the rate of change for the CPI components shown.

[2] Computations are made as though the end of the All items CPI high plateau phase were February 1980. However, there is yet no evidence of any deceleration.

and the stiff boost in world oil prices, the Federal Government set higher prices for oil extracted from new wells and for any additional oil pumped from old wells in excess of the previous rate of production. Prices for oil from wells with very low yields (stripper wells) were completely decontrolled. As a result, the price of crude petroleum produced in this country rose 60.3 percent between August 1973 and February 1974.

In the spring of 1979, the Administration accelerated the phased deregulation of domestic crude petroleum prices, partly as a response to the changing world crude oil market. Higher prices were allowed for oil from some marginal lower tier (pre-1974) wells by reclassifying them as upper tier wells to encourage increased production. In addition, the price of "heavy" crude oil, which is difficult and expensive to extract, was decontrolled. Prices for that portion of domestic production which is not controlled tended to follow the continuing rise in the world market price for crude oil; by the fall of 1979, this share had climbed to more than 25 percent of all domestic output. These policy changes, plus the gradual lifting of prices of conventional upper and lower tier oil, led to sharp increases in the Producer Price Index for domestic crude petroleum; this index rose 53.4 percent from May 1979 through February 1980.

Refined petroleum products. The rapid rises in crude petroleum prices during both periods of double-digit inflation were quickly passed on by refiners and retailers to consumers:

		Percent increase		
Commodity	*Index*	*Sept. 1973– March 1974*	*Sept. 1973– Sept. 1974*	*Dec. 1978– Feb. 1980*
Refined petroleum products	PPI	56.2	85.2	85.1
Gasoline	PPI	49.9	73.6	84.1
	CPI	36.8	40.4	75.3
Home heating oil	PPI	68.4	101.2	85.6
	CPI	52.2	66.2	79.2

During the first surge of inflation, price increases for refined petroleum products were concentrated in the first 6 months following the steep boost in foreign crude oil prices in the autumn of 1973. In the current period, prices for refined petroleum products have been rising since December 1978, reflecting the series of increases in both domestic and foreign crude oil prices.

In both periods, prices charged by petroleum refiners advanced proportionately more than retail prices; however, there was a smaller difference between the relative increases at the primary market and retail levels in the current period. Dealers' margins have not climbed nearly as much as have the prices received by refiners. About three-fourths of the retail price of gasoline went to petroleum refiners at the end of 1979, while refiners only accounted for about half of the retail price before the 1973 energy crunch. Similarly, distributor margins for fuel oil are now a much smaller proportion of the total retail price than they were earlier. As a result, a given percent increase in producer prices for petroleum products now has a larger impact on consumer prices than before.[3]

Other energy items. Both times, the rise in crude petroleum prices increased demand for competing fuels, in particular, natural gas. In 1973–74, natural gas sold in interstate commerce was subject to strict control by the Federal Government. Gas sold only in intrastate commerce was subject to State regulation, which typically permitted price increases to market levels, although with some lag. As a result, natural gas prices did not begin to rise sharply until the second half of 1974.

The PPI for natural gas rose 40.9 percent in 1979, compared with a record increase of 49.6 percent over a 12-month span in 1974 and 1975. Unlike the earlier period, the 1979 increases in natural gas prices roughly coincided with increases in crude petroleum prices.

The passage of the Natural Gas Policy Act of 1978 mandated the gradual decontrol of domestic interstate natural gas prices. This act established a number of pricing categories for natural gas, based on the age of the wells, well depth, and other factors. Consequently, producer prices for interstate natural gas soared 57.3 percent during 1979, while prices for natural gas sold within the State of origin moved up 10.6 percent. (In December 1979, intrastate gas prices still exceeded interstate gas prices by 35 percent.) Prices of gas imported from Canada increased 58.8 percent in 1979, as the National Energy Board of Canada tied its natural gas export prices to the world market price of crude petroleum.

Electricity rates for household, commercial, and industrial consumers rose rapidly during both periods:

		Percent increase	
Electricity use	*Index*	*Sept. 1973– Sept. 1974*	*Feb. 1979– Feb. 1980*
Household	CPI	21.8	13.7
Commercial	PPI	26.5	18.4
Industrial	PPI	38.2	20.0

The slower rise in the current period may be attributable in large part to three factors: smaller increases in residual fuel oil prices; less reliance by electric utilities on residual fuel oil as a fuel; and all cost increases may not have been passed through yet to the consumer.

Indirect energy effects

In addition to higher prices for processed energy products, a rise in crude energy prices can produce two indirect effects: Price increases in commodities for which petroleum and natural gas are raw materials, and price increases associated with energy consumption in the production and distribution process.

Crude petroleum and natural gas are feedstocks for a wide variety of chemicals which, in turn, are employed in the manufacture of thousands of goods. Table 3 illustrates some of the more significant impacts. The chemicals listed as petroleum-based are either primary ones which are largely produced as part of the petroleum refining process (benzene and toluene), or are derived from such chemicals. The exception is ethylene, which also has a substantial amount derived from natural gas liquids.

Natural gas liquids serve as the primary source for another series of chemicals which are not, however, entirely independent of petroleum feedstocks. In addition, the ammonia base for nitrogenous fertilizers is derived from natural gas.

As effects of the 1973 OPEC oil price boosts were appearing in prices for refined petroleum products, prices for primary chemicals such as benzene and toluene were also increasing, but at much more rapid rates. Prices for the more highly processed chemicals such as styrene monomer and acetone reached their maximum rates of increase about 1 quarter after the peak for primary chemicals and began to slow between 1 and 2 quarters after the prices of primary chemicals. Reflecting its partial dependence on natural gas, prices for ethylene rose more slowly than prices for other petroleum-based chemicals in early 1974 but continued to rise rapidly into 1975 as natural gas prices accelerated in the second half of 1974. Prices for other natural-gas-related chemicals and nitrogenous fertilizers also rose more slowly and for a longer time as the result of the different timing in natural gas price changes.

During 1978 and 1979, there was less difference in the timing of price changes for petroleum and natural gas. As a result, prices for the two series of chemicals demonstrated greater similarity in their timing. Nevertheless, those with a substantial natural gas component have registered smaller price rises. For both series of chemicals, price increases during the current period have not been as sharp; however, large increases are

Table 3. Price changes in petroleum- and natural-gas-based materials, 1973–75 and 1978–80

Producer Price indexes	Annualized percent change for 3 months ended —													
	Dec. 1973	Mar. 1974	June 1974	Sept. 1974	Dec. 1974	Mar. 1975	June 1975	Sept. 1978	Dec. 1978	Mar. 1979	June 1979	Sept. 1979	Dec. 1979	Feb. 1980
Refined petroleum products	88.8	215.4	57.9	24.4	−0.3	−2.5	16.3	4.0	23.3	35.2	80.0	106.1	44.5	74.9
Petroleum-based chemicals														
Benzene	0	1066.3	97.9	74.4	−4.1	−22.0	−40.4	19.0	55.5	130.9	180.8	98.0	1.2	40.4
Toluene	152.0	992.4	172.6	−5.4	−10.5	−42.1	−41.5	35.2	90.1	160.9	124.2	28.2	18.4	42.7
Ethylene	N.A.	439.4	157.2	84.4	35.4	30.9	37.7	.4	0	7.9	24.7	97.6	53.0	77.4
Ortho-xylene	N.A.	1016.6	513.6	281.2	−11.8	−53.6	−9.2	2.0	0	57.5	274.4	116.4	.5	15.0
Styrene monomer	137.4	421.3	995.6	105.9	18.0	−12.0	−19.9	−.6	20.4	83.5	272.7	123.0	1.8	14.3
Acetone	0	198.1	403.2	128.6	43.1	.6	−29.6	2.6	5.0	11.4	23.4	65.6	33.4	29.6
Natural gas	17.9	19.0	11.0	23.1	44.8	37.7	79.2	13.0	21.5	39.0	43.7	45.5	35.8	45.4
Natural-gas-liquids-based chemicals														
Formaldehyde	0	30.6	146.9	42.5	44.5	40.7	2.1	0	4.0	7.5	18.5	30.4	30.8	54.4
Vinyl chloride	N.A.	67.1	277.6	112.6	2.3	132.9	8.5	6.2	−.6	−.1	30.2	63.9	42.8	41.0
Methanol	N.A.	15.2	158.0	243.9	142.4	128.8	21.0	−4.0	−2.1	6.4	16.9	22.5	95.8	33.1
Methychloroform	N.A.	17.4	101.3	130.0	57.3	10.7	19.3	31.5	.5	−4.9	5.2	38.6	−5.0	6.6
Nitrogenous fertilizers	0	238.9	31.6	164.3	124.6	35.9	−3.2	−9.9	−8.9	6.4	11.1	13.6	37.4	44.8
Plastic resins	6.2	145.8	107.7	128.6	28.8	−.9	−16.7	−4.1	6.4	22.0	37.7	40.4	24.5	20.8
Plastic construction products	3.4	26.8	104.5	40.6	4.0	−17.2	−12.7	9.1	−3.7	21.3	14.3	14.4	−14.2	3.8
Plastic film and sheeting	9.5	33.6	102.3	53.3	20.3	−4.9	−11.4	1.2	5.5	3.9	18.7	8.0	17.0	3.8
Synthetic rubber	7.3	45.1	91.9	30.1	16.9	−2.4	−10.4	6.9	15.5	10.9	28.0	38.7	11.1	32.4
Tires and tubes	27.3	53.9	13.3	17.6	12.7	6.9	7.1	−7.7	21.4	10.9	11.7	24.6	16.5	20.3
Cellulosic fibers	.4	10.5	10.6	34.8	6.2	−9.1	24.9	5.5	0	9.3	3.7	10.6	15.5	27.2
Noncellulosic fibers	0	2.4	2.0	12.0	3.9	−3.0	−14.2	.4	10.9	19.4	19.2	10.4	−.6	.3
Pharmaceutical materials	4.2	6.5	58.6	89.1	40.1	13.2	−8.4	0	5.3	4.4	6.1	5.3	6.3	4.1
Prescription pharmaceuticals	1.2	3.6	11.5	9.1	8.9	7.6	10.5	4.6	11.9	7.8	4.4	5.5	7.2	14.7
Over-the-counter pharmaceuticals	1.7	3.5	14.0	12.8	17.8	9.9	7.7	11.5	10.4	13.2	9.6	6.8	16.1	7.8

N.A. Not available.

generally continuing for a much longer time.

Plastic resins are polymerizations of chemicals from both the petroleum series (such as styrene monomer) and the natural gas series (such as vinyl chloride). During both periods, prices for plastic resins generally reflected the increases in the corresponding raw materials within one quarter. As much as one more quarter was required before prices of plastic products made from the resins reflected the maximum effect of the raw materials price increases. As prices for petroleum-based chemicals began to decline in late 1974 and the first half of 1975, prices for plastic resins and plastic products also began to fall. At the start of 1980, however, prices for plastic products began to slow despite the fact that prices for plastic resins and their constituent chemicals were continuing to post rapid increases.

Both synthetic and natural rubbers are used in the manufacture of tires. The doubling of natural rubber prices in 1973 was the primary cause of the 27.3-percent rate of advance in producer tire prices during the last quarter of 1973. Synthetic rubber prices soared during the first half of 1974 as the result of crude oil price increases. These price jumps for both kinds of rubber led to a 53.9-percent annual rate of increase in producer prices for tires during the first quarter of 1974. Retail tire prices, in turn, rose at double-digit rates until late 1974, when the depressed auto market lowered new-car demand for tires, and tire price rises slowed.

Price boosts for synthetic rubber were not as sharp in the more recent period. They were once again compounded by large price increases for natural rubber, which, however, were also smaller than before. Consequently, tire prices have risen more slowly. Although demand for new automobiles dropped in late 1979, overall consumer demand remained strong enough to enable manufacturers to pass along increases in raw materials prices.

Textiles and apparel. Cellulosic fibers are only slightly dependent on petroleum feedstocks. Noncellulosic fibers, on the other hand, are almost exclusively petroleum-based. In 1973–74, however, noncellulosic fibers showed only modest increases, while cellulosic fiber prices climbed at a double-digit rate. During the current period, prices for noncellulosic fibers did exhibit some greater impact from rising oil prices, although these increases were well below those for other petroleum derivatives.

During both periods, textile prices were under cost pressure not only from petroleum-based synthetic fibers but also from rapid price jumps in raw cotton. Nevertheless, during 1979 prices for finished fabrics rose only 3.1 percent, and prices for apparel (other than footwear) were up only 4.4 percent at the manufacturers' level and 3.8 percent at retail. In 1974, textiles and apparel prices also experienced less-than-average increases.

Why prices for textiles and apparel should exhibit such apparent resistance to cost pressures from raw materials is a topic that deserves further research. A number of factors, however, may contribute to this phenomenon. The apparel industry is composed of a large number of highly competitive firms, although competition may often be reflected in product differentiation as well as in price. In addition, there is substantial competition from imports. Demand may well be fairly price elastic, because a substantial proportion of clothing expenditures may be discretionary.

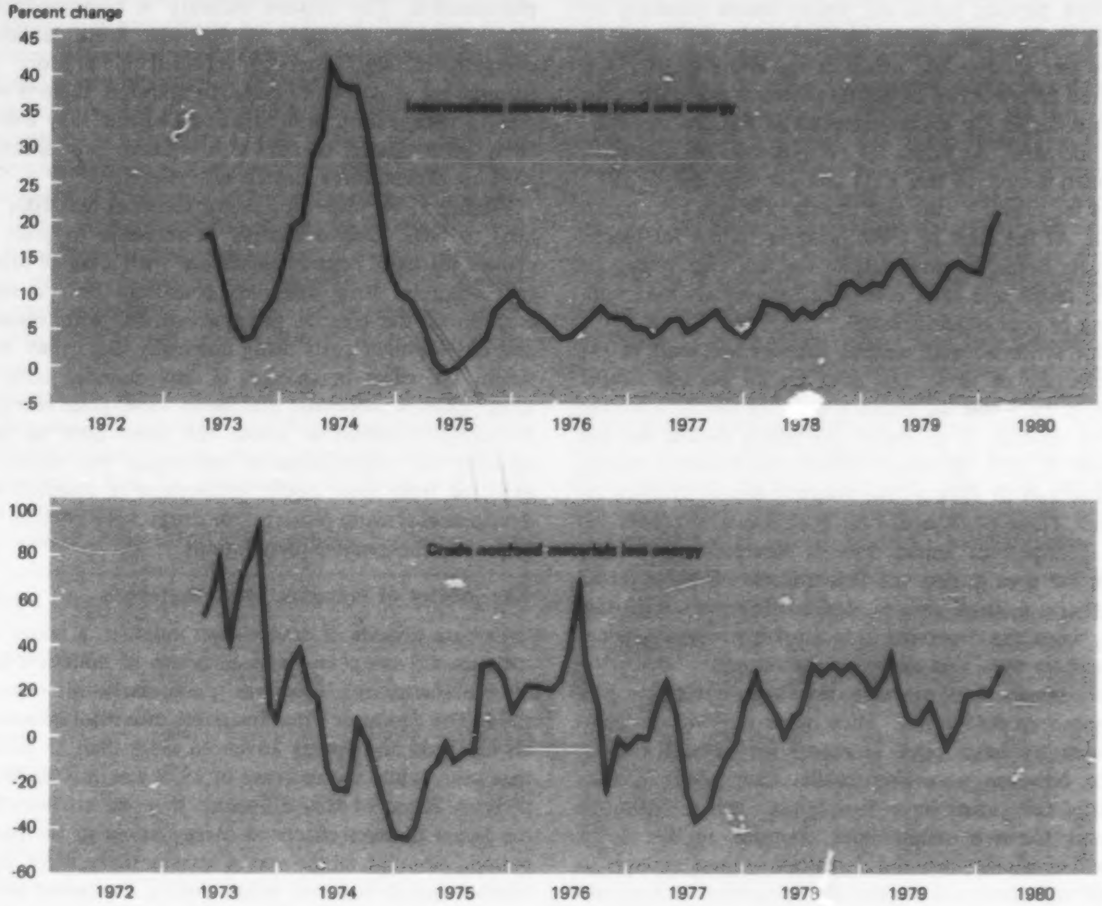
During 1974, prices for pharmaceutical materials appear to have jumped sharply in response to price increases for basic organic chemicals, with a lag of one or two quarters. Raw materials constitute only a small fraction of the cost of pharmaceuticals, with research and development costs being unusually important. As a result, the effect of changes in raw material costs on drug prices is somewhat muted. In 1974, price increases for drugs occurred at about the same time as price changes for pharmaceutical materials. As would be expected from their higher proportion of research and development costs, prescription drugs were affected less than over-the-counter preparations.

The impact of manufacturing materials

In both periods of double-digit inflation, a major factor was the sharp increases in prices of materials used in manufacturing. This was particularly the case in 1974. The Producer Price Index for intermediate materials less food and energy advanced more than 25 percent that year, while the increase in 1979 was just under 13 percent. Some of this difference may be attributed to the larger indirect effects of energy prices in the earlier period. Another factor was a substantially more rapid climb in crude material prices during the earlier period which began before the jump in crude petroleum prices. Prices for crude nonfood materials less energy were climbing at a rate in excess of 80 percent for the 6 months ended in September 1973, compared with a peak rate of 32.5 percent for the 6 months ended in March 1979. (See chart 4.)

Much of the inflation during 1973–74 had its origins in a worldwide commodity price boom that began in late 1972, which has had no counterpart in the more recent period. In addition, price controls kept prices for many items artificially low, thereby contributing to shortages of several materials. As controls were removed, industrial material prices rose unusually rapidly. Reflecting the vigorous state of the world economy, as well as the reduced value of the dollar in international money markets, price increases accelerated sharply for a broad range of basic materials, such as scrap metal, natural rubber, inedible fats and oils, woodpulp, and wastepaper.

Chart 4. Inflation rates for intermediate materials and crude nonfood materials, 1973-80[1]



[1] Three-month changes seasonally adjusted at annual rates for the Producer Price Indexes for intermediate materials less food and energy and for crude nonfood materials less energy.

The steel and nonferrous metals industries are two of the heaviest consumers of energy in manufacturing, and in both periods prices of their products were affected by runups in energy prices. (See table 4.) Very strong demand and rapid increases in scrap metal prices also contributed to price increases for metals.

Scrap metal prices are very sensitive to demand and thus are a barometer of the demand for metals. However, as a major raw material in metal production, scrap metal prices also represent a cost of manufacture. During 1973, strong demand and material shortages drove prices of primary and scrap metals up sharply. By the first quarter of 1974, higher prices for fuels added to the cost pressure. By the second quarter of 1974, demand for nonferrous metals began to fall off, depressing prices for nonferrous scrap; rising fuel costs continued to push up primary nonferrous prices at annual rates in excess of 50 percent. By the end of the third quarter, most fuel costs had been passed through, and nonferrous metal prices began to fall in response to declining demand.

In 1974, steel manufacturers also passed on higher fuel costs during the first half. But steel demand remained strong most of the rest of the year, largely because of heavy demand from capital equipment

Table 4. Indirect effects of energy costs, 1973–1975 and 1978–80

Producer Price Indexes	Annualized percent change for 3 months ended—													
	Dec. 1973	Mar. 1974	June 1974	Sept. 1974	Dec. 1974	Mar. 1975	June 1975	Sept. 1978	Dec. 1978	Mar. 1979	June 1979	Sept. 1979	Dec. 1979	Feb. 1980
Crude fuels (natural gas and coal)	26.7	26.3	58.7	51.1	53.8	−10.3	30.2	11.3	14.7	26.6	32.1	32.4	27.5	33.9
Intermediate energy goods	46.0	105.3	56.2	27.7	12.2	9.1	6.9	−4.2	12.6	15.1	52.8	71.1	37.1	55.8
Ferrous scrap	345.5	125.8	2.1	75.6	−62.2	−51.0	−32.4	37.3	82.0	79.9	−6.4	−29.2	33.0	−9.6
Steel mill products	11.6	36.3	70.9	55.1	10.8	7.7	−4.2	7.4	7.8	13.5	8.9	7.4	12.4	5.8
Passenger cars	−2.7	7.4	12.0	14.6	17.6	5.0	3.1	6.6	4.2	11.5	10.2	1.8	6.8	9.3
Nonferrous scrap	124.5	46.2	−11.2	−54.5	−57.5	−47.1	−26.8	41.3	34.5	57.5	30.4	11.4	52.9	101.9
Primary nonferrous refinery shapes	86.0	51.3	56.1	1.2	−14.9	−22.0	−17.3	25.7	24.1	56.6	29.0	44.5	89.0	217.3
Nohferrous mill shapes	71.0	42.6	45.9	16.1	−11.3	−12.8	−9.5	12.6	19.4	31.9	8.4	16.0	22.1	24.8
Nonferrous foundry shop products	N.A.							11.8	7.0	11.2	45.7	15.0	−1.0	10.9
Railroad freight	8.5	31.2	4.6	41.8	.8	0	20.6	15.4	31.5	3.5	6.0	16.9	33.9	5.9
Capital equipment	6.6	14.3	26.8	29.9	19.6	13.0	5.4	8.1	7.9	10.5	9.4	5.9	9.4	13.2
Consumer goods excluding food and energy	8.4	10.0	19.2	16.9	14.2	5.6	2.3	8.4	7.7	10.3	7.9	9.1	10.5	22.1
Services excluding energy (CPI)	8.1	8.9	11.6	12.7	10.1	8.0	6.3	10.6	8.3	11.7	11.7	14.2	17.1	18.7
Home finance, taxes, and insurance (CPI)	14.4	10.8	12.0	17.6	19.1	8.5	7.2	19.0	8.3	25.8	22.0	25.3	38.1	30.5

N.A. Not available.

manufacturers. Prices continued to rise into 1975 as a result.

In 1978 and early 1979, strong demand for both ferrous and nonferrous metals kept prices for metal scrap rising rapidly, although not as spectacularly as in 1973. Unlike the second half of 1974, however, the second half of 1979 saw considerable slackening in demand for steel. This reduction in demand, coupled with the impact of the Administration's price guidelines, helped to keep the rise in steel prices smaller than in the earlier episode. Increased fuel costs undoubtedly contributed to the continuing steel prices increases. Steel prices were also affected by the Government's "reference pricing system" which placed a floor under imported steel prices through the use of anti-dumping duties triggered by a set of reference prices.

In contrast to 1974, nonferrous metal prices also have continued to rise rapidly. The effects of increased energy costs have been matched or exceeded by a number of other factors that were not present in 1974. Speculative demand drove prices for gold and silver up more than 200 and 600 percent over the 12 months ending in January 1980. Speculation spilled over into other metals, especially copper, which rose nearly 50 percent in the same period. (Other commodities such as sugar, natural rubber, and raw cotton were also affected by speculation.) Cobalt prices quadrupled during 1978 and 1979 because of political violence in Zaire, the world's leading producer.

The case of new cars. During both periods, new car prices were pushed upwards by the direct and indirect effects of the drop in the value of the dollar in international money markets. Prices of imported cars were raised to offset the dollar's decline; these increases in turn allowed domestic producers to boost prices of those models which were in high demand because they were most competitive with imports in terms of size and mileage. Both periods later witnessed a drop in demand for larger new automobiles in response to the uncertainties of gasoline supply and higher gasoline prices. In the early months of both 1975 and 1980, manufacturers established substantial rebate programs to stimulate demand.

Price behavior of new cars each time, however, was quite different. During the 12 months ending in February 1975, new car prices rose 11.5 percent, compared with 8.0 percent for the 12 months ending in February 1980. The earlier increase was larger, partly because, as noted, steel prices rose more rapidly. Some of the slower rise in the current period might also be attributed to the Administration's price guidelines. The slower recent advance came in spite of the fact that demand for new cars remained stronger than in 1975; auto production has remained well ahead of its 1975 levels. The stronger demand currently may partly reflect the automobile industry's restructuring of its product line since the mid-1970's, improving gas mileage substantially on existing car lines and introducing more small-car models.

Distribution costs rise

Petroleum products, of course, are used heavily in the distribution of goods, including transportation and the operation of retail outlets. The intermediate energy goods and crude fuel indexes in table 4 show the rising costs from energy faced by the distribution process.

The railroad freight rate index illustrates the impact of fuel cost changes on transportation charges. The regulatory process usually permits some immediate relief to carriers for fuel cost increases. However, the full impact usually seems to come 3 to 6 months later.

The effects of fuel costs on the distribution process are illustrated by the prices for food at home. (See chart 2.) Through the first part of 1976, the over-the-year percent change in that CPI component had mirrored changes in the PPI for consumer food in a very regular way: major changes in the two indexes occurred either simultaneously or within a month or two of each other, and prices received by food processors both accelerated and slowed more quickly because retailers and wholesalers tended to absorb some of the increases and recoup them on the down side. Retailers infrequently evaluated and incorporated changes in overhead costs into pricing decisions.

The energy price runup of 1974 changed all of that. It took a couple of years for retailers to adjust. But, since the beginning of 1976, food price increases over 12-month periods have usually been larger for the CPI than for the PPI, both when food prices were accelerating and when they were decelerating. While these data do not readily yield an estimate of the price impact of energy on the food distribution chain, they clearly suggest an increasing influence of energy on food prices which dampens the effect of falling producer prices on retail prices.

Increases other than food and energy

Substantial indirect energy effects on prices of consumer commodities other than food and energy began to be reflected in the PPI during the first quarter of 1974. (See table 4 and chart 5.) As we have noted, the end of price controls, strong demand, and worldwide inflation in a number of basic materials also caused manufacturers' prices to accelerate through the second quarter. As both energy prices and demand began to slow in the second half of the year, increases in producer prices for finished goods other than food and energy decelerated, reaching a 3-month annual rate of only 2.3 percent by the middle of 1975.

Retail prices for commodities other than food and energy rose somewhat more slowly than at the producer level, hit their peak about one quarter later, and decelerated more slowly. Prices for consumer services other than energy followed the same pattern with still smaller increases and less pronounced deceleration.

Currently, retail and manufacturers' prices for nonfood commodities other than energy have moved even more closely together. The major exception was in early 1980 when sharp PPI rises for fine jewelry and silver flatware were not reflected as strongly in the CPI. Prices for goods other than food and energy have risen more slowly this time. On the other hand, their period of rapid increases has been more protracted, and the indirect impacts of the last two OPEC price increases have not yet filtered through.

In addition, demand seems to have been fueled by a psychology of inflationary expectations in which consumers have made purchases out of fear that prices will be still higher in the future. As a result, by recent standards personal savings rates have reached new lows, and consumer debt has hit new highs. Speculation in basic materials has also served to extend the inflationary period, and the final effects from that still have not reached the consumer.

Unlike the earlier period, the index for nonenergy service prices has risen faster than commodity prices and has continued to accelerate to rates higher than those reached in 1974. This difference can be traced to the effect of mortgage costs, which have accounted for about half of the increase in this index. The record-high mortgage interest rates in turn are the result of the overheated economy and the elevated demand for consumer credit to finance the inflation-induced demand, as well as significant steps taken by the Federal Reserve Board to restrict credit. Because of the lag from the time a house buyer contracts for a mortgage until settlement, the maximum impact from the recent runups in mortgage interest costs has not yet been reflected in the CPI.

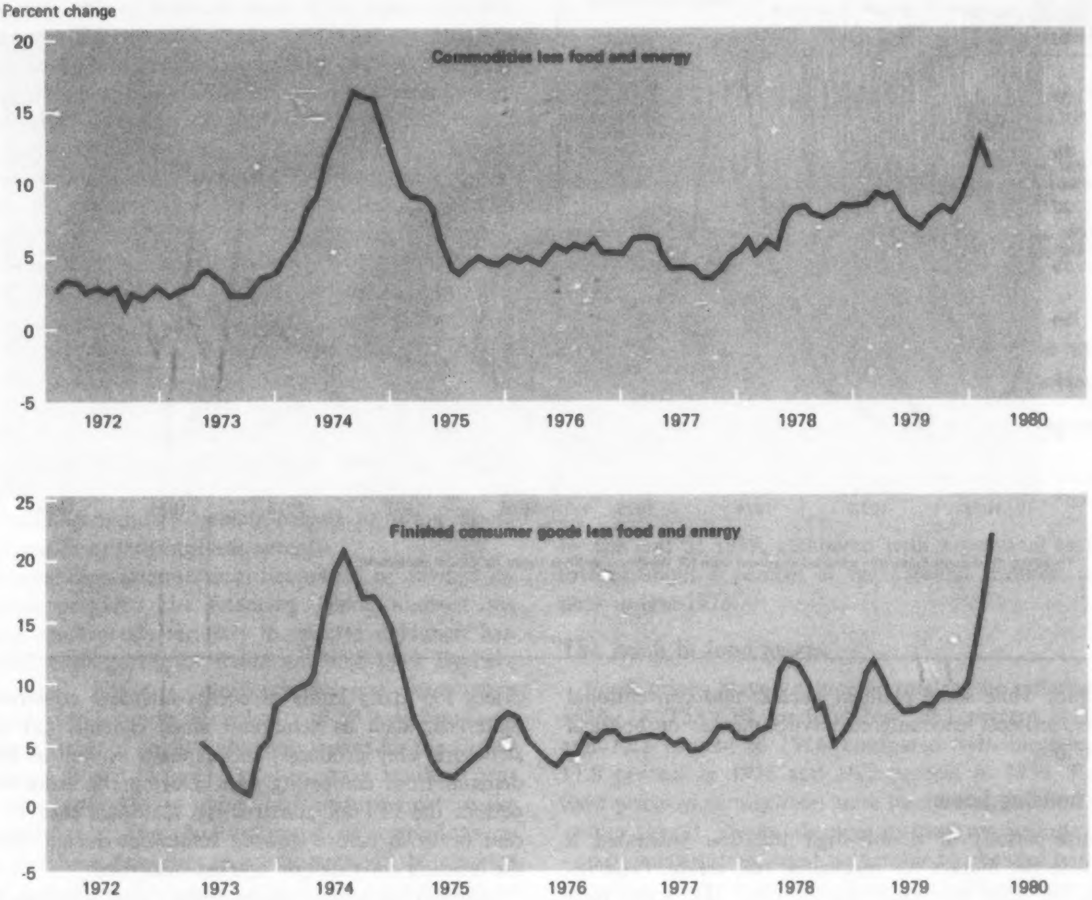
Capital equipment. Producer prices for capital equipment advanced at a much faster rate in the first round of double-digit inflation. (See table 4 and chart 6.) After rising 5.3 percent in 1973, this index jumped to a 14.3-percent rate in the first quarter of 1974 and rapidly accelerated after the April 30 expiration of the price controls program to a rate of about 30 percent in the third quarter. This index was still climbing at a 13-percent rate as late as the first quarter of 1975, at the bottom of the recession. In contrast, the rate of increase in capital equipment prices peaked at a rate of no more than 11 percent in early 1979 and rose 8.7 percent for the year as a whole, only slightly more than the 8-percent increase registered in 1978.

The 1974–75 spurt in the capital equipment index was in two ways a reflection of capacity shortages in many materials-producing industries. On the one hand, these shortages produced sharply increased demand for many types of industrial equipment; on the other, they drove up prices for the major materials used in the manufacture of capital equipment.

The absence of a similar widespread capacity crunch more recently helped to moderate capital equipment inflation, as the rate of growth in the general economy did not prove excessive compared to the Nation's capital stock. The relatively slow rate of recovery in capital expenditures after the last recession had raised concerns that the economy would soon be constrained by an inadequate supply of investment goods. Rather than commit themselves to long-term capital projects which might lead to excess capacity, many producers attempted to prolong the useful life of existing plants and equipment; one consequence was increased demand for replacement parts and thus a rapid rate of inflation in their prices.

Special factors contributed to changes in the rate of inflation during the 1970's for some types of capital

Chart 5. Inflation rates for consumer goods, less food and energy, 1972-80[1]

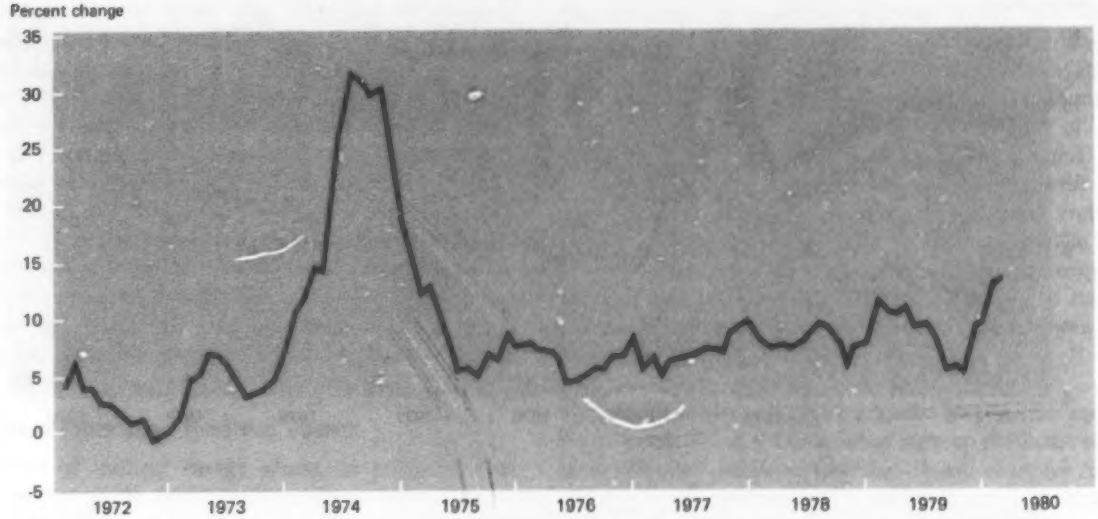


[1] Three-month changes seasonally adjusted at annual rates for the Consumer Price Index for All Urban Consumers for commodities less food and energy, and the Producer Price Index for finished consumer goods less food and energy.

equipment. The drive to make America less dependent on foreign energy sources, for example, kept prices for most kinds of capital associated with the energy exploration and production industries advancing rapidly from 1973 through the end of the decade, even during times when prices of most other investment goods were rising slowly. Prices for agricultural and construction machinery were somewhat sensitive to shifts in the level of farmers' income and construction activity. Prices for machine tools rose at unusually steep rates during much of the 1978–79 episode, in part because of intense demand from the motor vehicles industry generated by the need to produce downsized models with improved fuel efficiency; heavy demand from the aerospace industry was another important influence.

In contrast, motor truck prices rose much less in the current period, partly because demand for light trucks and vans with relatively low gas mileage dropped greatly in the wake of the steep rise in gasoline prices in mid-1979. Demand for capital goods by electric utilities was restrained as some expansion projects were postponed or canceled; sharply higher electricity rates led to increased consumer conservation efforts, thereby lowering the long-range projections of growth in electricity

Chart 6. Inflation rate for capital equipment, 1972-80[1]



[1] Three-month changes seasonally adjusted at annual rates for the Producer Price Index for capital equipment.

demand, while some planned nuclear and conventional power projects encountered environmental or political objections.

The housing boom

Both periods of double-digit inflation witnessed a boom in the market for residential real estate. Price indexes for both mortgage interest rates and home purchase started to accelerate around mid-1973, more than a year after rising food prices had initiated the acceleration in the All Items CPI. From July 1973 through October 1974, the CPI for mortgage interest rates moved up 21.4 percent. Home purchase prices also started to advance more rapidly in mid-1973 and continued to rise at a steep rate for nearly 2 years; by May 1975, this index was 21.9 percent higher than in July 1973. During the current inflation, home purchase prices and mortgage interest rates have again soared. Between December 1977 and February 1980, the index for mortgage interest rates increased 35.3 percent; the home purchase index climbed 30.5 percent during the same span.

Rising construction material costs were an important influence in the home price surge of 1973–74, but may have been less crucial in the current period. In the year ended September 1974, the Producer Price Index for construction materials and components advanced 23.6 percent. This steep rate partly reflected sharply higher prices for many kinds of energy-intensive construction materials, such as structural steel, cement, flat glass, structural clay products, and asphalt, as well as strong demand from competing uses. During the more recent period, the PPI for construction materials rose 11 percent in 1978, before slowing somewhat during 1979 as the housing construction market weakened.

Demand for homes was extremely strong during most of the 1970's, partly because of a rapid growth in the number of people in the age and income categories most interested in buying a first home. The rate of residential construction starts peaked in October 1972 at more than 2.4 million units, as ample funds were available to accomodate the intense demand. (See table 5.) But as the general economic boom continued, tighter conditions began to prevail in the money markets. The resulting record-high interest rates reduced the availability of home mortgage financing. This was a major factor in the virtual collapse of the homebuilding industry by late 1974 and early 1975, when construction of new private housing units sank to less than one million. As housing starts reached this depressed level after 2 years of decline, interest rates dropped quickly, and home purchase prices began to rise much more slowly.

The residential construction market recovered gradually from its depressed level of early 1975, as mortgage funds became generally available again. By 1978, the annual rate of new private home construction exceeded the 2-million unit mark in spite of the renewed climb in interest rates. Although a marked drop in construction activity was widely anticipated for 1979, the housing market was able to maintain most of its vigor until late in the year. The strength of the residential construction market in the late 1970's, in part, reflected several institutional changes, combined with the development of an inflationary psychology among many prospective home buyers.

New regulations allowed savings institutions (traditionally the primary source of mortgage financing) to issue money market certificates as of mid-1978, which paid an interest rate approximately equal to that of six-month Treasury bills. This action allowed savings institutions to compete more effectively for investment capital. This prevented "disintermediation," which had often occurred late in a business expansion when rising interest rates induced investors to purchase high-yield certificates rather than deposit funds in savings and loans, where interest rates were kept down by law. In the past, disintermediation led to recessions in the homebuilding industry, which helped to bring about downturns in overall business activity.

The new high-interest securities issued by savings institutions provided the financing which allowed the housing construction industry to operate at higher than expected levels during 1978 and much of 1979. By February 1980, however, mortgage interest rates were climbing at a 3-month annual rate of 33.9 percent—reflecting a series of credit-tightening moves by the Federal Reserve Board in early October. As a result, it was no longer profitable for many thrift institutions to make mortgage loans. The resulting cutoff or restrictions on home purchase financing in many parts of the country led to a drop in the rate of new home construction to an annual rate of approximately 1.5 million units at the beginning of 1980. As in 1973–74, home purchase prices and interest rates continued to climb many months after the rate of residential construction had begun to decline.

Another reason why the housing market maintained its strength longer than had been generally expected was that homes became more attractive as an investment. Inflationary expectations led many people to shift their assets from savings to home equity. From June 1978 through December 1979, the CPI for home purchase rose about 23 percent, compared with an advance of about 18 percent for the All Items CPI. Because home values were generally rising faster than the overall inflation rate, home purchases were widely viewed as a hedge against inflation. The consequent high demand for houses served to push prices up further and reinforce the initial perception. This was one reason the aggregate personal savings rate fell to about 3.5 percent by the end of 1979, compared with a personal savings rate of about 8 percent at the previous business cycle peak in late 1973.

Table 5. Timing of selected business cycle indicators and the Consumer Price Index

Business cycle indicator	1973–74		1978–79	
	Lead time[1]		Lead time[1]	Date of high value preceding Feb. 1980
	Trough to acceleration start	Peak to deceleration start	Trough to acceleration start	
Gross National Product, 1972 dollars	–18	–11	–32	([2])
Personal income, 1972 dollars	–18	–12	–28	Dec. 1979
Employees on nonagricultural payrolls	–18	0	–30	([2])
Industrial production index	–18	–4	–31	Mar. 1979
Capacity utilization	–18	–14	–32	First quarter 1979
New orders for nondefense capital goods, 1972 dollars	–19	–3	–28	Mar. 1979
New housing starts	–28	–24	–32	Apr. 1978
Ratio of deflated inventories to sales, nonmanufacturing and trade	–18	–20	–31	([2])
Corporate bond yields	–4	–1	–10	([2])
Ratio of consumer installment credit to personal income	–11	–8	–24	Sept. 1979
Index of four roughly coincident indicators	–18	–11	–31	Mar. 1979

[1] The number of months by which the trough or peak of the given business cycle indicator leads (negative value) the start of acceleration or deceleration in the All Items CPI.

[2] These indicators were still rising at the time of the most recent available data.

The jump in food prices

Food prices played a greater role in the inflation of 1973–74. The CPI for food rose 20.1 percent in 1973 and 12.2 percent in 1974, compared with increases of 11.8 percent in 1978 and 10.2 percent in 1979. Retail food prices generally rose more moderately in the intervening period. Sharp advances in food marketing costs—particularly those most vulnerable to changes in energy prices—were a major influence in both periods; food processing and marketing currently account for about two-thirds of retail food prices.

Both periods were characterized by the declining value of the dollar on international exchange markets. The real value of agricultural exports expanded more than 60 percent from 1972 through 1979, partly because of the lower value of the dollar in international money markets. As a result, the relative proportion of agricultural exports to total cash receipts for farm products increased over the decade; more than 25 percent of all total cash receipts for farm products were accounted for by exports in 1979, compared with a 15-percent share in the early 1970's.

Beef prices were highly volatile in both periods as cattle owners initially attempted to liquidate herds that were no longer profitable. Smaller cattle herds led to higher beef prices, which encouraged consumers to shift demand to less expensive substitutes, such as pork, poultry, and cheese, resulting in higher prices for these items. Price trends for beef tend to last longer than trends for pork and processed poultry prices; because the production cycle for cattle is longer, adjustments in beef output to changing market conditions are slower. In both cases, high cattle prices eventually induced farmers to increase their cattle herds. In 1974, this produced declines in beef prices. In the current period, herd rebuilding has only recently begun.

Unfavorable weather conditions reduced grain supplies in several foreign producing countries in 1972 and early 1973. Curtailed harvests in these countries, particularly the Soviet Union, and scarce supplies of soybean and Peruvian fish meal caused an upsurge in export demand for U.S. grains. From July 1972 to October 1973, grain prices soared 137.8 percent and manufactured animal feeds, 166.4 percent.

To alleviate the situation of tight supplies and increasing prices of grains and grain products in 1973 and 1974, changes were made in various Government farm commodity programs in an effort to expand domestic crop production and supplies. The Federal Government liquidated virtually all of its stockpiles of major grains. Direct export subsidies for all agricultural commodities were terminated. Export restrictions were placed on soybeans and cottonseeds in 1973.

Grain prices declined from late 1974 through mid-1977, so that they were only half as high at the end of this period as they were at the beginning. On balance, there were favorable growing conditions in grain-producing countries. In 1976, domestic production of both wheat and corn was at record levels. Carryover inventories of grains at the start of the 1976–77 growing season were at the highest level in 20 years, reflecting lower exports. Grain prices then rose for most months from mid-1977 through the end of 1979, although at rates well below those of the first period. The PPI for grains was more than 60 percent higher in December 1979 than in August 1977. The Federal Government's program of farmer-owned grain reserves and increased construction of on-farm storage facilities permitted farmers to withhold corn and wheat from the market and thus kept prices rising in spite of excellent domestic harvests. Strong export demand was another key influence.

Among other foods, retail prices for sugar and sweets soared 130.9 percent from January 1973 to January 1975, as raw cane sugar prices quadrupled. The unusually sharp increases were caused by several factors, such as a poor harvest of European sugar beets, typhoon damage to Philippine sugar cane crops, strong demand in world markets, and the uncertainty of U.S. purchasing policies due to the expiration of U.S. sugar price supports. Over the next 2 years, however, these prices declined as output expanded in the face of buyer resistance. Prices for sugar and sweets turned up again in January 1977 and continued to rise through the rest of the decade, although not nearly as rapidly as in the earlier price boom.

Retail roasted coffee prices more than tripled from mid-1975 through mid-1977, reflecting first the effects of the severe 1975 Brazilian freeze and, later, the effects of production problems in Guatemala and Angola. This index declined by one-third from mid-1977 through mid-1979, as output gradually expanded and consumers cut consumption in reaction against higher prices. Prices turned up for the rest of 1979, partly because of adverse weather in Brazil and political turmoil in Nicaragua.

The current situation

It would be risky to develop any generalizations about the way double-digit inflations end from a single recent example. Nevertheless, it is the only comparable case available. Noting the similarities and differences between then and now will at least help to define the situation as of early 1980 and point to the factors to be watched in the coming months.

One of the major factors contributing to the rapid deceleration of prices in 1974–75 was the severe recession that accompanied it. The recession has been officially designated as beginning in the fall of 1973 at about the time that the Gross National Product, real personal income, and capacity utilization turned down. It remained mild, however, until late in 1974, after employment, industrial production, and new orders for nondefense capital goods all had begun to decline. Prices began to decelerate only after the recession entered its most depressed months. (See table 5.)

Although a number of forecasters have been predicting a recession for some time, the evidence is still not conclusive that one has begun. Industrial production, new orders for nondefense capital goods, and capacity utilization are all below first-quarter 1979 levels, and real personal income declined during the first two months of 1980. But the Gross National Product and employment, the two most significant indicators of a recession, have not begun to decline.

A severe recession need not be the only way to bring double-digit inflation down. Nevertheless, the single example of 1974–75 suggests that prices are slowed as the result of declining demand only when the reduction is substantial and prolonged. As of February 1980, little price relief from this source could be expected in the near future. The indicators in table 5 are those to watch for signs of slowing demand pressure on prices. Even if such relief were to come, it could well be partly or entirely offset by other factors.

One of the most important factors is the price of crude petroleum. There was a sudden rise in imported crude petroleum prices in late 1973–early 1974; by the second quarter of 1974, energy prices at all stages of processing were decelerating. Six months later, the secondary effects on other products were sufficiently attenuated to permit prices to begin slowing down as the general recession intensified.

During 1979, the situation was quite different. Although the increases in OPEC oil quotations were slower, OPEC raised its prices several times during the year. In addition, domestic energy prices are now less insulated from the world price of petroleum for a number of reasons: imports constitute 45 percent of all crude petroleum, compared with 26 percent in 1973; prices of domestically produced crude petroleum have been partially decontrolled and about one-fourth is now sold at approximately the world price; and price controls on natural gas have been relaxed somewhat since 1974.

Unlike 1974, crude and intermediate energy prices accelerated for about one year and did not begin slowing until October 1979. Even then, the slowdown, especially for crude energy, has been only modest. Imported crude petroleum prices are not included in this index, and the two most recent OPEC price increases have not yet been totally reflected in intermediate or finished products. In addition, OPEC is now reviewing its prices quarterly, and future actions cannot be anticipated. As a result, if reduced demand should begin to exert a slowing effect on prices during the early spring of 1980, the offsetting pressure from the attempts to pass through rising energy prices will be greater than they were in 1974.

Currently, cost pressures from crude and intermediate materials other than food and energy may be more protracted. In 1973 and 1974, prices for crude nonfood materials began to decelerate sharply 1 full year before the All Items CPI started to slow down; prices of intermediate nonfood materials did so 2 months before the CPI, with a very sharp deceleration thereafter. In 1979, prices for crude nonfood materials except energy began a deceleration in April, which would have been consistent with a slowdown for the CPI during the early spring of 1980. Unfortunately, these prices accelerated sharply beginning in October and had reached an annual rate exceeding 30 percent by February 1980.

The PPI for intermediate materials less food and energy stopped accelerating in early 1979. Unlike the rapid deceleration that occurred in 1974, prices in 1979 continued to rise at an annual rate of about 13 percent for the remainder of the year. Although the increases were only about half as fast as in 1974, they began to accelerate further during the first 2 months of 1980, even if the effects of gold and silver speculation are removed. However, to the extent that the acceleration in both crude and intermediate materials may also be affected by speculation in commodities such as cotton, rubber, and copper, it could collapse very quickly if demand drops.

Food prices are already a more moderating influence on the overall rate of inflation than was the case just prior to the deceleration phase in 1974. Retail food prices were 7.3 percent higher in February 1980 than 12 months earlier, while prices at the primary market level were up less than 3 percent. In addition, carryover supplies of most crops are extremely good, and cattle herds, though small, are beginning to expand. Of course, weather and foreign purchase plans can shift suddenly and change the price picture.

The stringent credit-tightening measures announced by the Federal Reserve Board in October 1979, followed by even greater tightening in March, are much more restrictive than any monetary actions in 1973–74. Interest rates may have a number of different impacts on overall price levels. On the one hand, higher interest rates are a cost and push prices higher. On the other hand, by discouraging debt-financed purchases they dampen demand and exert a slowing effect on prices. In this connection, rising interest rates during 1979 finally stopped the growth of installment credit as a proportion of personal income in September. In 1974, a similar drop in consumer credit preceded overall price deceleration by 8 months. If a comparable mechanism is present now, reduced consumer borrowing should exert slowing pressure on prices during the first half of 1980.

Interest rates on mortgages have a substantial impact on the CPI. Rapid rises in mortgage interest rates during late 1979 and early 1980 are among the most significant causes of continuing high inflation. However, high house prices and high interest rates have both had a depressing effect on the demand for housing. New housing starts have been falling since April 1978. During the earlier round of double-digit inflation, there was a two-year lag between the initial decline in housing starts and the deceleration of the CPI. A similar development this time would place the decelerating effect of house prices in the spring of 1980. In addition, a significant drop in aggregate demand would reduce the demand for borrowed funds and bring down mortgage interest rates.

Finally, there is the matter of the pressure which rising wages may have on prices, both from the demand side and from the cost of production. When prices began to decelerate after October 1974, hourly earnings (as measured by the average hourly earnings index for the total nonfarm sector) had increased 9.1 percent the previous year. As of December 1979, hourly earnings were 8.3 percent above their year-ago level. While these data suggest that wage pressures are not as severe now as they were during the earlier period, this proposition can be accepted only with two cautions. First, the higher 1974 rate (9.1 percent) was the result of a sudden runup from 5.8 percent at the end of 1972, while the current 8.3-percent rate is a continuation of the 7.5–8.5-percent range that has prevailed since 1975. Second, the lower rate may conceal a large pent-up demand for higher wages that may erupt later.

The cost of labor in the production process can be affected by two other factors as well: the cost of nonwage compensation and changes in productivity. The combined effects of wages, other compensation, and productivity are reflected in the unit labor cost data. These data show that because of more severe declines in productivity, unit labor costs were also placing greater immediate pressure on prices during 1974, increasing by 14.8 percent that year, compared with 11.1 percent in 1979.

In summary, we can make the following characterizations about double-digit inflation in 1973–74 and today:

> *Energy* prices were a major factor in both periods. Currently, price increases have been much more protracted, and both direct and indirect effects of crude petroleum prices have not yet been fully felt by the consumer. Future changes are heavily dependent on OPEC pricing decisions.
>
> *Food* prices led the acceleration both times but are currently a moderating influence.
>
> *Manufacturing material* prices rose much more sharply in 1973–74. Although there were some indications in 1979 that crude material prices had slowed, speculation and strong demand renewed their rapid increase.
>
> *Nonfood finished commodities other than energy* had substantial price increases in both periods as the result of higher raw material and energy costs, coupled with strong demand. Currently, cost pressures are still being felt, and slackening in demand has been too small to have had a major impact. Inflationary expectations have buoyed demand, increasing consumer debt and reducing the personal savings rate.
>
> *Mortgage interest and house prices* pushed inflation up sharply in both periods. A decline in the housing market beginning in late 1972 led to a slowing of house price rises in 1975. The housing market has been declining again since the spring of 1978. Mortgage interest rates are currently being pushed to record levels, partly as the result of Federal Reserve credit-tightening actions. ☐

FOOTNOTES

[1] The dates we have chosen for each phase are those appropriate for the Consumer Price Index for All Items for All Urban Consumers (CPI-U). To help reduce the effects of "statistical noise" in the data, annualized rates of change over 3-month spans are used throughout our analysis, unless otherwise specified. Seasonally adjusted data have been used for those time series exhibiting a pattern of stable seasonality.

[2] Through the first 9 months of 1979, the acquisition cost of imported oil climbed 67.7 percent, compared with a rise of 41.7 percent in the benchmark price. As 1980 began, the benchmark price was raised by an additional one-third retroactive to October 1979, and by another 8.3 percent effective in January 1980. OPEC decided to review crude oil prices every 3 months in the future.

[3] In both episodes, the Federal Government controlled gasoline prices at all levels, whereas fuel oil prices were decontrolled in 1976.

Measuring wage relationships among selected occupations

Occupational wage spreads, as measured by survey averages, do not mirror relationships within individual firms; pay differentials are much smaller within establishments

VIRGINIA L. WARD

Reviewers of occupational wage relationships should not be misled by averages derived from wage surveys. An analysis of data from the Bureau of Labor Statistics' area wage surveys[1] confirmed that nationwide relationships may have little or no similarity to those within individual establishments.

Inter-establishment averages are the basic product of the Bureau's occupational wage surveys. However, these averages tend to mask actual intra-establishment pay relationships. For example, in South Bend, Ind.,[2] during March 1976, average weekly earnings of class B secretaries were $165.50 and of class D secretaries (the lowest level studied that year), $167.50. This inverse relationship indicates that, in South Bend, establishments paying high wages employed proportionately more class D secretaries and low-wage establishments employed proportionately more class B secretaries.

In other instances, the published wage relationships may seem more reasonable, although they do not reflect those within single establishments. National wage data indicate that maintenance workers averaged almost twice as much in hourly pay as janitors and that men in office clerical occupations averaged more than their female counterparts. But, when intra-establishment averages are compared, these differences are smaller.

The analysis in this article is based on measures of occupational wage relationships—pay relatives—which reflect the pay practices and structures of employers. Pay relatives express earnings for an occupation as a percent of average earnings for a benchmark occupation in the same establishment. Janitor ("janitor, porter, cleaner") is used as the benchmark here because the job is widespread among establishments and is usually at or near the bottom of the wage scale—a convenience when analyzing pay relatives. The pay relatives were computed by dividing an establishment's average hourly earnings for the occupation being compared by the average for janitors.[3] The next step was to array the pay relatives for establishments contributing to an occupational comparison (one pay relative per establishment, weighted by establishment and area weights) and determine the median of the array. The results are presented in table 1.

Occupations were not compared one to another (for example, class A typists to class B typists). If they had been, the results discussed in this article might be quite different because the establishments included in the comparisons would have been different.[4] For example, establishments employing janitors and class A typists are not likely to be identical to those employing class A and class B typists.

Intra-establishment patterns

Nationwide. Based on median establishment pay relatives, blue-collar occupations averaged more than the janitorial occupation; a number of white-collar occupations averaged less. (See table 1.) Top-level secretaries were the highest paid clerical workers in 1976, averag-

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Table 1. Intra-establishment wage relationships for selected occupations, by industry and region, 1976

[Janitorial pay = 100]

Occupation	Industry division			Region			
	All industries	Manufacturing	Nonmanufacturing	Northeast	South	North Central	West
Office clerical							
Secretaries:							
Class A	145	134	162	148	161	129	153
Class B	131	123	142	133	143	120	134
Class C	120	113	131	118	129	111	122
Class D	110	104	123	108	121	101	109
Stenographers, general	100	93	108	100	113	91	100
Stenographers, senior	109	102	121	110	122	99	111
Transcribing-machine typists	101	95	106	101	114	89	100
Typists:							
Class A	98	93	108	99	112	93	98
Class B	90	84	98	88	100	83	87
Clerks:							
Accounting, class A	118	112	128	119	128	109	115
Accounting, class B	102	97	108	101	110	95	99
File, class A	105	95	111	105	121	100	105
File, class B	89	83	94	92	100	78	88
File, class C	86	81	89	86	97	78	87
Payroll	110	106	120	109	118	103	113
Messengers	86	82	89	85	95	81	86
Switchboard operator-receptionists	98	95	105	100	106	90	99
Bookkeeping-machine operators:							
Class A	118	111	125	111	123	121	116
Class B	108	100	113	109	117	97	107
Billers, machine:							
Billing machine	101	98	105	95	114	94	108
Bookkeeping machine	106	102	108	101	118	99	109
Keypunch operators:							
Class A	105	100	118	104	120	99	108
Class B	97	91	106	96	106	87	99
Tabulating machine operators:							
Class A	127	124	130	138	146	123	124
Class B	112	109	117	112	120	110	107
Class C	101	102	98	112	108	93	
Professional and technical							
Computer systems analysts:							
Class A	229	219	251	226	272	198	247
Class B	190	175	218	190	232	170	190
Class C	160	146	177	149	210	147	160
Computer programmers:							
Class A	190	176	215	182	234	167	189
Class B	160	151	182	168	184	145	174
Class C	136	122	146	142	145	119	134
Computer operators:							
Class A	138	130	155	141	164	127	145
Class B	125	118	133	126	136	116	125
Class C	111	105	118	109	120	99	112
Drafters:							
Class A	155	152	168	155	168	145	158
Class B	132	131	148	131	144	123	129
Class C	113	112	119	116	116	109	110
Drafter-tracers	96	87	115	84	112	88	96
Electronics technicians:							
Class A	160	157	178	155	179	147	174
Class B	148	143	162	138	160	141	147
Class C	134	127	142	119	146	125	130
Registered industrial nurses	125	123	154	127	142	117	131
Maintenance, toolroom, and powerplant							
Maintenance carpenters	136	130	167	135	147	128	143
Maintenance electricians	140	138	163	137	153	134	144
Maintenance painters	128	124	160	124	143	125	136
Maintenance machinists	139	138	145	136	148	133	141
Maintenance mechanics (machinery)	134	134	144	132	144	129	141
Maintenance mechanics (motor vehicles)	132	127	146	130	138	125	136
Maintenance pipefitters	128	128	138	128	133	128	126
Maintenance sheet-metal workers	130	129	131	134	139	125	126
Millwrights	128	128	131	130	135	127	128
Maintenance trades helpers	110	109	115	108	114	109	110
Machine-tool operators (toolroom)	135	135		139	140	132	147
Tool and die makers	152	151	...	153	165	144	167
Stationary engineers	143	130	182	134	156	136	171
Boiler tenders	119	118	129	117	122	120	122
Material movement and custodial							
Truckdrivers:							
Light truck	112	112	110	113	109	112	106
Medium truck	119	117	127	123	117	118	127

Table 1. Continued—Intra-establishment wage relationships for selected occupations

[Janitorial pay = 100]

Occupation	Industry division			Region			
	All industries	Manufacturing	Nonmanufacturing	Northeast	South	North Central	West
Heavy truck (trailer)	123	120	135	131	122	117	132
Heavy truck (other than trailer)	122	117	136	132	116	117	120
Shipping clerks	116	116	119	117	117	115	121
Receiving clerks	116	113	125	114	120	114	117
Shipping and receiving clerks	119	117	123	115	126	116	120
Warehousemen	114	112	123	112	117	113	115
Order fillers	108	107	111	108	107	107	111
Shipping packers	105	105	105	104	107	105	106
Material handling laborers	108	103	104	104	103	103	104
Forklift operators	108	108	121	109	110	107	112
Power-truck operators (other than forklift)	109	108	111	112	111	105	110
Guards	105	104	106	107	107	104	102
Watchmen	102	101	105	103	101	101	105

ing 45 percent more than janitors. Messengers and entry-level file clerks were the lowest paid, averaging 14 percent less than janitors. Seven of the 26 office clerical occupations had pay relatives below 100.

Pay relatives for the 17 professional and technical occupations varied with the duties and responsibilities. Drafter-tracers who prepare simple drawings or copy drawings by tracing had the lowest pay relative of the group; systems analysts responsible for the most complex problems had the highest in the entire study.

Unlike the professional and technical group, pay relatives for 11 of the 14 maintenance, toolroom, and powerplant occupations studied were clustered within a comparatively narrow band—128 to 143. These 11 specialized occupations generally are found in large unionized establishments and require a formal apprenticeship or equivalent training and experience. Pay relatives for tool and die makers were the highest and those for maintenance trades helpers and boiler tenders were the lowest. Pay relatives for material movement and custodial occupations (other than janitor) ranged from a low of 102 for watchmen to 123 for trailer truckdrivers.

Industry. Pay relatives based on janitorial pay were generally larger in nonmanufacturing than in manufacturing industries. For example, class A typists in nonmanufacturing earned 8 percent more than janitors, while their counterparts in manufacturing earned 7 percent less.

Among the nonmanufacturing industries, services held the most favorable pay position for office clerical workers with pay relatives averaging 5 points above those in all nonmanufacturing industries; wholesale trade was lowest, averaging 9 points below nonmanufacturing. Computer occupations' pay relatives were about 35 points higher in retail trade, finance, and services than in public utilities and wholesale trade. The lower relatives were due to comparatively high wages for janitors, rather than low wages for computer personnel.[5]

Pay relatives for the skilled trades were also higher in nonmanufacturing. At least two elements contributed to this relationship. First, many large department stores pay skilled trades workers the local union rates for construction, even though the stores may not have a union contract covering any of their workers. (Union construction rates are usually much higher than rates for skilled trades in manufacturing or other nonmanufacturing industries.) Second, average earnings of janitors are much lower in nonmanufacturing than in manufacturing, where their wage rates are more frequently set by collective bargaining agreements.

Regional. Median establishment pay relatives in the Northeast and West closely approximated the national pattern for office, professional and technical, and skilled plant occupations. However, pay relatives in the South were as much as 43 percentage points higher than the nationwide figures and those in the North Central region were as much as 31 percentage points lower. The less-skilled plant occupations generally followed the national pattern in all regions.

The South has historically recorded higher pay relatives based on janitor pay than the other regions.[6] This pattern reflects the comparatively low wages of janitors—not higher pay for other occupations in the South (wage levels for almost all of the occupations studied were lowest in the South). Conversely, the low pay relatives in the North Central region reflect comparatively high wages for janitors. In fact, 16 of the 26 office clerical occupations had pay relatives below the janitorial base, compared with 8 below in the West, 7 in the Northeast, and 2 in the South.

One explanation for the opposite pattern of wage relationships between the South and North Central regions may be the degree of labor-management agreement coverage. Three-fourths of the plantworkers in the North Central region were covered by union agreements, compared with about two-fifths of those in the

South; and about a tenth of the officeworkers were covered in both regions. It appears that when janitors are paid under labor-management agreements, they have a more favorable wage relationship with blue- and white-collar workers within the same establishment. This analysis made no attempt to isolate the influence of unionization on regional pay levels from other factors that bear on wages. Differences in industrial composition of regions should be taken into account when examining reasons for differences in regional wage structures.

Inter- and intra-establishment differences

Inter-establishment and intra-establishment wage relationships for selected occupations are shown in table 2. Roughly two-fifths of the janitors in the study were employed by janitorial services—a relatively low-paying industry with few of the surveyed occupations. Consequently, data from these firms widened the inter-establishment wage differentials by decreasing the average for janitors (the benchmark job), while not affecting the other job averages. The intra-establishment wage differentials were not strongly affected, because of the few occupational comparisons that can be made within janitorial firms and the method used in computing differentials.

The data for tool and die makers illustrate, to some extent, the effect of janitorial services on the two types of measures. The inter-establishment relative of 195 for tool and die makers indicates they earned nearly twice as much as janitors; in contrast, when comparisons are made within establishments, the pay relative of 152 indicates only a 50-percent advantage. This situation is not unique. For 6 of the 21 occupations shown, the inter-establishment differential is more than twice as large as the intra-establishment differential.

Table 2. Inter- and intra-establishment wage relationships for selected occupations, 1976

[Janitorial pay = 100]

Occupation	Inter-establishment relationships	Intra-establishment relationships
Systems analysts, class A	263	229
Systems analysts, class B	227	190
Programmers, class A	214	190
Tool and die makers	195	152
Electricians	189	140
Mechanics (motor vehicles)	185	132
Programmers, class B	180	160
Mechanics (machinery)	177	134
Truckdrivers, (all sizes)	166	118
Computer operators, class A	162	139
Secretaries	136	124
Computer operators, class B	135	125
Shipping and receiving clerks	135	119
Material handling laborers	133	103
Stenographers, senior	124	109
Accounting clerks, class B	101	102
Bookkeeping—machine billers	96	106
Bookkeeping—machine operators, class B	95	108
Messengers	92	86
Typists, class B	91	90
File clerks, class C	79	86

Two occupational groups averaged more, or less, than janitors, depending upon the type of comparisons being made. Using inter-establishment averages, bookkeeping machine billers and class B bookkeeping machine operators averaged 5 percent less than janitors; using the intra-establishment averages, they averaged 6 to 8 percent more.

Changes in wage relationships

Most of the occupations included in this study were also covered in 1962 and 1967. These earlier studies focused on occupational data identified by sex and provided separate estimates for manufacturing and nonmanufacturing, but not for all industries combined. The following tabulation shows wage relationships from the three studies:[7]

	Average wage relationships		
	1962	*1967*	*1976*
Manufacturing:			
23 office clerical occupations (women)	103	102	98
13 maintenance, toolroom, and powerplant occupations (men)	136	136	131
13 material movement and custodial occupations (men)	112	113	110
Nonmanufacturing:			
23 office clerical occupations (women)	113	111	108
10 maintenance, toolroom, and powerplant occupations (men)	150	149	148
10 material movement and custodial occupations (men)	122	122	118

Wage differences between male janitors and other occupational groups remained relatively stable from 1962 to 1967; since then, some wage compression has occurred. Several factors provide for some speculation as to the difference in patterns between the two periods. For example, wages, as measured by the Bureau's Average Hourly Earnings Index,[8] advanced less than 4 percent a year from 1962 to 1967, but about 7 percent a year from 1967 to 1976. Therefore, equal-sized cents-per-hour adjustments within establishments (either general wage increases or cost-of-living escalators) had more opportunity to cause compression during the latter period. Additional factors include the increase in the Federal minimum wage from $1.25 an hour prior to 1967 to $2.30 an hour in 1976, and the exemption of lower paid workers from the wage controls of the early 1970's. □

FOOTNOTES

[1] Data in the 1976 study relate to 262 Standard Metropolitan Statistical Areas of the United States (excluding Alaska and Hawaii), as

defined by the U.S. Office of Management and Budget through February 1974. BLS surveys are conducted annually in a sample of 70 areas selected to represent all of these areas. Establishments employing 50 workers or more are surveyed in six broad industry divisions: manufacturing; transportation, communication and other public utilities; wholesale trade; retail trade; finance, insurance and real estate; and selected services. See *Area Wage Surveys, Metropolitan Areas, United States and Regional Summaries, 1976,* Bulletin 1900-82 (Bureau of Labor Statistics, 1979).

[2] See *Area Wage Survey, South Bend, Indiana, Metropolitan Area, March 1976,* Bulletin 1900-5 (Bureau of Labor Statistics, 1976), p. 3.

[3] The establishments used in these computations were limited to those with 100 workers or more, employing janitors, and reporting data for workers in at least one of the other occupations studied. Thus, the number of establishments involved varied somewhat by occupation. Because the survey data used in this analysis are limited to selected occupations, the more common approach of comparing occupational pay to the average for a broader group, such as all production workers or all office workers, was not possible.

[4] An occupational pay matrix which directly compares occupations with each other in an establishment was introduced into the *Area Wage Survey* bulletins in January 1979. For a discussion on pay matrix techniques see Mark S. Sieling, "Interpreting pay structures through matrix application," *Monthly Labor Review,* November 1979, pp. 41-45.

[5] A table presenting additional data for nonmanufacturing industries will be presented in the forthcoming *Area Wage Surveys, Metropolitan Areas, United States and Regional Summaries, 1977,* Bulletin 1950-77 (Bureau of Labor Statistics, 1980).

[6] See "Occupational Wage Relationships in Metropolitan Areas, 1961-62," *Monthly Labor Review,* December 1963, p. 1426 and "Occupational Wage Relationships in Metropolitan Areas," *Monthly Labor Review,* December 1968, p. 29.

[7] A wage relationship was computed between male janitors and individual occupations within each establishment. The median of these wage relationships for each occupation was determined, and then averaged by occupational group. The average wage for male janitors equals 100. Data were not combined for men and women in the two earlier studies.

[8] See *Handbook of Labor Statistics, 1978,* Bulletin 2000 (Bureau of Labor Statistics, 1979), pp. 315-16.

The sharp rise in wages of black women

Twenty years ago the average black woman employed full time was earning approximately half the wage rate of a similarly employed white woman. By 1975 almost complete racial parity in female wages had been achieved. Although this remarkable advance in the economic status of black women has accelerated in the last few years, it has received little serious analytical attention. In contrast, the significant but smaller income gains of black males during the 1960's generated considerable research attempting to disentangle possible sources of this improvement. Real wage changes of the magnitude observed for black females are so rare that it seems unlikely conventional explanations will suffice.

—JAMES P. SMITH,
"The Convergence to Racial Equality in
Women's Wages," in Cynthis B. Lloyd,
Emily S. Andrews, and Curtis L. Gilroy,
eds., *Women in the Labor Market*
(New York, Columbia University
Press, 1979), p. 173.

The paper and plastic bag industry: two distinct productivity phases

During 1967–77, output per employee hour accelerated after a sluggish increase during 1954–66; the rise was associated with improved technology and rapid growth in output as consumer demand surged

HORST BRAND AND CLYDE HUFFSTUTLER

Productivity in the paper and plastic bag manufacturing industry rose at an average annual rate of 2.9 percent between 1954 and 1977—slightly exceeding the 2.7-percent rate for manufacturing as a whole for the same period.[1] (See table 1.) The long-term productivity rise resulted primarily from improved technologies, especially in plastic bag production. Comparatively high output rates were induced by expansion in consumer spending on soft goods, the chief market for bags, helping to maximize utilization of staff and equipment.

The long-term trend in the industry's labor productivity has been marked by two distinct phases. Between 1954 and 1967, gains in output per employee hour averaged 2.6 percent per year. From 1967 forward, the rate of gain accelerated, rising to 3.4 percent a year. (For total manufacturing, the comparable figures read 2.8 percent and 2.3 percent.) The acceleration was associated with intensified and widely diffused mechanization of work previously performed by hand. It was also indirectly linked with locational shifts of bag manufacturing plants closer to important market areas than to Southern paper mills. These shifts made reductions in job classifications under union contracts possible, which in the older plants still reflected dated manufacturing technologies.[2]

Year-to-year movements varied considerably. In 6 out of the 23 years examined, output per employee hour declined, as increases in employee hours exceeded increases in output. The years of decline were more than offset by the 10 years when productivity advances ran 50 percent or more above the long-term trend rate. Output gains then were accompanied by relatively small gains—and at times by losses—in employee hours.

Most of the years when output ran significantly above its own long-term trend rate were characterized by cyclical recoveries (for example, 1955, 1959, 1961, 1971, and 1976). The real value of consumer expenditures for soft goods rose strongly in such years. Moreover, output showed no year-to-year declines during the review period except for 1960, 1975, and 1977—also the only years when real consumer spending on soft goods rose weakly.

Output and demand: a long-term rise

The bag manufacturing industry converts paper into grocery bags and sacks, multiwall sacks, and specialty and wardrobe bags. It also converts plastic film into specialty bags, such as those that enclose much commercially sold presliced bread, or household bags used for sandwiches, refrigerator storage, or refuse. Furthermore, the industry manufactures the glassine (wax paper) or plastic liners that form the moisture and flavor barriers for foods packed in cartons (for example, dry

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cereal); it also fabricates bags made of cellophane. The industry, which refers to the containers it makes as "flexible," is part of the group of industries manufacturing containers and packaging from various materials, accounting for approximately 11 percent by value of shipments.

Output of the paper and plastic bag manufacturing industry in 1977 ran 2½ times higher than in 1954—the first year for which adequate data for this study are available. The long-term output rise—4.7 percent per year between 1954 and 1977—considerably exceeded that for real consumer expenditures on soft goods for the period (2.8 percent). It also outpaced the expansion of such major user industries as commerical bread and bun bakeries (1.2 percent); for 1958–76, retail food stores (2.3 percent) and eating and drinking places (3.2 percent).

Among reasons for the comparatively rapid growth of bag manufacturing output has been the growth of supermarkets and the associated spread in unitized packaging of merchandise prior to display on retailers' shelves. This has meant that, in effect, given items are packaged twice—in the sealed bag (or other container) in which they are first enclosed for protection, and in the bag (or wrap) in which they leave the store. The unitizing of packages and the use of their surface as an advertising medium has been a tendency since about 1900. The advantages of pre-unitizing of packages by the manufacturer of the item packaged have been enhanced by steady improvements in packaging machinery since World War II, and their integration in the manufacturing process.[3] During the period reviewed here, unitizing prior to shelf display was spurred by the spread of self-service in supermarkets, convenience stores, hardware stores, and department and variety stores. Self-service usually requires that the prepackaged item be easily accessible, and that the package feature descriptive information and graphics.

Table 1. Productivity and related indexes for the paper and plastic bag industry, 1954–77

[1967=100]

Year	Output per employee-hour			Output	Employee-hours		
	All employees	Production workers	Nonproduction workers		All employees	Production workers	Nonproduction workers
1954	73.0	70.5	86.2	52.4	71.8	74.3	60.8
1955	76.5	74.0	90.0	57.3	74.9	77.4	63.7
1956	73.5	72.1	80.1	58.1	79.1	80.6	72.5
1957	74.8	73.5	81.3	60.9	81.4	82.9	74.9
1958	76.4	75.8	79.2	63.4	83.0	83.6	80.1
1959	80.0	79.9	80.8	69.0	86.2	86.4	85.4
1960	80.9	80.2	84.1	67.4	83.3	84.0	80.1
1961	86.1	84.9	91.3	71.0	82.5	83.6	77.8
1962	88.4	87.2	93.7	73.9	83.6	84.7	78.9
1963	92.3	91.6	95.4	83.7	90.7	91.4	87.7
1964	91.7	91.4	92.8	86.9	94.8	95.1	93.6
1965	96.3	96.6	94.8	91.5	95.0	94.7	96.5
1966	95.8	95.6	96.7	98.9	103.2	103.4	102.3
1967	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1968	105.5	104.9	107.9	110.4	104.6	105.2	102.3
1969	103.5	104.1	101.1	111.7	107.9	107.3	110.5
1970	100.4	99.0	106.5	114.0	113.6	115.1	107.0
1971	114.2	113.2	118.3	122.4	107.2	108.1	103.5
1972	117.8	118.1	115.9	123.3	104.7	104.4	106.4
1973	125.1	126.0	120.7	132.7	106.1	105.3	109.9
1974	131.8	129.7	141.8	145.1	110.1	111.9	102.3
1975	133.6	135.4	126.7	131.1	98.1	96.8	103.5
1976	135.0	135.6	131.9	142.7	105.7	105.2	108.2
1977	130.2	132.1	122.3	133.8	102.8	101.3	109.4
	Average annual rates of change (in percent)						
1954–77 .	2.9	3.0	2.3	4.7	1.7	1.8	2.3
1973–77 .	1.0	1.4	–.5	–.0	–1.0	–1.4	.5

The industry's output of specialty bags and liners—which now consist preponderantly of plastic film[4]—more than quadrupled between 1954 and 1977; they accounted for more than half of total bag production in 1977, compared with one-third of a much smaller total in 1954. Advances in the sealing speed, seal integrity, and imprintability of plastic film greatly contributed to the rapid growth in their use—exemplified by the bread baking industry's switch from wax paper wraps to plastic bags or wraps in the mid-1960's.

Output of grocery bags and sacks, the mainstay of the paper bag production segment of the industry, nearly doubled over the period reviewed, with its share of total industry output, close to one-quarter in 1977, changing little. The demand for commercial-type bags and glassine, as well as for plastic bags, has been spurred by expanding carryout sales at restaurants accounting for 15 percent of their total sales in 1972.

Output of multiwall bags and shipping sacks rose by 40 percent over the period but dropped in relative importance, from two-fifths of the industry's total production in 1954 to about one-quarter in 1977. Gains in demand have been slowed by a shift in shipping methods—from bags to bulk. For example, according to Census and Bureau of Mines data, establishments manufacturing phosphate fertilizers reduced their consumption of multiwall bags by close to one-fifth between 1963 and 1972. Portland cement plants shipped 21 percent of their product in bags in 1958, but only 8 percent in 1975.

Employment pattern by phases. Employment in the bag manufacturing industry, currently at 53,000 persons, rose at an average annual rate of 1.8 percent between 1954 and 1977; hours at the plant rose by nearly the same long-term rate (1.7 percent). The trend, however, is distinguished by two phases. Until 1967, employment increased an average of 2.4 percent a year, but from then on, less than 1 percent. Hours at the plant rose in tandem with employment during the former period, but, like employment, they remained virtually unchanged during the latter. This reflected an exceptionally sharp cutback in hours (nearly 11 percent) in 1975. In 1977, employment stood 43 percent above 1954 levels, but ran significantly below the high it had reached for the period as a whole in 1970—when it had moved to 60 percent above 1954 totals.

Nonproduction workers grew in relative importance over the 23-year period. The average annual rate of increase in their number, 2.4 percent, was significantly higher than that for production workers, 1.6 percent. Currently, production workers account for 78 percent of total industry employment (compared with 71 percent for manufacturing as a whole). In 1954, their share was 83 percent. This rise in the proportion of nonproduction workers has in part been due to expanded professional staff, because with the shift to plastic film, research and testing personnel were increased by the larger firms. Also, computer-run extruders have required technical personnel over and above the normal complement of engineers and quality control teams needed in the plants.

Technological developments

The making of paper bags and of plastic bags differs in important respects. The basic material for plastic bags, that is, plastic film (usually polyethylene) is extruded from pelleted resins on the premises of the larger bag manufacturing plants. In contrast, the stock for paper bags is delivered from paper mills (classified in the paper and pulp industry). Improvements in extrusion technology have been a significant factor of productivity change in bag manufacturing. Improvements in the making of the paper stock for bags, however, are not reflected in the productivity measure discussed here.

The paper or plastic film roll is first imprinted according to customer specifications. The paper roll is fed into the bag-making machine, where generally, it is preperforated, tubed, cut, bottomed, and glued. For multiwall bags, the tubing and bottoming processes are usually separate. Plastic bags are cut from rolls; they are sealed by heating as they are cut. Paper bags are stacked and bundled for shipment at the end of the manufacturing process; plastic bags may be "wicketed," that is hung upon pins, ready for machine-filling by the customer. They are then crated or cartoned for shipment.

Technological advances in all parts of the bag-making process have contributed to rising output speeds, and hence declines in unit labor requirements. Over the past 10 to 15 years, the number of standard grocery bags produced by up-to-date equipment has roughly doubled per shift. One factor here has been the installation of so-called single-size bag-making machines in place of multisize machines.[5] Furthermore, the completed bags are mechanically indexed (that is, counted), stacked, and bundled—operations previously performed manually.

Production of multiwall paper bags and sacks remains somewhat more labor-intensive. Runs are more limited than for standard bags, because they are determined by customer specifications regarding size, thickness, type of bottoms, and type of closure. For some uses, the sewing of the bag's filling end is specified. Multiwall bags, then, are produced for inventory to only a limited extent, and machines must be reset after each run. Nevertheless, machinery operates at speeds estimated to be about one-fifth higher than a decade ago.[6] Innovations have been modest but steady; for example, gears are now bathed in oil; tubers and bottomers are mechanically connected, so labor for the transfer has been eliminated. Sewing apparatus is fed automatically rather than manually as in the past.

Product changes

Certain changes in the product have helped boost production speeds. For example, self-closing valves have replaced a variety of closure systems, including sewing. Such product changes have partly resulted from advances in filling equipment, requiring high-speed closing of bags.[7]

Some striking technological advances characterized the manufacture of plastic bags during the period studied. Machinery used today can produce up to 250 polyethylene bags per minute, roughly 4 times more than 2 decades ago.[8] One reason for the higher speeds has been more rapid rates of sealing (or "welding") of the bag's bottom. Also, the wicketing of bags has been automated (although in some installations, manual labor is still used), and this automation has raised hourly output by as much as 60 percent.[9]

To attain high production speeds for plastic bags, difficult problems other than the forming of the bag from film have had to be tackled. These problems tend to retard the output capacity of advanced equipment. Some larger companies maintain substantial research facilities to deal with such matters, as the printability of plastic films; less labor-intensive printing machinery; drying speeds of ink; adhesion of liners; and seal integrity.

As mentioned, the larger plastic bag plants often extrude their own film from resin pellets. Extrusion in its most advanced form is a completely automated process. The pellets are melted electrically and, in the case of the so-called cast extrusion process, which produces single-layer sheets, by the friction of the extruder screw. The efficiency of the screw has come to be maximized by means of screw designs derived from experience and embodied in computer programs for screw geometry.[10] The melted plastic is forced out through a slot die onto a chill drum, where it forms into a sheet. The sheet's thickness is computer-scanned and -controlled. The speed at which the rolls of plastic sheet become available to the manufacturing processes depends in good part on the chill drum's heat absorption characteristics, which remain a subject of concern to production engineers.[11]

Blown film extrusion, applied in the manufacture of double-sheeted film for refuse bags and related consumer uses, has also progressed technologically, particularly in efficiently cooling the extruded film without interfering with its speedy transfer to flattening rollers and perforating and cutting processes. Futhermore, the combining of different polymers offering various properties in the final plastic film—for example, toughness, moisture barrier, oxygen barrier—has spelled material economies, and has also accelerated manufacturing processes.[12]

The plastic sheet, prior to being imprinted, is treated by corona discharge so as to disturb its surface electronically and render it imprintable. Paper used for bags and sacks does not require pre-print treatment. The absorbability of paper permits the use of water-based inks, while plastic film requires more volatile, solvent inks. Heat to speed drying is nonetheless applied, but to cut associated energy costs, research to dispense with heating is underway.[13] Innovations in printing machinery, particularly in press speeds, and inking and drying systems, have helped accelerate both paper and plastic bag manufacturing processes. Printing units have been produced in recent years that permit removal of components (for example, the printing trolley) without tools. Component removal facilitates preparation for the next job, as well as cleanup and maintenance. Loading and unloading at the wind and rewind end of the press have been automated.[14]

The use of cellophane for bags and wraps has been declining, and it is being replaced by plastic film (chiefly polypropylene). Cellophane's machinability (determined by a material's relative stiffness) and imprintability compare well with plastic film, but plastic film features comparable characteristics in preserving flavor and barring moisture. Plastic film has the advantage of being cheaper than cellophane, and more energy-efficient in production.[15] The impact of the shift on unit labor requirements has probably been favorable, as the older cellophane-producing equipment has been phased out and advanced plastic film- and bag-producing equipment has replaced it.

During 1954–76 capital expenditures in the bag manufacturing industry quadrupled, doubling during 1967–76. The increase ran closely in line with that for manufacturing as a whole. Capital expenditures per employee, however, generally tended to lag the manufacturing average. In 1976, for example, the industry averaged $1,900 per employee on plant and equipment, or 81 percent of the $2,300-per-employee average for manufacturing as a whole. Moreover, the ratio declined somewhat from the early 1960's. The decline reflected the lessening importance of new (or expanded) plant construction by bag manufacturers, compared with factory building in general. The industry rents a comparatively high proportion of its plant space—the equivalent of 75 percent of its spending on structures in 1975, as against 43 percent for all manufacturers. Moreover, investment in new machinery and equipment has accounted for a higher proportion of bag manufacturers' total capital outlays than of all manufacturers'. And machinery and equipment outlays per employee in the industry were not less than 90 percent of the manufacturing average between 1958 and 1975, and came close to, or exceeded it in 1972 and 1963.

Of the 583 establishments classified in the industry by the Census of Manufactures for 1972, less than a quarter accounted for more than 70 percent of capital expenditures, employment, and value of shipments. More than three-quarters of all establishments had fewer than 100 employees; 43 percent had fewer than 20, accounting for but 4 percent of total industry employment and value of shipments.[16]

Industry outlook

Continued gains in the labor productivity of the bag manufacturing industry are likely, although perhaps at somewhat lower rates than in the past 10 to 12 years. To a degree, the gains will be linked to continued high rates of output. While opportunities for packaging new or existing products have for some time been fully exploited, partial shifts away from such materials for containers and packaging as metal (for metal cans); glass (for glass containers); and paper (for paper cartons), and to plastic film or plastic film constructions, are likely to spur plastic bag manufacturing. Thus, for example, retort pouches, constructed usually of film and foil, are expected to make gradual inroads into the use of metal cans used to market canned foods. Frozen foods, currently packed mostly in paper cartons, may also, in part, be replaced by foods sold in pouches. For the present, the spread of pouches for food packaging is impeded by consumer reluctance to accept them, and by slow filling speeds.[17]

Machinery design improvements to attain higher output speeds will continue to be at a premium. It is expected, for example, that high productivity chill rolls on extruders will accelerate heat transfer, thus making for stepped-up production of cast-extruded film. Analogous developments are anticipated for blown film extrusion.[18] Printing is likely to become less labor intensive as innovations in gravure and letterpress printing, as well as in inking systems, already well diffused in the printing and publishing industry, are more widely applied in bag manufacturing.[19] In regard to paper bag manufacturing, it seems likely that improved tear strength in the materials used, and elimination of flaws, will continue to reduce downtime. ☐

FOOTNOTES

[1] The industry consists of establishments primarily engaged in manufacturing bags (other than textile bags) from purchased paper, cellophane, acetate, polyethylene, polypropylene, pliofilm, foil, and similar sheet and foil materials. It is designated as No. 2643 in the Office of Management and Budget's *Standard Industrial Classification Manual*, 1972.

The average annual rates shown in the article and table are based on the linear least square trend of the logarithms of the index numbers. Extension of the indexes for future years will appear in the annual BLS publication, *Productivity Indexes for Selected Industries*.

[2] Interview with industry representatives. In one relocated plant, the number of job classifications was fixed at seven, compared with 53 in the older plant with closely similar operations.

[3] *The Role of Packaging in the U.S. Economy*. Report to the American Foundation for Management Research. Boston, Arthur D. Little, 1966. See also "Efficiency Marks Future of Bagmaking," by M. B. Novotny. *Paper, Film, and Foil Converter*, November 1977, p. 68.

[4] About 70 percent of specialty bag output consists of plastic film.

[5] Information from industry representatives.

[6] Ibid.

[7] Ibid.

[8] Ibid.

[9] Ibid.

[10] "Cast film extruder," *Paper, Film, and Foil Converter*, July 1977.

[11] Harold F. Wrede, "Extrusion coating into the 21st century," *Paper, Film, and Foil Converter*, November 1977, p. 87 ff. Also C. S. Blethen, "Swedish chill roll improves efficiency," *Paper, Film, and Foil Converter*, December 1977, p. 64 ff.

[12] "Better output, control on blown film extrusion," *Paper, Film, and Foil Converter*, June 1978, p. 66 ff; and A. M. Soutar, "Blown film coextrusion equipment—investment considerations," *Paper, Film, and Foil Converter*, March 1979, p. 72 ff.

[13] Information from industry representatives.

[14] "Newest gravure press in town for extensible, flexible materials plans to be the master," *Paper, Film, and Foil Converter*, June 1976, p. 32 ff.

[15] "Cellophane—down but not out," *Modern Packaging*, May 1978, p. 51 ff.

[16] Figures in this section based on Census data.

[17] D. A. Heintz, "Marketing opportunities for RP's," *Paper, Film, and Foil Converter*, March 1978, p. 66. Also, "USA resorts to the retort," *Packaging Engineer*, January 1978, p. 40.

[18] Wrede, "Extrusion coating," and "Better output."

[19] Wrede, "Extrusion coating," and "Better output." Also, *Outlook for Technology and Manpower in Printing and Publishing*, Bulletin 1774, Washington, U.S. Bureau of Labor Statistics, 1973.

APPENDIX: Measurement techniques and limitations

The productivity indexes in this study measure the change over time in industry output per unit of labor input. They do not measure the specific contribution of labor, but reflect the influence of many factors such as technology, capital investment, and managerial skills, as well as the skill and effort of the work force.

The output index is based on value of shipments data, published by the Bureau of the Census. Detailed data from the Census of Manufactures for 1954, 1958, 1963, 1967, and 1972 were used to derive benchmark indexes, to which the annual indexes for intervening years, based on the Annual Survey of Manufactures, were adjusted. The value of shipments of the various product classes was adjusted for price changes by appropriate Producer Price Indexes to derive a real output measure. In turn, the product classes were combined with employee-hour weights to derive the overall output measure. Employment and employee-hour indexes were derived from Bureau of the Census data. The number of employees and employee-hours is considered homogeneous and additive, and the pertinent measures thus do not reflect changes in the qualitative aspects of labor.

Communications

Does the CPI exaggerate or understate inflation?

DANIEL J. B. MITCHELL

During periods of rapid inflation, the Consumer Price Index (CPI) is closely scrutinized by press and public. There is a natural tendency—when news is bad—to blame the messenger. In particular, it is often charged that the CPI is inherently upwardly biased[1] and that, therefore, it overstates the impact of inflation in reducing real earnings. It is only a small step from that charge to the conclusion that the CPI itself is inflationary because of its effect on indexed wages and incomes and on the perception of inflation by nonindexed groups.[2]

When the CPI is criticized for overstating the rate of inflation, two problems are most often mentioned. First, it is noted that the CPI has fixed weights and, thus, does not account for substitution effects induced by changes in relative prices. Second, it is said that the CPI cannot adequately reflect quality improvements, innovations, and new products. Such problems are inherent in index numbers, but there is no reason to assume that other elements in the construction of the CPI do not offset these biases. A third complaint during the recent period concerns the treatment of the housing sector. Basically, house purchases are treated in the same manner as other durable goods purchases in defining the CPI. Because house prices have increased substantially relative to other prices, it might be assumed that the inclusion of house prices had a substantial impact in pushing up the overall index.[3]

Is it true that the CPI has only upward biases? Or are there measurement and conceptual elements of the index which push in the other direction? Critics of the CPI have concentrated on the upward biases and have ignored important counteracting effects. The house-price component of the CPI appears not to have reflected as much inflation during 1968–78 as other indexes of house prices. And the new car component—due to "quality" adjustments—has not reflected the full increase in "expenditures per car" experienced by consumers. In December 1978, the home-purchase weight in the CPI for all urban consumers was slightly more than 10 percent (9 percent for urban wage earners and clerical workers) and the new car weight was just under 4 percent. Thus, difficulties in measuring these components can have a noticeable effect on reported inflation rates.

House prices

Although the rapid increase in house prices was one of the most discussed economic phenomena of the 1970's, the CPI home-purchase component reported an annual increase of only 6.7 percent a year during 1968–78. During the same period, the All-Items CPI rose at a 6.5-percent rate.[4] Thus, while the CPI did report some relative price increases in homes, the gain of 0.2 percent a year is hardly remarkable and its moderate size would surprise many home owners and buyers. Other indexes of house prices show a more rapid annual rate of inflation, as shown in the following tabulation:[5]

Bureau of the Census new-house price index (quality adjusted)	8.5
National Association of Realtors existing-house price index (not quality adjusted)	9.5
FHA:	
New home acquisition costs	7.6
Existing home acquisition costs	7.5

The CPI home-purchase component is based on data collected from the Federal Housing Administration (FHA), which insures mortgages primarily of lower priced housing. Unfortunately, dollar ceilings on mortgages the FHA will insure tend to inhibit price increases observed from FHA data. The number of new FHA-insured mortgages varies from year to year, but generally declined during 1968–78. The fact that unadjusted indexes of acquisition costs of FHA-insured houses[6] rose faster than the CPI's home-purchase component may be due to quality adjustments included in the CPI figure. But, if so, the quality adjustment is greater than that made by the Census Bureau in its new-house index.[7]

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In summary, the CPI home-purchase component rose more slowly than other indexes of house prices. Because the home-purchase component did not rise much faster than the all-items index, it did not have a strong influence in pulling up the measured rate of inflation during 1968–78. In fact, other measures of house prices would have pushed up the CPI faster.

Car prices

The new-cars component of the CPI increased at a 4.5-percent annual rate during 1968–78, significantly slower than the all-items index (6.5 percent). Buyers of new cars, however, may find this reported relative decline at variance with their personal experience. The National Automobile Dealers Association's index of expenditures per new car showed a 7.2-percent annual gain.[8] The used-cars component of the CPI rose 6.6 percent a year, higher than the all-items average. Because used cars are presumably substitutes for new cars, the substantial divergence in inflation rates for new and used cars is initially surprising.

The gap between the CPI index for new cars and the National Automobile Dealers Association's index of expenditures per new car is largely explained by various "quality" adjustments applied to new car prices before the CPI component is calculated. Much of the adjustment is due to the addition of mandatory safety and pollution equipment. The fact that such devices had to be required by law suggests that consumers value the devices at less than their actual cost.[9] There is also a question as to whether the "downsizing" of new cars to meet fuel economy standards should be considered a quality deterioration, although it was not so treated in computing the CPI new-cars component. Obviously, if mandatory equipment had not been treated as a quality improvement and downsizing had been treated as a quality deterioration, the new-cars component of the CPI would have risen faster than the 4.5-percent reported during 1968–78.

Alternative procedures

The following tabulation shows the possible effect on the measured rate of inflation during 1968–78 if the CPI had been computed differently:

	Annual increase
CPI, all items (actual)	6.5
CPI, all items, substituting:	
Expenditures per car index (for CPI's new-cars component)	6.6
New-and existing-house price indexes (for CPI's home-purchase component)	6.8
Combination of the two alternative indexes	6.9

If the National Automobile Dealers Association's expenditures per car index had been substituted for the new-cars component, the all-items index would have risen about 0.1 percent faster per year. If the Bureau of the Census' index of new house prices and the National Association of Realtors' index of existing house prices were substituted for the home-purchase component, the all-items index would have risen about 0.3 percent faster per year.[10] The combination of the two alternative indexes for new cars and houses would have raised the all-items index by 0.4 percent a year.

IT IS EVIDENT that not all the biases in the CPI push the index upward. Some elements of measurement and methodology have had the opposite effect. Although there is no guarantee that the errors and biases of CPI methodology will cancel out exactly, critics should avoid concentrating only on particular problems of measurement or concept in evaluating the overall CPI as a measure of inflation. ☐

FOOTNOTES

[1] For example, see "U.S. Inflation Index is Inflationary, Critics Contend," *Los Angeles Times*, Dec. 27, 1979, Part III, pp. 12, 21.

[2] It has been estimated that 50 percent of the U.S. population receives some indexed income, although only 15 percent of total income is indexed. See Julius Shiskin, "A new role for economic indicators," *Monthly Labor Review*, November 1977, pp. 3–5.

[3] This note does not address the issue of whether housing consumption should be treated as it is under current CPI methodology or whether—as some critics have suggested—as a flow. See Lawrence E. DeMilner, "Statement before the U.S. House Budget Committee Task Force on Inflation," Dec. 14, 1979, for arguments in favor of a flow concept.

[4] This statement refers to the CPI for urban wage earners and clerical workers which was available throughout the period.

[5] The quality-adjusted index for new houses are from *Price Index of New One-Family Houses Sold, Fourth Quarter 1978* (Bureau of the Census, 1979), p. 3. This index is based on a standarized house sold in 1978 and is adjusted for 10 important characteristics. The existing-house price index is from *Existing Home Sales* (National Association of Realtors, April 1979), p. 10.

[6] Data on FHA-insured mortgages are from the *1975 Statistical Yearbook* (U.S. Department of Housing and Urban Development, 1978), tables 41–42; and from data supplied by HUD to the author.

[7] The quality adjustment applied to the Census Bureau's new-house price index subtracts only about 0.3 percentage points a year from the unadjusted rate of new house inflation during 1968–78.

[8] Data on expenditures per new car are from *NADA Data for 1979* (National Automobile Dealers Association, 1979), p. 5; or were supplied to the author by the association.

[9] Some quality improvements stemmed from features which were not legally mandated. For example, options such as power brakes, power windows, and air conditioning have become more common in recent years. See *Statistical Abstract of the United States, 1979* (Bureau of the Census, 1979), p. 649. Concerning mandated equipment, however, there is an inconsistency in current methodology. The costs of safety and anti-pollution equipment used in the factories producing new cars are presumably reflected in car prices. Yet, no quality adjustment is made for such devices. Thus, an anti-pollution device on the factory smokestack is not viewed as an improvement in the quality of cars produced in the factory. But a similar device on the car's tailpipe is considered a quality improvement.

[10] The alternative house-price component was computed as a weighted average of the Census Bureau's new-house price index and the National Association of Realtors' existing-house price index. The weights on new and existing houses were 29 percent and 71 percent, respectively. These were the proportions of new and existing house sales during 1972-73, the same period used in the most recent weighting of the CPI. Data on existing house sales are from *Existing Home Sales* (National Association of Realtors, April 1979), p. 4. Data on new home sales are from *New One-Family Houses Sold and For Sale* (Bureau of the Census, November 1977 and February 1979), table 1. To compute the effect of substituting the alternative indexes in the CPI, an approximation was used. The CPI weights (all urban consumers) for December 1978 were projected to earlier years by taking account of price inflation in the various components of the index. These weights will not be identical to those actually used to calculate the CPI, but will give reasonable approximations.

Does the CPI exaggerate or understate inflation? Some observations

JACK E. TRIPLETT

Daniel Mitchell's paper provides a timely reminder that measurement errors in price indexes do not always result in overstatement of inflation. This point seems to have been overlooked in much recent public discussion of the Consumer Price Index.

Many critics of the CPI cite unmeasured quality change as a reason for assuming that the index overstates inflation.[1] However, research findings on this subject are not entirely consistent with what many of the CPI's critics seem to believe. Some studies of quality change in price indexes have pointed to possible downward errors in certain components of the indexes (including autos, rental housing, and some appliances); for other components, researchers obtained the opposite result.[2]

When a researcher produces a price index that differs from one published by the BLS, that does not necessarily mean the BLS index is wrong. Examining alternative data sources, computational methods, ways of handling quality change, and so forth can be very useful in the continuing and ongoing process of evaluation that a statistical agency must pursue to assure that its output is of the highest quality possible. But when these alternative procedures give results different from those currently in use in the CPI (or in some other price index), the evaluation has just begun. We must test the plausibility of the alternative indexes against other known facts, and against knowledge of the actual problems that arise in price index construction. Only when the alternative indexes "fit in" with other information can we have confidence that the messages they give are not misleading.

House-price indexes

Mitchell points out that other measures of home prices, particularly the Census Bureau's index of the prices of new homes, have risen faster than the CPI home-purchase index. The discrepancy between the Census and CPI series has widened as the pace of inflation in home prices has accelerated over the past 3 years, so that the discrepancy is considerably larger for recent years. The following shows percent changes in the CPI's home-purchase component and the Bureau of the Census new-house prices index:

	CPI home purchase	*Census new home price*	*Difference*
1973-74	7.5	9.4	-1.9
1974-75	12.3	10.0	2.3
1975-76	5.1	8.4	-3.3
1976-77	6.6	12.3	-5.7
1977-78	9.6	14.1	-4.5
1978-79	13.4	13.8	-.4

The Census index is computed exclusively from prices of newly constructed homes; the BLS home-purchase index includes both new and existing homes. However, in most parts of the country there seems little reason to suppose that the upward trend of prices of previously occupied homes has not kept up with prices of new homes. What, then, can account for the difference between the two indexes?

The two indexes differ in data bases, computational methods, and in the way they handle quality change. Data for the Census index come primarily from builders. The CPI home-purchase index is compiled from data on home sales which involve mortgages insured by the Federal Housing Administration or the Veterans Administration. This is the only available data base which meets CPI needs for a national index, and also for 28 city indexes and 16 city size and regional indexes. The data base does, however, have known problems.

The Census index is computed by hedonic methods[3] which hold constant a set of 10 characteristics of houses, such as floor space, number of bathrooms, locational factors, and so forth. The BLS index holds a somewhat smaller set of factors constant, including size, age, and geographic area. Both indexes are subject to potential quality error for changes in characteristics which are not held constant in the procedures used in their construction.

Little information about the statistical properties of the Census index and its data base is currently available. John Greenlees, in an as yet uncompleted BLS study, has shown that quality change in the FHA-VA sample creates a *downward* bias in some of the city home-purchase indexes that make up the CPI.[4] It is not

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yet certain whether this result will hold for all CPI city indexes, but Greenlees' preliminary finding provides insight for interpreting the CPI-Census house price comparisons. If we have reason to suspect a downward quality error in the CPI home-purchase index, it is indeed reasonable to look to an independent index of new-house prices for suggestions about the probable magnitude of the problem.

The more rapid the inflation rate of homes, the more rapidly do those prices "bump" against the FHA–VA ceiling—thus, one might expect the problem with the CPI data base to be more severe in rapid inflation (and, conversely, to be rather more manageable at lower inflation rates). Mitchell's comparison of home-price indexes thus gives results that seem plausible. Though it is too early to tell why the two indexes give similar results for 1979 (both showing a nearly record rate of inflation for home prices), when the FHA–VA ceiling is raised, it tends to diminish the quality error in the BLS series.

Rental-cost index

At least two research studies of rental price indexes have suggested similar downward-bias problems. It has long been known that the CPI rent measure has an inherent "aging bias" because of unmeasured month-to-month deterioration.

In 1972, Rafael Rom Weston[5] compared the CPI rent index with an index based on decennial Census data, which he adjusted for depreciation. For the 1960–70 interval, his quality-adjusted Census index (31.4 percent) rose about 50 percent more than the CPI rent index (20.0 percent). More recently, James Follain and Stephen Malpezzi of the Urban Institute computed a quality-adjusted index from the Annual Housing Survey for the years 1974–76. This, too, showed greater rates of increase than the CPI rent index:[6]

	CPI rent index	*Urban Institute rent index*
1974–75	5.5	5.9
1975–76	5.3	6.9
1974–76	11.1	13.2

Many economists have substituted the CPI rent index for the published CPI homeownership component, a recomputation that results in a lower overall index. Alternatively, others have preferred the Commerce Department's Implicit Price Deflator for Personal Consumption Expenditures (PCE) on the same grounds: the PCE uses the CPI rent index as a proxy for the cost of homeownership. However, because of aging bias in the rent index, such indexes probably understate inflation. This conclusion also applies to Experimental Index X-1 now published monthly by the BLS.[7]

Car-price index

Mitchell's discussion of automobile prices is less persuasive. The CPI new-cars index is adjusted for quality change using information from manufacturers, but comparable quality adjustments are not applied to the used-cars index, which suffers also from an inadequate data base. And an "expenditures per new car" series will clearly rise when quality improvements are incorporated into new cars, while a valid price index would not. Thus, both alternative series probably have more severe quality errors than does the CPI new-cars component. Yet, his statement that "if mandatory equipment had not been treated as a quality improvement . . . the new-car component of the CPI would have risen faster . . ." is certainly correct. And a number of previous studies of the CPI new automobiles index suggest that measurement error, when it exists under present procedures, might cause the index to rise somewhat too slowly—though differences between research indexes and the CPI are small, and the research indexes are also subject to certain biases.[8]

Mitchell's general point is correct: "Critics of the CPI have concentrated on the upward biases . . ." In the process, they have overlooked evidence of bias in the other direction. Price index measurement is, like all forms of measurement, subject to error. No one really knows the net effect of offsetting upward and downward quality errors in index components on the overall CPI. Mitchell's paper fits in with a wide body of research which, taken together, tells us we should not assume that improving the measurement will necessarily lower the measured rate of inflation. □

FOOTNOTES

[1] Mitchell also mentions another problem—that a fixed-weight price index formula suffers from a "substitution bias" because it makes no allowance for changes in consumption in response to relative price changes. An article covering recent research on the substitution bias question is in preparation and will appear in a future issue of the *Monthly Labor Review.*

[2] A survey of published studies on quality error in price indexes is contained in Jack E. Triplett, "The Measurement of Inflation: A Survey of Research on the Accuracy of Price Indexes," in Paul H. Earl, ed., *Analysis of Inflation* (Lexington, Mass., Lexington Books, 1975).

[3] This is a regression procedure for holding quality change constant in the sample from which the price index is computed or (alternatively) for deriving adjustments for quality change that can be used within the framework of traditional price index formulas. A standard reference is in Zvi Griliches, ed., *Price Indexes and Quality Change: Studies in New Methods of Measurement* (Cambridge, Mass., Harvard University Press, 1971). See also Jack E. Triplett, *The Theory of Hedonic Quality Measurement and Its Use in Price Indexes,* Staff Paper 6, (Bureau of Labor Statistics, 1971).

[4] The demonstration of this is in Greenlees' forthcoming paper. Briefly, the more expensive and higher quality houses qualifying for FHA–VA mortgages in one period will not qualify for them later because of housing inflation. This creates a slow monthly deterioration in average quality in the sample, which can cumulate over time to yield an index which rises more slowly than the true rate of inflation

in home prices.

[5] Rafael Rom Weston, "The Quality of Housing in the United States, 1929–1970" Harvard University, 1972, Ph. D. dissertation.

[6] James R. Follain and Stephen Malpezzi, *Dissecting Housing Value and Rent: Estimates of Hedonic Indexes for Thirty-Nine Large SMSA's*, Report 249-17 (Washington, D.C., The Urban Institute, 1979), tables 20 and 21.

[7] See *The Consumer Price Index*, monthly press release of the Bureau of Labor Statistics.

[8] See Jack E. Triplett, "Automobiles and Hedonic Quality Measurement," *Journal of Political Economy*, May/June 1969, pp. 408–17; Phoebus F. Dhrymes, "Price and Quality Changes in Consumer Capital Goods: An Empirical Study," in Zvi Griliches, ed., *Price Indexes and Quality Change*, pp. 88–149; Thomas F. Hogarty, "Price-Quality Relations for Automobiles: A New Approach," *Applied Economics*, Vol. 7, 1975, pp. 41–51; and Makota Ohta and Zvi Griliches, "Automobile Prices Revisited: Extensions of the Hedonic Hypothesis," in Nester E. Terleckyj, ed., *Household Production and Consumption*, Studies in Income and Wealth, Vol. 40, National Bureau of Economic Research (New York, Columbia University Press, 1975), pp. 325–90.

Measures to cut costs and prices

What effect can we expect on the ongoing inflation rate from one-time increases or reductions in prices or costs? We can rely on cost changes to be reflected in prices. Beyond that, the empirical evidence is unfailingly ambiguous. The price shocks of the mid-1970's affected wages, but not proportionately. Consumer prices appear to have some persistent effect on wages, but it is modest once the effects of lagged wages themselves are allowed for. On the basis of the evidence, it appears that only a minor fraction of any shock to prices would filter through into average wage changes and thus have some multiplied effect. That still makes measures to cut prices and costs worth pursuing and their opposites worth avoiding. Even if only one-quarter of any price change influences wages, 1 percent removed from the CPI reduces wage inflation by about as much as 1 percentage point more unemployment for 1 year.

—GEORGE L. PERRY

"Slowing the Wage-Price Spiral: The Macroeconomic View," in Arthur M. Okun and George L. Perry, eds., *Curing Chronic Inflation* (Washington, The Brookings Institution, 1978), p. 55.

Special Labor Force Reports—Summaries

Women's share of moonlighting nearly doubles during 1969–79

EDWARD S. SEKSCENSKI

Nearly 1 in 20 workers held more than one job during the survey week in May 1979. Since May 1969, despite some fluctuations, the number of "moonlighters" has grown at about the same rate as the total work force; by May 1979, about 4.7 million persons held more than one job.[1] The most striking change in the moonlighting work force during the decade is the proportion of women in its ranks. About 3 of every 10 multiple jobholders in May 1979 were women, nearly double the proportion of 10 years earlier. (See table 1.)

Multiple jobholders are persons who were: wage or salary workers with more than one employer, self-employed but also held a wage and salary job, or unpaid family workers on their primary jobs but also held wage and salary jobs.[2] The primary job is the one where the greatest number of hours was worked.

Patterns by sex and race

In May 1969, about 658,000 women held more than one job, representing 16 percent of all moonlighters. By May 1979, moonlighting women numbered 1.4 million, accounting for 30 percent. However, the number of men with multiple jobs remained about 3.3 million. These changes are consistent with the increased proportion of women in the total work force, many of whom are the primary earners in their families.[3] Further, the growth in the number of multi-earner families may have diminished the economic incentive for some husbands to hold more than one job.

While the reported incidence of multiple jobholding has long been lower for black than for white workers, the difference has grown considerably in recent years. The moonlighting rate for black men has dropped more rapidly than that for white men. The rate for black women has remained largely stationary, while that for white women has risen sharply.

Between 1969 and 1979, the reported incidence of moonlighting among black men dropped from 6.1 to 3.8 percent, while the rate for white men declined from 7.0 to 6.1 percent. During the same period, the rate for black women edged down, from 2.2 to 2.0 percent, but the rate for white women increased from 2.3 to 3.7 percent. However, although black women were less likely than white women to hold more than one job, they were more likely to work full-time on at least one job.[4]

Industry and occupation

Groups of industries employing large proportions of workers who also moonlighted during May 1979 included public administration, 7.6 percent, and agriculture and services, 6.1 percent each. Within these groups, the specific industries with the highest proportions of moonlighters were State and local administration, 9.3 percent; education, 8.2 percent; and entertainment and recreation, 7.3 percent. (See tables 2 and 3.)

About 15 percent of second jobs were in agriculture, more than 4 times the percentage of primary jobs in the industry. One-third of multiple jobholders, including nearly two-fifths of the men, were self-employed in their second jobs. The proportion of moonlighters working their secondary jobs in services, 30 percent, was slightly higher than that for single jobholders.

Among the major occupational groups, farmers and farm managers, and professional and technical workers reported the highest rates of moonlighting. Nearly 1 in 4 multiple jobholders in May 1979 was a professional or technical worker, up from less than 1 in 5 in 1969. Women in these occupations accounted for more than 60 percent of the increase. Particularly large increases in moonlighting occurred among women teaching in primary and secondary schools, and persons working in health professions. The moonlighting rates for men in these two professions, though more than twice that of women in comparable jobs, were down by about one percentage point each, from their 1969 levels. Another occupational group with a high proportion of moonlighting men was protective services, such as police who also work as private guards. This rate, however, also decreased during the decade, from slightly less than 17 percent to about 12 percent.

Occupational groups with lower than average rates of multiple jobholding in May 1979, as well as 10 years earlier, included factory operatives and clerical workers.

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Table 1. Persons holding two jobs or more and multiple jobholding rates, May 1969 to May 1979

[Numbers in thousands]

Year	Total employed	All multiple jobholders	At least one job in agriculture	Two jobs in nonagricultural industries			Multiple jobholding rate[1]				
				Total	Two wage and salary jobs	Wage and salary and self employed	Both sexes	Men	Women	White	Black[2]
1969	77,264	4,008	939	3,069	2,326	743	5.2	6.9	2.3	5.3	4.5
1970	78,358	4,048	943	3,105	2,356	749	5.2	7.0	2.2	5.3	4.4
1971	78,708	4,035	851	3,184	2,288	896	5.1	6.7	2.6	5.3	3.8
1972	81,224	3,770	831	2,939	2,066	873	4.6	6.0	2.4	4.8	3.7
1973	83,758	4,262	987	3,275	2,410	865	5.1	6.6	2.7	5.1	4.7
1974	85,786	3,889	848	3,041	2,169	872	4.5	5.8	2.6	4.6	3.8
1975	84,146	3,918	890	3,028	2,131	897	4.7	5.8	2.9	4.8	3.7
1976	87,278	3,948	819	3,129	2,191	938	4.5	5.8	2.6	4.7	2.8
1977	90,482	4,558	922	3,637	2,515	1,122	5.0	6.2	3.4	5.3	2.6
1978	93,904	4,493	905	3,587	2,513	1,074	4.8	5.8	3.3	5.0	3.1
1979	96,327	4,724	871	3,852	2,650	1,203	4.9	5.9	3.5	5.1	3.0

[1] Multiple jobholders as a percent of all employed persons.

[2] Starting with 1977, data are for black workers only. Data for prior years are for persons of black and other races except white, about 90 percent of whom are black.

Although differences exist in the responses given by men and women, the distribution of reasons for working more than one job has shown few year-to-year changes since 1974, the first period for which comparable data are available.[5] About 29 percent of men and 34 percent of women stated "meeting regular expenses" was the main reason for holding two or more jobs during the survey week. (See table 4.) In 1974, 33 percent of men and 30 percent of women cited this as their main reason. However, among black women, about half of those with more than one job gave the need to meet regular expenses as their principal reason for moonlighting, both in 1974 and 1979.

A larger proportion of men than women in May 1979 said "saving for the future" was their main reason for holding more than one job. More older workers than young ones offered "enjoying the work" on their second jobs as the main reason. More younger workers said it was "paying off debts." The proportion of women working a second job "to get experience" increased in almost every age group during 1974–79.

Marital status, historically, has been a factor in the decision to moonlight. The highest rates were exhibited by married men, especially those with two children or

Table 2. Multiple jobholders by type of industry and class of worker, May 1978 and May 1979

[Numbers in thousands]

Primary job	Total employed	Multiple jobholders		Second job in agriculture			Second job in nonagricultural industries		
		Number	Percent of employed	Total	Wage or salary	Self-employed	Total	Wage or salary	Self-employed
MAY 1978									
Total	93,904	4,493	4.8	752	118	634	3,741	2,878	863
Agriculture	3,392	204	6.0	50	24	26	154	143	11
Wage and salary	1,441	70	4.9	34	8	26	36	25	11
Self-employed	1,627	106	6.5	13	13	(¹)	94	94	(¹)
Unpaid family	323	28	8.6	3	3	(²)	25	25	(²)
Nonagriculture	90,512	4,288	4.7	701	94	607	3,587	2,736	852
Wage and salary	83,526	4,065	4.9	700	93	607	3,365	2,513	852
Self-employed	6,442	202	3.1	1	1	(¹)	201	201	(¹)
Unpaid family	543	21	3.8	....	....	(²)	21	21	(²)
MAY 1979									
Total	96,327	4,724	4.9	725	145	580	3,999	2,993	1,006
Agriculture	3,315	203	6.1	57	27	30	146	137	9
Wage and salary	1,455	78	5.4	42	12	30	37	28	9
Self-employed	1,582	108	7.1	14	14	(¹)	94	94	(¹)
Unpaid family	332	16	5.0	1	1	(²)	16	16	(²)
Nonagriculture	93,012	4,521	4.9	668	118	550	3,852	2,855	997
Wage and salary	85,862	4,307	5.0	660	110	550	3,647	2,650	997
Self-employed	6,841	206	3.0	8	8	0	198	198	0
Unpaid family	500	8	1.5	0	0	(²)	8	8	(²)

[1] Self-employed persons with secondary businesses or farms, but no wage or salary jobs, were not counted as multiple jobholders.

[2] Persons whose primary jobs were as unpaid family workers were counted as multiple jobholders only if they also held a wage or salary job.

Table 3. Personal characteristics of persons with 2 jobs or more, May 1979
[Numbers in thousands]

Characteristic	Total: Total employed	Total: Multiple jobholders: Number	Total: Multiple jobholders: Percent	Men: Total employed	Men: Multiple jobholders: Number	Men: Multiple jobholders: Percent	Women: Total employed	Women: Multiple jobholders: Number	Women: Multiple jobholders: Percent
AGE									
Total, 16 years and over	96,327	4,724	4.9	56,410	3,317	5.9	39,917	1,407	3.5
16 and 17 years	3,118	120	3.8	1,755	59	3.4	1,363	60	4.4
18 and 19 years	4,593	180	3.9	2,429	107	4.4	2,164	73	3.4
20 to 24 years	13,715	656	4.8	7,481	382	5.1	6,234	274	4.4
25 to 34 years	25,589	1,405	5.5	15,158	976	6.4	10,431	430	4.1
35 to 44 years	18,747	1,066	5.7	10,969	790	7.2	7,777	277	3.6
45 to 54 years	16,229	805	5.0	9,795	613	6.3	6,434	192	3.0
55 to 64 years	11,364	401	3.5	6,968	319	4.6	4,396	82	1.9
65 years and over	2,974	91	3.1	1,855	71	3.8	1,118	20	1.7
MARITAL STATUS									
Single	22,822	1,001	4.4	12,974	572	4.4	9,848	429	4.4
Married, spouse present	61,598	3,199	5.2	39,098	2,550	6.5	22,500	649	2.9
Other marital status	11,908	524	4.4	4,339	195	4.5	7,569	329	4.3
RACE AND ETHNICITY									
White	85,541	4,390	5.1	50,656	3,087	6.1	34,885	1,304	3.7
Black	9,076	269	3.0	4,840	182	3.8	4,237	86	2.0
Hispanic origin	4,684	150	3.2	2,907	111	3.8	1,741	39	2.2

more. The lowest rates have been shown by married women. However, in the 1969–79 period, rates for married men declined and those for married women increased by about one percentage point each. The rate for widowed, divorced, and separated women rose from 3.5 to 4.3 percent. Single (never-married) women showed an even larger increase in moonlighting during the period, from 2.5 to 4.4 percent.

About two-thirds of multiple jobholders worked one full-time and one part-time job. More than three-fourths of such persons were men. Nearly half of women moonlighters held two part-time jobs. The proportion of men holding two full-time jobs in May 1979 was twice as high as for women:

Multiple jobholders	*Both sexes*	*Men*	*Women*
Total [in thousands]	4,724	3,317	1,407
Percent distribution	100	100	100
One full-time, one part-time job	67	75	51
Two part-time jobs	27	19	48
Two full-time jobs	5	7	3

An average total of 52 hours was worked by moonlighters during the survey week. Hours worked on secondary jobs averaged 13; those worked by moonlighting women averaged about 70 percent of those by men. About 30 percent of moonlighters worked from 8 to 14 hours a week on their secondary jobs. About 52 percent worked either 1 to 7 hours or 15 to 21 hours.

Table 4. Main reason for working at more than one job, by selected characteristics, May 1979

Sex, marital status, and race	Total (thousands)	Total percent	Meet regular expenses	Pay off debts	Save for future	Get experience	Help friend or relative	Buy something special	Enjoy the work	Changed job	Other
Total	4,724	100.0	30.4	6.7	9.5	8.5	5.9	8.3	18.2	1.3	11.3
ALL RACES											
Men, total	3,317	100.0	28.8	6.3	11.0	8.8	5.6	7.8	19.1	1.1	11.5
Married, wife present	2,550	100.0	32.4	5.3	10.8	8.3	5.1	6.4	20.3	.7	10.8
Women, total	1,407	100.0	34.3	7.7	5.9	7.1	6.4	9.6	16.0	1.9	11.1
Married, husband present	636	100.0	25.9	4.9	6.2	7.3	7.4	11.4	20.9	2.5	13.4
WHITE											
Men	3,087	100.0	28.4	6.0	10.9	8.9	5.8	7.7	19.5	1.1	11.6
Women	1,304	100.0	33.4	7.3	6.0	7.4	6.6	9.8	17.0	1.8	10.9
BLACK AND OTHER[1]											
Men	230	100.0	33.2	11.2	12.6	6.3	3.1	9.0	13.0	.1	10.8
Women	103	100.0	46.6	12.6	4.9	2.9	4.9	6.8	3.9	3.9	13.6

[1] Data on reasons for working at more than one job by race are tabulated for "black and other," in contrast to black only. The black and other group includes those who identified themselves in the enumeration process to be other than white. At the time of the 1970 Census of Population, 89 percent of the black and other population group were black.

Industries in which employees worked more than the average number of hours on secondary jobs, in May 1979, included construction, 16 hours, and manufacturing, 15 hours.

Moonlighters worked a weekly median of 40 hours on their primary jobs in May 1979, the same median as single jobholders, and for both white and black workers. Moonlighters who were self-employed in agriculture as a first job worked a median of 56 hours, the longest of any occupation, while unpaid family workers averaged 35 hours of work on their first jobs. ☐

FOOTNOTES

[1] This is an annual study based on data supplied by the May Current Population Survey.

[2] Also included as multiple jobholders are persons who had two jobs during the survey week because they were changing jobs. This group is very small—about one percent of all multiple jobholders in May 1979. Persons employed only in private households (such as housekeepers, launderers, gardeners, and babysitters) who worked for two or more employers during the survey week were not counted as multiple jobholders, because working for several employers is considered an inherent characteristic of this type of work. Also excluded were self-employed persons with additional farms or businesses and persons with secondary jobs as unpaid family workers.

[3] See Beverly L. Johnson, "Marital and family characteristics of workers, 1970–78," *Monthly Labor Review*, April 1979, pp. 49–52; and Janet L. Norwood and Elizabeth Waldman, "Women in the labor force: some new data series," U.S. Bureau of Labor Statistics, Report 575, October 1979.

[4] See Carol Leon and Robert W. Bednarzik, "A profile of women on part-time schedules," *Monthly Labor Review*, October 1978, pp. 3–12.

[5] The question asked is "What is the main reason that . . . worked at more than one job?" That question was also asked in May 1969, but only five reasons were tabulated at that time. Since May 1974, eight reasons have been tabulated, thus, the earlier data are not strictly comparable with the 1974–79 tables.

Percent working long hours shows first post-recession decline

GEORGE D. STAMAS

From 1978 to 1979, the incidence of long hours among full-time wage and salary workers dropped for the first time since the 1974–75 recession. The 18.8 million employees who put in workweeks of 41 hours or more in May 1979 were about 26 percent of all full-time wage and salary workers, down about 1 percentage point from 1978. Of those who worked long hours, about 43 percent received premium pay, the same proportion as in 1978 and well above the recessionary low of 1975. (See table 1.)

These data were gathered through a supplement to the Current Population Survey and relate to wage and salary workers with one job who worked 41 hours or more during the week ending May 12, 1979.[1] They do not include the 3.3 million multiple jobholders who worked more than 40 hours, even if they passed the 40-hour mark on their principal job. Nor do they include the 4 million self-employed who worked 41 hours or more.

Table 1. Full-time wage and salary workers who worked long weeks and those who received premium pay, May 1973–May 1979

[Numbers in thousands]

Year	All full-time workers	Worked 41 hours or more[1]		Received premium pay	
		Number	Percent of full-time workers	Number	Percent of those who worked 41 hours or more
1973	62,202	18,105	29.1	7,697	42.5
1974	63,714	17,564	27.6	7,302	41.6
1975	61,765	15,450	25.0	5,597	36.2
1976	64,546	16,679	25.8	6,621	39.7
1977	66,441	18,174	27.4	7,697	42.4
1978	69,428	18,977	27.3	8,136	42.9
1979	71,677	18,765	26.2	7,999	42.6

[1] Data are limited to wage and salary workers who worked at only one job.

The Fair Labor Standards Act, passed by Congress in 1938, mandated that premium pay of time and one-half the regular wage be paid to qualifying nonsupervisory workers for hours worked in excess of 40 per week. Over the years, the act has been amended and in 1979 its overtime provisions covered an estimated 53 million workers, 74 percent of all nonsupervisory workers, 59 percent of all civilian wage and salary workers.[2]

While the act sets the standard for most workers, premium pay for overtime begins before 40 hours for some workers. Public laws covering government contracts and Federal employment generally entitle workers to premium pay for hours worked in excess of 8 per day without regard to weekly hours. In addition, some collective bargaining agreements specify overtime after 35 hours a week or even less, after 8 or fewer hours a day or on some other basis.[3] Thus, the data on long hours presented here include some workers who are not on "overtime" despite exceeding 40 hours per week, while they exclude others who worked overtime, although their workweek was less than 40 hours.

Use of overtime

Even with the premiums for overtime specified in laws and union contracts, employers still use overtime hours to get out their product. Management uses overtime to cope with "disequilibrium phenomena," such as strikes, mechanical breakdowns, or bad weather. Also, because the cost per hour of hiring, training, and providing fringe benefits to addditional employees can exceed the cost per hour of premium pay, management sometimes orders overtime to meet increased demand, particularly of a temporary or short-term nature. Some

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Table 2. Full-time wage and salary workers who worked long weeks and those who received premium pay by hours worked, May 1979

[Numbers in thousands]

Usual hours and premium pay	Hours worked: Worked 41 hours or more	Worked 41 to 48 hours	Worked 49 to 59 hours	Worked 60 hours or more
Total worked 41 hours or more	18,765	8,687	6,249	3,829
Received premium pay	7,999	4,748	2,357	894
Percent receiving premium pay	42.6	54.7	37.7	23.3
Usually worked 41 hours or more	12,895	4,630	4,859	3,404
Received premium pay	4,152	1,979	1,485	687
Percent receiving premium pay	32.2	42.7	30.6	20.2
Did not usually work 41 hours or more	5,871	4,055	1,390	424
Received premium pay	3,847	2,768	872	206
Percent receiving premium pay	65.5	68.3	62.7	48.6

NOTE: Because of rounding, sums of individual items may not equal totals.

economists think that rising fringe benefits have created a "fringe barrier" to new hirings by diminishing the relative cost of an overtime hour. They claim that the time-and-a-half premium is no longer a very strong deterrent to the use of overtime.[4]

However, a trend toward the increased use of overtime is not obvious in the general data presented here. During May 1973–79, from 25 to 29 percent of full-time wage and salary workers put in more than 40 hours a week, and at least 36 percent of those on long hours (and often about 42 percent) received premium pay. One in 10 full-time wage and salary workers put in more than 40 hours a week and received premium pay.

Of the 18.8 million workers on extended schedules during the May 1979 reference week, 12.9 million were reported as regularly working 41 hours or more. Only one-third received premium pay, compared with two-thirds of those who worked over 40 hours only occasionally. (See table 2.) Whether or not a person routinely worked long hours, the proportion earning premium pay for extra hours decreased as the number of hours worked increased.

More than three-fifths of the workers who routinely worked long hours put in more than 48 hours and about half spread the work over more than 5 days. In contrast, only three-tenths of those who seldom worked long hours worked more than 48 hours during the reference week.

Approximately 7.4 million workers in goods-producing industries and 11.4 million workers in service-producing industries put in weeks of 41 hours or more in May 1979, nearly the same as the preceding year. Although about the same proportion of workers were on long hours in goods production as in services (27.2 and 25.5 percent) workers in goods production were—as was the case in previous years—twice as likely to receive premium pay for long hours. (See table 3.) Within the service-producing sector, however, the proportion of workers who received premium pay for long hours ranged up to 50 percent or more in transportation and public utilities and Federal public administration. The latter group includes the postal service, in which 78 percent of the employees on long hours received premiums.

Agriculture is the anomaly among the goods-producing industries, with 53 percent of the workers putting in more than 40 hours but only 12 percent receiving a premium. Farmworkers are exempt from overtime provisions of the Fair Labor Standards Act.

Table. 3 Full-time wage and salary workers who worked long weeks and those who received premium pay, by industrial group, May 1973–May 1979

[In percent]

Industrial group	Worked 41 hours or more: 1973	1974	1975	1976	1977	1978	1979	Received premium pay: 1973	1974	1975	1976	1977	1978	1979
All industries	29.1	27.6	25.0	25.8	27.4	27.3	26.2	42.5	41.6	36.2	39.7	42.4	42.9	42.6
Goods producing	30.0	27.7	23.4	26.6	28.6	28.0	27.2	63.9	60.5	53.7	60.4	62.0	61.1	61.5
Agriculture	54.6	54.7	55.9	56.8	53.1	47.4	52.6	7.9	10.4	11.6	13.4	10.9	14.0	12.2
Mining	38.4	41.7	38.6	34.1	34.5	40.9	34.8	65.8	64.8	57.5	57.4	64.5	65.6	65.0
Construction	23.0	21.8	20.9	21.4	23.9	22.3	21.2	56.6	53.1	52.2	52.6	55.9	55.1	54.9
Manufacturing	30.1	27.3	21.5	25.7	28.0	27.7	26.9	69.9	66.7	58.9	67.3	68.4	66.7	68.0
Durable goods	31.3	28.7	20.6	25.3	28.7	28.6	27.8	73.7	70.3	62.6	69.5	70.4	70.0	71.0
Nondurable goods	28.3	25.1	22.8	26.4	27.1	26.2	25.4	63.4	60.4	56.1	64.1	65.2	60.9	62.5
Service producing	28.5	27.4	26.0	25.4	28.6	28.9	25.5	27.3	29.0	26.0	28.6	29.6	31.3	30.3
Transportation and public utilities	27.1	26.2	23.3	24.1	26.2	28.7	28.7	53.6	53.2	48.4	44.1	51.1	49.8	49.9
Wholesale and retail trade	39.3	37.1	35.9	35.7	38.6	35.8	34.2	27.5	30.0	28.3	28.5	31.0	32.0	31.8
Finance, insurance, and real estate	21.7	20.4	21.6	20.5	22.2	21.8	20.8	18.2	21.2	19.8	18.4	19.3	21.3	20.5
Miscellaneous Services	26.2	25.9	24.0	22.7	23.7	24.3	22.6	18.8	19.9	18.8	19.0	22.0	24.0	21.8
Professional[1]	23.4	23.5	22.0	20.6	21.6	22.5	20.7	15.3	16.4	16.5	16.4	18.5	20.4	18.2
Other[2]	34.4	33.1	30.6	29.2	30.6	29.9	28.5	25.8	27.7	24.4	24.6	29.8	32.0	29.0
Public administration	17.1	17.0	15.5	15.5	16.6	16.7	15.6	36.9	34.8	35.9	37.5	38.2	43.4	40.9
Federal	15.0	13.5	11.4	13.4	14.8	15.2	14.4	58.1	57.3	53.1	58.8	53.0	58.7	52.4
Postal	20.4	12.9	9.0	16.7	18.1	21.3	18.2	68.2	59.1	([3])	76.4	78.3	80.8	78.4
Other Federal	12.1	13.8	12.4	11.9	13.4	12.6	12.9	49.1	56.6	46.6	48.0	38.4	43.3	37.4
State	15.8	14.7	14.3	11.4	11.1	12.1	9.4	24.0	16.8	11.2	17.9	18.9	31.0	42.5
Local	21.4	23.9	21.7	20.3	21.6	21.1	20.0	18.1	19.5	30.3	23.2	25.5	32.7	30.1

[1] Includes health, education, and welfare services.

[2] Includes forestry and fisheries, business and repair services, entertainment, personal services, and private household workers.

[3] Percent not shown where base is less than 75,000.

Long hours in services down

The incidence of long hours in the goods-producing industries was about the same as in the previous year, but lower than in May 1977. However, it remained well above the recessionary low of 1975. The proportion of long hours used by employers in the service sector has fallen to a level as low as anytime in the 7-year period. This may be due partly to the gradual removal of the Fair Labor Standards Act's overtime exemptions for hotel, motel, and restaurant employees, which was completed in January 1979. This does not necessarily indicate weakness of the economy. On the contrary, employers—expecting strong demand for their goods or services—may have been more likely than in recent years to hire additional employees, rather than work those on board overtime.

State and local public administration bucked the trend of relatively little change in premium pay set by other industries. In State and local government, the proportion of workers on long hours receiving premium pay has shown a substantial increase during 1973–79. At the same time, the incidence of workers on long hours in State public administration has been decreasing.

Although white-collar and blue-collar employees are about equally apt to work long hours, the incidence of premium pay is much lower for white- than blue-collar workers. (See table 4.) Managers and administrators were among the most likely of all workers to put in long hours and the least likely to receive premium pay. Clerical workers were among the least likely to work long hours, but the proportion who received premium pay was comparable to that among blue-collar workers. Transport equipment operatives were about as likely as managers and administrators to work long hours and were the least probable of all blue-collar employees to receive premium pay. A higher proportion of other operatives received premium pay than any other occupation.

Table 4. Full-time wage and salary workers who worked 41 hours or more a week and those who received premium pay, by occupational group, May 1979

[Numbers in thousands]

Occupational group	May 1979		
	Number	Percent of full-time workers	Percent received premium pay
All occupations	18,765	26.2	42.6
White collar	9,691	26.2	23.8
Professional and technical workers	3,199	20.4	21.0
Managers and administrators	3,643	44.0	11.9
Sales workers	1,212	34.2	14.7
Clerical workers	1,638	12.6	62.5
Blue collar	7,325	27.2	70.9
Skilled trades	3,286	30.1	67.0
Operatives, except transport	2,140	22.2	64.7
Transport equipment operatives	1,195	40.4	56.2
Laborers, except farm	704	20.7	71.6
Service workers	1,279	19.3	36.8
Farm workers	470	58.6	6.8
Production and nonsupervisory [1]	11,293	22.7	60.1

[1] All occupations except professional and technical, managerial and administrative, private household, and farmworkers.

NOTE: Because of rounding, sums of individual items may not equal totals.

Table 5. Full-time wage and salary workers who worked long weeks and percent who received premium pay, by union status and occupation and industry group, May 1979

Occupational and industrial group	Percent working 41 hours or more		Percent working 41 hours or more who received premium pay	
	Union [1]	Other	Union [1]	Other
Occupation	20.0	28.9	69.1	34.6
White collar	16.7	28.7	37.7	21.7
Blue collar	22.8	31.0	85.5	61.9
Service	15.5	19.4	53.4	31.8
Farm	([2])	58.6	([2])	6.1
Industry	20.0	28.9	69.1	34.6
Goods producing	20.9	31.0	90.2	50.0
Agriculture	([2])	54.5	([2])	11.8
Mining	20.4	43.0	([2])	57.4
Construction	13.4	25.7	80.7	47.0
Manufacturing	22.6	29.7	91.4	56.4
Service producing	19.2	27.8	49.3	25.6
Transportation, public utilities	25.5	32.5	70.7	30.6
Trade	22.3	36.0	76.7	27.7
Miscellaneous services	16.6	24.0	18.2	22.4
Public administration	14.4	16.5	58.4	28.8

[1] Member of a labor union or of an employee association similar to a union or working at a job covered by a union or employee association contract.

[2] Percent not shown where base is less than 75,000.

The proportion of white-collar workers on long hours was lower in 1979 than in 1978, and had returned to a level as low as in any May in the preceding 6 years. Although the work schedules of blue-collar workers tend to be more cyclically sensitive (probably because the industries where they concentrate are particularly sensitive to business cycles) the number and percent of blue-collar workers on long weeks were about the same in May 1979 as 1 year earlier. About the same proportion of blue-collar workers received premium pay for long hours in 1979 as in 1973, while the proportion of white-collar workers had risen slightly.

The proportion of service workers on long hours dropped over the 1973–79 period, while the proportion receiving premium pay, though off from the May 1978 level, rose considerably over the May 1973 rate, from 25.7 to 36.8 percent.

Negotiations by unions

Workers covered by union contracts make up three-tenths of the full-time wage and salary workers.[5] In some cases, unions have negotiated shorter standard hours and higher overtime premiums than provided by law, as well as the right to a fair share of overtime and the right of individual workers to refuse overtime. Table

Table 6. Full-time wage and salary workers who worked long weeks and those who received premium pay, by selected characteristics, May 1979

[Numbers in thousands]

Characteristic	Worked 41 hours or more		Received premium pay	
	Number	Percent of full-time workers	Number	Percent of those who worked 41 hours or more
Men	14,778	32.7	6,191	41.9
Age: 16 to 19 years	420	24.5	244	58.1
20 to 24 years	1,994	31.6	1,127	56.5
25 to 54 years	10,666	34.4	4,254	39.9
55 years and over	1,696	27.6	565	33.3
Race: White	13,761	34.2	5,642	41.0
Black and other	1,017	20.7	549	54.0
Marital status: Never married	2,283	25.8	1,063	46.6
Married, spouse present	11,300	34.5	4,585	40.6
Other	1,195	33.2	543	45.4
Union status: Union[1]	3,674	23.5	2,674	72.8
Other	11,105	37.6	3,518	31.7
Women	3,986	15.0	1,807	45.3
Age: 16 to 19 years	134	11.0	78	58.2
20 to 24 years	701	15.1	408	58.2
25 to 54 years	2,708	15.6	1,163	42.9
55 years and over	443	13.6	159	35.9
Race: White	3,616	15.9	1,621	44.8
Black and other	371	9.6	186	50.1
Marital status: Never married	944	15.1	408	43.2
Married, spouse present	2,059	14.2	947	46.0
Other	985	17.1	453	46.0
Union status: Union[1]	711	11.3	354	49.8
Other	3,276	16.2	1,453	44.4

[1] Data include workers who either are members of a labor union or of an employee association similar to a union, or whose job is covered by a union or employee association contract.

NOTE: Because of rounding, sums of individual items may not equal totals.

5 shows that the proportion of union workers on long hours was only two-thirds that for nonunion workers, while the proportion that received premium pay for long hours was twice as large. This relation pervades the major occupational and industrial groups, though the relative differences between the union and nonunion rates vary.

The frequency of long hours among women is only half of that among men. (See table 6.) For those women who did work long hours, their workweeks were short relative to those of men; 58 percent of the men worked more than 48 hours compared to 39 percent of the women. A larger proportion of men than women regularly work long hours, as well. Women, however, were slightly more likely to receive premium pay than men. Married men worked long hours more frequently than men who were never married but with little difference from widowed, separated, or divorced men. Among women, long hours varied less with marital status.

Black workers were much less likely than white workers to put in long workweeks. Among the full-time wage and salary workers, 28 percent of whites and 16 percent of blacks worked long hours in May 1979.[6] However, 53 percent of the black workers earned premium pay for their long hours, compared to 42 percent of the white workers. Disproportionately small numbers of blacks work in professional, technical, or management occupations, where long hours are more common and premium pay less so. The differences in the incidence of premium pay between black and white workers was greater among men than women.

Individuals 25 to 54 years old had the highest incidence of long hours. However, the likelihood of receiving premium pay declines in successively older age categories, dropping from 58 percent for teenagers to 34 percent for persons 55 years and over. A factor in this is that many older workers have taken supervisory positions where premium pay provisions do not apply. Even when the worker may have the choice of accepting premium pay, the combination of higher income and progressive income tax schedules may make older workers more likely to take compensatory time off for long hours rather than premium pay. ☐

FOOTNOTES

[1] The Current Population Survey is a survey of households, numbering 56,000 in May 1979, which is conducted for the Bureau of Labor Statistics by the Bureau of the Census. A worker reported as receiving premium pay is one who answered "yes" to the question: Did . . . get a higher rate of pay, like time and a half or double time, for hours . . . worked over 40? Data on premium pay are not available for the 3.3 million wage and salary workers who held two or more jobs totaling 41 hours or more. For information on these workers, see Edward S. Sekscenski, "Women's share of moonlighting nearly doubles during 1969–79," *Monthly Labor Review*, this issue.

Although the data presented here provide considerable information on the number and characteristics of workers on extended schedules and on their receipt of premium pay, they cannot measure with precision the number of overtime hours. For data from employer payroll records on overtime hours paid production workers in manufacturing, see *Employment and Earnings* (Bureau of Labor Statistics) monthly, table C-2.

[2] *Minimum Wage and Maximum Hours Standards Under the Fair Labor Standards Act* (U.S. Department of Labor, Employment Standards Administration, 1978) p. 62.

[3] Workers in firms holding government contracts are covered by the Walsh-Healey Public Contracts Act (Public Law 74-846, June 30, 1936) or the Contract Work Hours and Safety Standards Act (Public Law 87-581, Aug. 13, 1962). The Federal Pay Act (U.S. Code, title 5, Ch. 61) applies to Federal workers. For more information on overtime provisions in union contracts see *Characteristics of Major Collective Bargaining Agreements, July 1, 1976*, Bulletin 1957 (Bureau of Labor Statistics, 1979), pp. 43-58.

[4] For various views on this point, Ronald G. Ehrenberg, *The Short-Run Employment Decision and Overtime Behavior*, Ph.D. dissertation, Northwestern University, 1970, or Joseph Garbarino, "Fringe Benefits and Overtime as Barriers to Expanding Employment," *Industrial and Labor Relations Review*, April 1964, pp. 426-442, or Robert M. MacDonald, "The Fringe Barrier Hypothesis and Overtime Behavior," *Industrial and Labor Relations Review*, July 1966, pp. 562-569, and, most recently, Arthur R. Schwartz, *The Effects of Benefits and Overtime Costs on the Short Run Cyclical Demand for Labor in the Automobile Industry in Michigan*, Ph.D. dissertation, the University of Michigan-Wayne State University, Ann Arbor, Michigan, January 1979.

[5] In this report, a union worker is defined as a member of a labor union or employee association similar to a union or a worker whose job is covered by a union or employee association contract.

[6] "Black workers" refers to all workers who are not white. According to the 1970 Census of Population, black people make up about 89 percent of the "black and other" population.

Research Summaries

Tracking individual earnings mobility with the Current Population Survey

FRANCIS W. HORVATH

The earnings of individual workers, matched in two consecutive May Current Population Surveys, increased more over the year ended in May 1978 than did earnings averages for all wage and salary workers. While median hourly earnings rose 7.0 percent between May 1977 and May 1978, the corresponding median level of change across matched individuals was 9.1 percent. However, this and other findings in this report must be interpreted with caution due to several complications inherent in the formation of the sample and other restrictions outlined below.

The data in this report are based on unweighted sample counts from a match of the Current Population Surveys (CPS) of May 1977 and May 1978. The CPS is a monthly cross-sectional sample which provides the basic national data on employment and unemployment. In May of each year, supplemental data have been collected on usual weekly earnings, usual hours worked per week, as well as actual hourly earnings for those employed during the sample period.[1]

While the CPS earnings data refer to only one period covering the given reference week, it is possible to create a year-to-year longitudinal subsample by virtue of the survey design. To minimize the reporting burden on the respondents in the survey, as well as to improve the reliability of estimates of change, households are rotated in and out of the sample in a predetermined pattern. Specifically, after a household address enters the sample in a given month, it remains in the sample during the next 3 months, is dropped for 8 months, and then returned for a final 4 months. This rotation system, known as a "4-8-4", provides for maximum overlaps of 75 percent in the month-to-month estimates, and 50 percent in the year-to-year sample[2] That is, the questions asked in May of one year will be asked (potentially) a second time of one-half the households in the sample the following May.

Using those households common to both May surveys, it is possible to obtain a subsample of persons containing information on all the questions asked in each survey. Thus, it becomes possible to track the flows of individual persons from one labor force and earnings status to another by comparing answers from the two surveys.

Sample selectivity. The gap between the potential of the theoretical match and that actually achieved is very wide, however. Several biases are known to exist in the matched data which should temper any conclusions based on this source of data. Most significantly, it should be noted that the possibility of a year-to-year longitudinal match is a byproduct of the sample design. The CPS is a survey of households—persons living in those households are not the basic units of the sample design. Thus, if a person were to move out of a surveyed household before the end of the sample period, and a new occupant were to move in, the new resident would be in the survey in all the subsequent survey months. The one who leaves is not followed and, thus, is "lost" to the sample. When the household address is "matched" with its previous information, its occupants will differ and, therefore, cannot be used in the longitudinal sample.

In the light of these considerations, the matched sample is not a random sample of the population, and cannot be used appropriately by any statistical procedure (such as ordinary least squares) which treats it as such.[3] Every characteristic known to be positively associated with mobility will be disproportionately "lost" in the matched sample. This includes characteristics such as age, race, and sex.[4] The matched sampling process retains more of those persons who are older, white, and more likely to be women. This is shown in table 1, which displays the sample representation of the match used in this report by several demographic characteristics.

The most striking feature shown by the data in table 1 is the systematic loss of young persons by the matching process. About 50 percent of the young persons 16–

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24 years of age in May 1977 are not matched in the next year. In addition, there appears to be a slightly greater loss of blacks and others than whites, and a slightly higher retention of women than men in the matched sample.

In addition to the loss of movers, the matched sample is incomplete for other reasons. Information is missing for persons who died and there is no way of separating them from those who moved. Response and coding errors may also present a problem. If the respondent changes some answers on which the match is keyed (such as race or age), he or she may not be treated as a match. Any incorrectly recorded or coded information in either year can cause identical persons to be rejected by the matching procedure.

Another problem with the sample is that the data are not inflated to population estimates using the weights assigned to persons in the CPS. In any month, the weights used to inflate the raw sample counts are based on the answers received in that particular sample month. This implies that the two separate weights for 1977 and 1978 need not necessarily be equal. While some average of the two weights could be defined, this procedure would not have a reliable statistical foundation.

Wage change selectivity. Another layer of selectivity is imposed on wage change comparisons by the restriction that persons remain in the employed labor force for both periods. Questions on usual weekly earnings and actual hourly earnings are asked only of those persons who were employed in the reference week, excluding the self-employed and unpaid family workers. Obviously, to compute any measure of change in average hourly earnings or usual weekly earnings, it is necessary to have observations for both years. Because the wage change sample is limited to employed persons who responded to the questions in both years with dollar amounts, it is even less representative of the population. At this level, groups with high probabilities of leaving employment are lost, as well as those who are unable or choose not to answer the earnings questions in both reference periods. For example, 59 percent of 2,824 black and other men were matched in 1978, but only 19 percent were employed in both years and provided sufficient information to compute a change in average hourly earnings.

Table 1. Sample representation by selected demographic characteristics

Characteristic	Total	In match	Not in match[1]	Match as a percent of total potential match
Total	55,062	36,811	18,251	66.8
MEN				
16 to 24 years	5,966	2,886	3,080	48.4
25 to 64 years	16,491	11,590	4,901	69.7
65 years and over	3,266	2,500	766	76.5
WOMEN				
16 to 24 years	6,488	3,085	3,403	47.5
25 to 64 years	18,281	13,243	5,038	72.4
65 years and over	4,570	3,507	1,063	76.7
White men	22,889	15,302	7,587	66.8
White women	25,776	17,554	8,222	68.1
Black and other men	2,824	1,674	1,150	59.3
Black and other women	3,523	2,241	1,282	63.2

[1] These persons were in rotation groups 1–4 in May 1977, and therefore, in the potential match, but were not surveyed again in May 1978.

Despite these caveats, the underlying earnings mobility data are interesting in their own right. This data base contains more observations than most special-purpose longitudinal surveys and, thus, permits a range of dynamic analysis.

Annual flows. Table 2 shows the employment status and hourly earnings level for those reporting hourly pay in May 1977 and May 1978. In addition to those in the earnings match, the table includes the complete distribution for all persons in rotation groups 1–4 in May 1977 and those in rotation groups 5–8 in May 1978. With the level of detail shown here, it is possible to trace the changes in actual hourly earnings and labor force categories within fairly small wage brackets over the course of the 2-year period.

For example, reading across the row marked "$2.30," which was the minimum wage in the first year, 505 matched persons were employed and paid by the hour again in May 1978; 107 worked at the new minimum wage of $2.65; 32 of the 505 became the unemployed in the second year and 101 dropped out of the labor force. Three hundred and forty of those employed at the minimum wage in May 1977 could not be followed in May 1978.

Examination of the "unemployed" and "not in the labor force" categories crossed by previous year's earnings yields some interesting findings. Persons leaving employment and becoming unemployed tend to have higher wages than those employed persons who leave the labor force. Similarly, persons entering employment who were unemployed in the first year seem to have higher 1978 earnings levels than those who enter employment from outside the labor force. It seems that low-wage workers are more likely to move into and out of the labor force than higher wage persons, who typically are looking for work if not employed.

Several comments can be made about those not responding to the earnings questions in both years. If nonresponse is concentrated in particular demographic or earnings groups, it could complicate wage change comparisons. For example, 17 percent of black and other men who respond to the actual hourly earnings questions in the first year and should respond in the

Table 2. Labor force status and actual hourly earnings of individuals, May 1977 and May 1978

[Unweighted sample counts from CPS longitudinal match]

Characteristic	All in match	Employed in May 1978												Unemployed in May 1978	Not in labor force, May 1978	Not surveyed in May 1978[3]
		Total	Paid by the hour										Not paid by hour[2]			
			Total[1]	$.01 - 2.29	$2.30	$2.31 - 2.64	$2.65	$2.66 - 3.99	$4.00 - 5.99	$6.00 - 7.99	$8.00 - 9.99	$10.00 and over				
All in match	36,811	21,155	9,289	256	53	228	703	2,300	1,982	1,365	630	304	11,866	945	14,711	....
Employed in May 1977, total	21,184	18,963	8,028	184	30	159	462	1,837	1,823	1,312	609	291	10,935	462	1,759	10,778
Paid by the hour, total[1]	9,475	8,322	6,584	149	26	132	372	1,544	1,495	1,105	527	238	1,738	312	841	5,361
$0.01 - 2.29	506	369	298	103	14	24	65	48	9	...	2	...	71	25	112	354
2.30	505	372	298	14	7	22	107	99	10	...	...	1	74	32	101	340
2.31 - 3.99	3,136	2,656	2,131	25	3	86	171	1,215	388	37	6	2	525	111	369	2,112
4.00 - 5.99	2,046	1,692	1,502	...	...	2	2	60	896	332	31	1	390	50	104	1,102
6.00 - 7.99	1,375	1,306	1,088	...	...	1	...	9	49	616	243	22	218	28	41	580
8.00 - 9.99	438	413	326	1	...	1	...	...	7	21	194	56	87	12	13	141
10.00 and over	251	230	174	...	...	...	...	2	3	5	8	137	56	12	9	94
Not paid by hour[2]	11,709	10,641	1,444	35	4	27	90	293	328	207	82	53	9,197	150	918	5,417
Unemployed in May 1977	1,159	578	379	11	1	13	49	133	76	24	12	6	199	205	376	1,094
Not in labor force in May 1977	14,468	1,614	882	61	22	56	192	330	83	29	9	7	732	278	12,576	6,379
Not surveyed in May 1977[4]	.....	10,374	5,133	210	23	158	585	1,491	1,118	591	244	132	5,241	857	5,400	....

[1] Includes those paid by the hour but not reporting a dollar amount.

[2] Includes all those not paid by the hour, those not answering, and those not asked the question.

[3] There were 18,251 persons in rotation groups 1-4 in May 1977 who were not matched with May 1978 information.

[4] There were 16,631 persons in rotation groups 5-8 in May 1978 who could not be matched with May 1977 information.

second did not, compared with only 12 percent of the white men in similar circumstances. Nonresponse in the second year tends to rise slightly at higher 1977 earnings levels.

Earnings mobility. The most striking feature of the earnings change data is that, for those matched, the percentage change in each measure of earnings is large. The median percentage increase in earnings per hour for individuals paid by the hour was 9.6 percent, usual weekly earnings were up by 9.1 percent, and average hourly earnings rose by 9.4 percent. By comparison, from May 1977 to May 1978, median hourly earnings for all wage and salary workers increased 7 percent.

The differences in the results between the matched sample and the two individual May surveys may be related to work experience. If labor force experience does indeed produce higher earnings levels, those workers common to both periods are most likely to have increased their level of experience by 1 year.[5] This is not true of the two separate earnings distributions. These figures are based not only on those employed in both periods, but also on the relationships between levels of wages and flows of persons entering and leaving employment. The differences between the aggregates and the individual change measures might be more pronounced the greater the volume of employment turnover in the group.

Table 3 describes the percent change in actual hourly earnings, average hourly earnings, and usual weekly earnnings by selected demographic characteristics. In addition, the table lists the 1978 status of all persons employed during May 1977, so that the various layers of selectivity may be seen in perspective.

The percentage change in earnings for all three measures tends to be highest for those groups with the greatest flows out of employment. For example, while young women age 16-24 employed and paid by the hour in both periods increased their actual hourly earnings by 14.7 percent, the percentage of young women employed in both periods was among the smallest, 78.6 percent. Among employed white men, 92.9 percent were employed the following May, and those answering actual earnings questions in both surveys showed an increase of 9.2 percent. For white women, only 84.8 percent were employed again the following May, but those answering both actual hourly earnings questions had a slightly higher increase, 10.1 percent.

It should be noted that the groups with the highest percentage changes in the earnings measures typically begin from a low base. For example, persons earning the minimum wage in both May 1977 and May 1978 moved from $2.30 an hour to $2.65. This small absolute increase of 35 cents becomes a large relative increase of 15.2 percent when related to the $2.30 base.

Average hourly earnings (usual weekly earnings divided by usual hours worked) rose at about the same rate as actual hourly earnings. Again, prime working-age men showed the smallest increases, and those groups not strongly attached to the labor force showed the largest changes. The representation of the sample runs at about one-third of those surveyed in May of

Table 3. Tracking individuals employed in May 1977 and May 1978

Characteristic	Total	Men					Women				
		White	Black and other	Age 16–24	Age 25–64	Age 65 and over	White	Black and other	Age 16–24	Age 25–64	Age 65 and over
Employed in May 1977	31,962	17,026	1,726	3,771	14,771	684	11,654	1,556	3,255	9,594	361
Not in match	10,778	5,601	675	2,013	4,135	128	3,968	534	1,735	2,681	86
In match	21,184	11,425	1,051	1,758	10,162	556	7,686	1,022	1,520	6,913	275
Not in labor force in 1978	1,759	589	67	193	307	156	1,001	102	252	774	77
Unemployed in 1978	462	224	34	84	168	6	170	34	74	127	3
Employed in 1978	18,963	10,612	950	1,481	9,687	394	6,515	886	1,194	6,012	195
Number reporting actual hourly earnings in both years	5,137	2,616	274	625	2,215	50	1,979	268	480	1,718	51
Percent change in actual hourly earnings[1]	9.6	9.2	10.9	15.0	8.6	7.9	10.1	9.4	14.7	9.3	7.0
Number with average hourly earnings in both years	11,516	6,081	579	1,038	5,576	122	4,293	616	901	3,901	107
Percent change in average hourly earnings[1]	9.4	8.9	8.6	8.6	15.7	8.3	10.1	9.7	14.0	9.4	10.2
Number reporting usual weekly earnings in both years	11,571	6,108	585	9,863	5,600	125	4,256	624	855	3,917	108
Percent change in usual weekly earnings[1]	9.1	8.5	8.5	18.0	7.8	3.6	10.2	8.9	16.7	9.2	2.4

[1] Data are median percent changes based on individuals in the respective percent change universe.

1977 for most groups, although somewhat lower for very young and older workers.

Usual weekly earnings followed the same general pattern as actual and average hourly earnings. Percent changes were highest for young men and women, both groups which are likely to get "lost" in the matching process. Usual weekly earnings were higher for white women than white men, which may reflect, in part, a greater increase in hours worked for women. Sample followup was slightly more than one-third of those employed in May 1977 for most groups. ☐

FOOTNOTES

[1] See *Weekly and hourly earnings data from the Current Population Survey*, Special Labor Force Report 195 (Bureau of Labor Statistics, 1977), for a more complete discussion of this source of data. May 1978 was the last year in which these items were collected for the full sample. Beginning in October 1978, earnings questions were asked of persons in the two outgoing rotation groups each month and will be published quarterly. These new data will not be strictly comparable to previous earnings information.

[2] See *The Current Population Survey, Design and Methodology*, Technical Paper No. 40 (Bureau of the Census, 1978), for a complete description of the survey design.

[3] See G. S. Maddala, "Self Selectivity Problems in Econometric Models," in P. Krishniah, ed., *Applications of Statistics* (Amsterdam, North Holland Publishing Co., 1977).

[4] The percentage of persons who change their household each year in the United States has been relatively constant at about 20 percent since the question of previous residence was first asked. However, mobility varies sharply by several demographic characteristics most notably by age as shown below in the most recent 1-year mobility figures from the March 1976 Current Population Survey:

	Percent changed households in year ended March 1976
Total	17.1
Age groups:	
15–19	16.1
20–24	38.0
25–29	32.6
30–34	20.3
35–44	13.4
45–54	8.4
55–64	7.0
65 and over	5.6
Black	18.0
White	17.0
Men	17.5
Women	16.8

[5] There are only two discrete observation points and the amount of work experience between these two points cannot be determined.

The extent of alcoholism among Air Force employees

T. ROGER MANLEY, CHARLES W. MCNICHOLS,
AND MICHAEL J. STAHL

An extensive survey of Air Force civilian employees reveals that almost 7 percent are problem drinkers.[1] But a conservative classification scheme as well as voluntary participation in the 1978 survey, the first of its type among Federal employees, suggests that the number of problem drinkers may be substantially understated.

We administered questionaires to 13,146 U.S. Air Force civilian employees during October-November 1978, of which 9,939 responded. The results showed that 6.9 percent of these respondents experienced some

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impairment of their job performance because of drinking. The overall toll on productivity due to missed days, working at lower levels of efficiency, and irregular hours was computed to be .359 day per person during 1978.

The results

Table 1 presents a summary of responses to survey items used to establish physical dependence on alcohol. To ensure that respondents understood the wording of the symptom describing tremors ("shakes"), two differently worded items were used. A positive response to either or both was counted as one symptom of physical dependence. According to our criteria, 1.1 percent of the respondents were physically dependent upon alcohol.

The 13 serious consequences related to drinking, as shown in table 2, cover an individual's worklife, physical health, and social/family life. They suggest that family life might be the part of the individual's life which is most severely or frequently affected, or both.

In computing lost working time associated with alcohol consumption, one quarter of a day lost was counted for each reported instance of working at a lower level of performance, being "high" at work, or arriving late or leaving early. It is of interest to note that 11 percent of the employees worked at a lower level of performance because of drinking; 5.5 percent missed at least 1 entire day; 5 percent arrived late or left early; and 6 percent were "high" at work on at least one occasion. We conservatively estimated that an average of .359 days per employee was lost last year because of drinking. (See table 3.)

Our figures show that 20 percent of the respondents abstained from using alcohol during the preceding year, 52 percent consumed up to 1 ounce of ethanol (pure alcohol) per day, 8 percent consumed between 1 and 2 ounces per day, 6 percent consumed between 2 and 5 ounces per day, and 1 percent reported consuming over 5 ounces of pure alcohol per day.[2]

Psychological dependence

In addition to symptoms of physical dependence, the survey contained six questions which were found to provide an effective overall measure of psychological dependence.

Table 1. Workers reporting symptoms of alcohol dependence during year

[In percent]

Symptom	Never	Has happened, but not in past year	1-11 days per year	One or more days per month
Tremors ("shakes")	92.1	4.0	2.7	1.2
Tremors (morning shakes)	91.5	3.8	3.6	1.1
Morning drinking	93.2	3.2	2.3	1.3
Memory loss (blackouts)	86.5	7.9	4.5	1.1
Loss of control	91.3	4.0	4.5	1.1

NOTE: Item wording for all symptoms was specified as being related to drinking.

Table 2. Workers reporting alcohol-related consequences during year

[In percent]

Consequence[1]	Never	Happened, but not in past year	Happened once or more in past year
Received disciplinary action	98.4	0.8	0.8
Received lower performance rating	98.2	0.8	1.0
Illness kept me from work for a week or more	97.4	1.3	1.3
Hospitalized for 2 or more days	97.9	1.7	0.4
Visited a physician two or more times	97.7	1.9	0.4
Had an accident causing self-injury	97.4	1.8	0.8
Had an accident causing injury/property damage	97.1	2.2	0.7
Spouse left because of drinking	98.5	0.7	0.8
Spouse threatened to leave but did not	87.4	7.8	4.8
Arrested for drunken driving	94.4	4.4	1.1
Arrested for non-driving offense	93.0	5.6	1.4
Spent time in jail	95.8	3.4	0.8
Got into fight(s)	93.9	4.1	2.0

[1] All incidents were specified as caused by or related to alcohol consumption and occurring during the past year.

By using factor analysis, we determined that the six questions measured a single underlying phenomenon (accounting for 62 percent of the variance in the responses) and could be summed with unit weights to provide a single overall measure of psychological dependence. Scores ranged from the lowest possible, 6, to the highest possible, 30. The mean score for all respondents was 8.33, with a standard deviation of 3.32. The mean score for respondents classified as physically dependent was 14.38, and 12.05 for those classified as adversely affected.

We conducted a number of tests to compare the psychological dependence scores of respondents according to various parameters. We found that respondents who scored high on psychological dependence were more likely to report more symptoms of physical dependence than other employees; more adversive effects related to drinking; higher scores on an intoxication index; more days lost from work because of drinking; and, higher consumption of alcohol. These and other findings suggest that psychological dependence, as measured by the six survey items, can be an effective discriminator for alcohol-related problems.

Work and alcohol-related problems

Although some notice has been taken of alcohol problems vis-a-vis job satisfaction and work involvement or leisure activities, the literature remains somewhat sparse and inconclusive. However, the little that can be found suggests that individuals with drinking problems tend to be somewhat compulsive about their work and uncomfortable with leisure time.[3]

Nevertheless, our study of alcohol-related variables and variables dealing with work suggests that individuals with drinking problems may not be so compulsive about their work, nor do they enjoy it.

Executive stress as a cause of alcoholism and various other stress-related diseases have recently received a good bit of attention in the press.[4] Examination of stress scores (the sum of responses to a six-item measure of overall stress) and alcohol-related variables, such as adverse consequences, suggests individuals with low and high stress scores are more apt to report having experienced adverse consequences than are respondents who report some moderate level of stress. Interestingly, these data seem to support theory in preventive medicine as well as the observations of stress management specialists.[5]

Alcoholism and alcohol-related problems were elevated to a status requiring official notice and concern by Federal agencies with the passage of the Comprehensive Alcohol Abuse and Alcoholism Prevention, Treatment, and Rehabilitation Act of 1970. This law directed that the Civil Service Commission and the Secretary of Health, Education, and Welfare make certain that all Federal agencies and departments develop and maintain appropriate prevention, treatment, and rehabilitation programs and services for Federal employees. Similar legislation has been passed by a number of State legislatures.

As highlighted by a 1977 GAO report[6] and later by the HEW Secretary, alcoholism and problems associated with alcohol deserve national concern.[7] Although some dimensions of the problem have been estimated and can be found in sources such as the HEW report to the Congress, until now virtually no scientifically designed epidemiological research has been conducted among public sector employees. Some indication of the belatedness of public sector employer interest in this area can be gained by noting that of the 2,400 U.S. employers with occupational alcoholism programs in 1977, only 400 were in the public sector, and most of these were of relatively recent vintage.

Sample randomly selected

Our survey sample was randomly selected and stratified by grade. Questionnaires were administered in two ways: respondents were requested to report to a central location to fill out the survey instrument, or they were mailed a questionnaire at their work locations. Completion of the questionnaire was voluntary and all respondents were guaranteed anonymity. Instructions accompanying the survey emphasized that the researchers from the Air Force Institute of Technology would be the only individuals who would have access to decoded answer sheets.

Table 3. Workers reporting lost working time due to drinking

[In percent]

Item	Any occurrence	Occurrences resulting in 3 lost days or more	Estimated days lost per person[1]
Missed an entire workday	5.5	1.9	.161 days
Worked at lower level of performance than normal[2]	11.4	5.1	.118
Arrived late or left early	5.0	2.2	.047
Was "high" at work	6.0	1.9	.066
Days lost	–	4.3	.359

[1] One occurrence counted as the loss of 25 percent of a workday.

[2] Counted only to the extent that days "high on duty" exceeds days of "lower performance than normal" for that person (to avoid possible double counting).

Of the 9,939 Air Force employees responding, 3,098 did so by mail and 6,841 in groups. The response rates were: overall, 75.6 percent; group-administered, 78.4 percent; and mail-administered, 70.2 percent. We do not know what proportion of nonrespondents to mail-administered surveys actually received questionnaires. Of the 21.6 percent nonrespondents to group administration, 1.7 percent refused to participate. The remaining 19.9 percent were notified, but did not show up at the scheduled time.

We emphasize the 24.4-percent nonresponse rate because we consider it critical. As suggested by other researchers, we recognize that a disproportionate number of individuals with drinking problems were probably among the 3,207 nonrespondents. As a result, we consider the data to represent a "lower-bound" or overly optimistic assessment of the extent to which alcoholism and alcohol-related problems exist among Air Force employees.[8]

The typical respondent was a 43-year-old white male who was married, had two dependents, was a high school graduate, and whose supervisor was also a civilian. Thirty-six percent of the respondents were women (average age 35 years) and 25 percent, minority group members. The distribution of respondents according to standard organizational and personal variables closely matched those of the overall Air Force civilian work force. Overseas employees, because of ground rules established to protect respondent anonymity, were underrepresented.

The questionnaire

In constructing the questionnaire,[9] we attempt to focus on two aspects of alcohol-related problems: addiction/physical dependence upon alcohol and serious consequences associated with the consumption of it. Respondents who placed themselves in the first (and more serious) category we call *alcohol dependent.* Respondents who report having experienced one or more serious consequences we call *adversely affected.* More formal definitions are:

> *Alcohol dependent:* An individual who exhibits observable, chronic behavioral problems which imply physical dependence on alcohol or physical impairment akin to dependence.
>
> *Adversely affected:* An individual who experiences one or

more serious consequences, whose average daily intake of alcohol is at a "high risk" level (that is, a volume at which damage to the liver can be presumed to occur), or who loses 3 or more work days because of drinking.

In performing the calculus to identify respondents to be placed in each category, we relied on self-reports of having experienced two or more of four physical dependence symptoms *at least once a month* over the past 12 months to establish alcohol dependence. A respondent who was adversely affected experienced one of 13 serious consequences at least *once during the past year;* consumed 5 or more ounces of pure alcohol daily; or missed at least three working days.

Survey items measuring alcohol consumption included consideration of the type of beverages consumed during the past 30 days, the frequency of drinking during the past 30 days and the past year, and the volume of alcohol consumed during the past 30 days and the past year. Items measuring productivity loss (days lost from work) included consideration of time lost because an individual was sick, "high" on the job, hung over, absent, or arrived late or left work early.

Also included in the 109-item questionnaire were measures of psychological dependence, stress/tension, work involvement, and job satisfaction. In addition, we included standard demographic variables which had been identified as meaningful in other alcoholism studies.

We believe that our data mark the first time that a large-scale research effort has been conducted on the subject of alcoholism and alcohol-related problems among Federal employees.

The often used approximation of 6 percent of the Federal employee work force having drinking problems is clearly ultra-conservative. Although we made use of self-reports (which notoriously understate quantity and symptomatic reports) and a version of the very conservative Rand classification scheme, almost 7 percent of the population was still identified as having significant drinking problems. The data also clearly show that misuse of alcohol costs the employer in terms of absenteeism, lowered efficiency, employee sick time, and on-the-job accidents which cause injuries and damage property. Alcohol costs the individual in terms of illness, impaired functioning, decreased personal control, and strained interpersonal relations. The fact that marriages and families suffer is also clearly indicated by the data. Correlated with problem drinking are decreased job satisfaction and work involvement, and increased stress and psychological dependence.

In many respects, employee alcoholism and alcohol-related problems have been like the weather: "Everyone talks about it but. . ." A law dealing with alcoholism among Federal employees has been in effect for almost a decade, and recent research suggests that alcoholism among women and teenagers is gaining in intensity; yet little organizational energy and resources are devoted to efforts to solve the problem, which costs so dearly in human suffering and lost productivity.

While there can be no doubt that the medical model of alcoholism as a disease holds for the alcoholic who is physically dependent on alcohol, it is also true that for many, alcoholism results from a progressive sequence of events (often easily observable by members of the family, friends, supervisors, and by the potential alcoholics themselves). Identification and treatment programs, if they are programs in more than name, can identify individuals with problems and offer treatment to potential alcoholics on a voluntary basis. For relatively modest investments in occupational alcoholism programs, organizations can realize significant returns on previous investments in their human resources. These returns equate to higher productivity, a heightened quality of life, and responsible organizational citizenship. □

FOOTNOTES

[1] The research described in this report was initiated at the request of the U.S. Air Force Director of Civilian Personnel who, in attempting to comply with the Comprehensive Alcohol Abuse and Alcoholism Act of 1970, determined that a scientifically designed research effort was needed to estimate the prevalence of alcohol-related problems and the consequences of those problems among USAF civilian employees.

[2] Note that 5 ounces of alcohol would be the equivalent of 12.5 one-ounce shots of 80 proof whiskey or 8.3 twelve-ounce cans of 5 percent beer.

[3] C. Berg and J. Neulinger, "Alcoholic's Perception of Leisure," *Journal of Studies on Alcohol,* 36:1196–1207, September 1974.

[4] "Executive Stress May Not Be All Bad," *Business Week,* April 1979, pp. 96–103.

[5] "Executive Stress." Also, see H. Selye, *The Stress of Life* (New York: McGraw-Hill, 1956, p. 87). Selye has studied the effects of physiological stress for several decades and has postulated a model of the individual's response to stress which appears to be supported by these data.

[6] "Most Agency Programs for Employees with Alcohol-Related Problems Still Ineffective," U.S. General Accounting Office, Washington D.C., HRD-77-75, September 1977.

[7] *Third Special Report to the U.S. Congress on Alcohol and Health from the Secretary of Health, Education, and Welfare,* National Clearinghouse for Alcohol Information, Rockville, Maryland.

[8] J. M. Polich and B. R. Orvis, *Prevalence of Alcoholism and Alcohol Abuse in the Air Force,* Rand Corporation, Santa Monica, California, 1979, in press.

[9] H. A. Mulford, "Iowa Alcoholic Intake Schedule, Model 4," The University of Iowa College of Medicine, Alcohol Studies Division. Also see, D. Cahalan, *Problem Drinkers* (San Francisco: Jossey-Bass, Inc., 1979), and D. Cahalan and R. Room, *Problem Drinking Among American Men* (New Haven, College and University Press, 1974), and J. M. Polich and B. R. Orvis, *Alcohol Problems: Patterns and Prevalence in the U.S. Air Force,* Project Rand Report R-2308-AF, Rand Corporation, Santa Monica, June 1979.

Foreign Labor Developments

U.S. rejoins ILO: the agenda for 1980's stresses human rights

TADD LINSENMAYER

The 66th session of the International Labor Conference will convene in Geneva, Switzerland early next month. An official tripartite U.S. delegation will participate in this annual International Labor Organization gathering for the first time since 1977,[1] when the United States withdrew from that organization. The conference will take up a number of crucial labor issues involving working conditions and human rights, issues that are likely to represent a major part of the work of the ILO during the 1980's.

U.S. withdrawal

The historical relationship of the United States with the ILO has been marked by periods of warm support followed by disillusionment.

Although Samuel Gompers chaired the committee that drafted the original ILO charter in 1919 (as part of the Treaty of Versailles), the United States did not join the organization until 1934. During World War II, when the League of Nations withered, the United States strongly supported the ILO's continued existence and hosted the historic 1944 conference that adopted the Declaration of Philadelphia, setting forth the organization's principles and purposes.

The 1970's, however, saw U.S. support for the ILO decay and eventually break over a number of serious issues.

Beginning in 1970, the U.S. Congress voted to withhold its contribution to the ILO budget (25 percent of the total), citing its concern with growing Soviet influence and the nonobservance of fundamental ILO principles and procedures. U.S. funds were restored in 1973, but the resumption of U.S. support was followed shortly by even sharper U.S. complaints about misdirected ILO activities.

In 1975, following a decision by the ILO conference to grant observer status to the Palestine Liberation Organization, Secretary of State Henry Kissinger formally notified the ILO's Director General that the United States would withdraw from the organization in 1977 unless progress was made on the following four issues of major U.S. concern:

1. *Erosion of tripartism.* U.S. concern was triggered by efforts of some ILO members to impose restrictions on the independence of worker and employer delegates to ILO meetings.

2. *Selective concern for human rights.* Although ILO machinery for investigating violations of ILO human rights standards worked well in most cases, one group of countries—principally the Communist states of Eastern Europe—successfully used political influence to gain relative immunity from the application of that machinery.

3. *Violation of due process.* The ILO's human rights machinery protects the rights of accused governments by requiring an objective investigation of the facts. But in some cases, this due process right was ignored by conference participants who adopted politically inspired condemnatory resolutions.

4. *Politicization of ILO meetings.* In far too many cases, delegates to ILO meetings introduced political issues which were totally extraneous to the work of the ILO and which detracted from the organization's legitimate responsibilities.

Because the ILO failed, in the U.S. view, to make satisfactory progress on these issues in the intervening 2 years, President Carter ordered U.S. withdrawal from the ILO in November 1977.

Recent progress

Following U.S. withdrawal, a majority of ILO delegates—governments, workers, and employers—successfully joined together to promote a number of important reforms. The 1979 conference, for example, adopted a new procedure permitting voting by secret ballot to protect the independence of worker and employer delegates.[2] In November 1978, the ILO Governing Body censured Czechoslovakia for violating ILO standards concerning discrimination in employment. More recently, the Governing Body has initiated investigations into alleged violations of trade union rights in the Soviet Union and Poland.

The principle of due process was strengthened by the decision of the 1978 Conference to reject a proposal to extend the life of a 1974 resolution criticizing Israel without benefit of any investigation. A special working party of the ILO is currently giving serious consideration to a new procedure to screen out future resolu-

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tions violating due process principles. Finally, the level of debate in ILO meetings on extraneous political issues has significantly diminished.

A special U.S. Cabinet-level committee on the ILO—chaired by Secretary of Labor Ray Marshall and including Secretary of State Cyrus Vance, the Secretary of Commerce (Juanita Kreps, Philip Klutznick), National Security Adviser Zbigniew Brzezinski, the AFL-CIO President (George Meany, Lane Kirkland), and Dr. David Grove, President of the U.S. Council of the International Chamber of Commerce—carefully examined these and other developments during the summer of 1979. The committee concluded that although not all of the issues of concern to the United States had been fully resolved, the ILO had made significant progress. Moreover, the committee agreed that continued progress in reaching the fundamental goals of the ILO was now more likely if the United States resumed active membership.

As a result of this review, the committee unanimously recommended to the President that the United States rejoin the ILO. Acting on this recommendation, President Carter announced the U.S. return, effective February 18, 1980.

1980 conference issues

The significance of the U.S. return can be measured by, among other things, its potential contribution to ILO technical programs, starting with an active U.S. presence during the June 1980 conference. That conference will consider the issues that will underlie the major ILO programs during the 1980's.

The conference has four major technical issues on its agenda: older workers; equal opportunities and equal treatment for men and women workers; safety and health in the working environment; and promotion of collective bargaining.

Significantly, all four issues involve aspects of human rights. For older workers and women, job discrimination continues to represent a serious concern. Some observers also feel that certain early ILO conventions, designed initially to protect women workers, resulted instead in promoting a system of discriminatory labor standards, which actually limited the employment opportunities of women workers.

The question of occupational safety and health also involves serious moral and human rights aspects. The ILO constitution and other international accords recognize that workers must be protected on the job as a matter of right, not privilege. Moreover, an increasing number of governments and worker organizations are expressing concern that countries which refuse to adequately protect workers' health may be reaping—at workers' expense—an unwarranted competitive advantage over countries which provide adequate worker protection.

Collective bargaining remains an important and recognized human right, one which is all too frequently compromised in the name of economic development.

Other important issues will also be considered by the 1980 conference. The committee which supervises the application of ratified ILO labor standards, for example, will consider whether to modify or, as some governments have proposed, eliminate entirely the so-called "special list" and "special paragraphs." These devices allow the conference to highlight flagrant violations of workers' human rights. The majority of delegates will likely favor retention of these important tools.

A committee on structure will consider proposals to modify the organization of the ILO, including the size and composition of the Governing Body. Another committee will examine any resolutions submitted by conference delegates.

The results of this conference will provide important indications of the ability of the ILO to tackle those serious technical issues for which it has a unique competence. A successful conference could well mark the start, after the troubled 1970's, of a new decade of achievement for the ILO. ☐

—— *FOOTNOTES* ——

[1] Delegations to ILO conferences include independent representation from governments, as well as worker and employer organizations.

[2] See "Highlights of the 1979 ILO conference," *Monthly Labor Review*, October 1979, pp. 65-67.

Major Agreements Expiring Next Month

This list of collective bargaining agreements expiring in June is based on contracts on file in the Bureau's Office of Wages and Industrial Relations. The list includes agreements covering 1,000 workers or more.

Employer and location	Industry	Union[1]	Number of workers
Acme Markets, Inc. (Pennsylvania)	Retail trade	Food and Commercial Workers	1,900
Allis-Chalmers Corp. (Pennsylvania)	Machinery	Machinists	1,100
Aluminum Co. of America (Interstate)	Primary metals	Auto Workers (Ind.)	1,300
Associated Building Contractors of Northern Ohio, Inc. (Ohio)	Construction	Carpenters	1,500
Associated General Contractors of America, Inc.	Construction	Carpenters	1,500
Alaska Chapter, 2 agreements	Construction	Carpenters and Teamsters (Ind.)	1,800
California Chapter	Construction	Operating Engineers	14,000
California Chapter	Construction	Plumbers	25,000
California-Northern Chapters, 4 agreements	Construction	Carpenters; Laborers; Plasterers and Cement Masons; and Teamsters (Ind.)	44,000
San Diego Chapter, 2 agreements (California)	Construction	Building and Construction Trades Council	7,400
Southern California Chapters, 4 agreements (California)	Construction	Carpenters; Operating Engineers: Laborers; and Teamsters (Ind.)	66,500
Automobile Dealers Industrial Relations Association of New York, Inc.	Retail Trade	Auto Workers (Ind.)	1,000
Avco Corp., Aerostructures Division (Nashville, Tenn.)	Transportation equipment	Machinists	1,650
Avco Corp., Lycoming Division	Transportation equipment	Auto Workers (Ind.)	1,600
Boise Cascade Corp. (Rumford, Me.)	Paper	Paperworkers	1,300
Carrier Corp. Elliott Co. Division, Shop Agreement (Jeannette, Pa.)	Machinery	Steelworkers	1,100
Celanese Corp., 2 agreements (Interstate)	Chemicals	Textile Workers	3,500
Clark Equipment Co. (Buchanan, Mich.)	Transportation equipment	Auto Workers (Ind.)	1,400
Combustion Engineering, Inc. (Chattanooga, Tenn.)	Fabricated metal products	Boilermakers	2,900
Consolidated Edison Co. of New York, Inc. (New York, N.Y.)	Utilities	Utility Workers	17,700
Continental Group, Inc. (Hodge, Penn.)	Paper	Paperworkers	1,050
Contracting Plasters Association of Southern California, Inc. (California)	Construction	Plasterers and Cement Masons	1,400
CPI International, Inc., Corn Products (Interstate)	Food products	Oil, Chemical and Atomic Workers	2,300
Eastern New York Construction Employers, Inc., 2 agreements (New York)	Construction	Laborers; and Carpenters	4,650
Georgia-Pacific Corp. Crossett Division-Paper (Crossett, Ark.)	Paper	Paperworkers	1,700
Hotel Employers Association of San Francisco (California)	Hotels	Hotel and Restaurant Employees; and Service Employees	20,000
Iron Worker Employers of California and Nevada (California and Nevada)	Construction	Iron Workers	8,500
J. I. Case Co. (Interstate)	Machinery	Auto Workers (Ind.)	6,500
Kennecott Cooper Corp., Utah Copper Division (Utah)	Primary metals	Steelworkers	2,400
League of Voluntary Hospitals and Homes of New York (New York, N.Y.)	Hospitals	Retail, Wholesale, and Department Store	37,000
Los Angeles County Painting and Decorating Contractors (California)	Construction	Painters	6,000
Magnavox Co. of Tennessee (Greeneville, Tenn.)	Construction	Electrical Workers (IUE)	1,600
Master Lock Co. (Milwaukee, Wis.)	Fabricated metal products	Auto Workers (Ind.)	1,150
Maytag Co. (Iowa)	Electrical products	Auto Workers (Ind.)	2,250
Mechanical Contractors Council of Central California (California)	Construction	Plumbers	2,000
Metropolitan Lithographers Association, Inc. (Interstate)	Printing and publishing	Graphic Arts	8,100
National Airlines, Clerical (Interstate)[2]	Air transportation	Air Line Pilots	4,300
Northwest Airlines, Inc., Pilots (Interstate)[1]	Air transportation	Air Line Pilots	1,500
Northern California Home Builders Conference, Master Agreement (California)	Construction	Carpenters	40,000
Northwest Contractors' Association, Inc. (Toledo, Ohio)	Construction	Laborers	1,200
Ohio Edison Co. (Interstate)	Utilities	Utility Workers	1,950

See footnotes at end of table.

Continued—Major Agreements Expiring Next Month

Employer and location	Industry	Union[1]	Number of workers
Pacific Coast Shipbuilders Association (Interstate)	Transportation equipment	Electrical Workers (IBEW)	1,600
Pacific Coast Shipbuilding & Repair, 2 agreements (Interstate)[3]	Transportation equipment	Metal Trades Council	19,700
Painting and Decorating Contractors Association:			
Central Coast Counties, Inc., and 1 other (California)	Construction	Painters	2,000
(Massachusetts)	Construction	Painters	1,500
Oregon Council & 2 other Associations (Oregon and Washington)	Construction	Painters	3,000
(San Francisco, Calif.)	Construction	Painters	1,500
(Southern California)	Construction	Painters	3,600
Plumbing-Heating & Piping Industry Council (California)	Construction	Plumbers	10,000
Reliance Electric Co. (Ohio)	Electrical products	Electrical Workers (IUE)	1,300
Rush-Presbyterian-St. Lukes Medical Center (Chicago, Ill.)	Hospital	Professional and Technical Employees; Service Employees; and Teamsters (Ind.)	1,000
Sheet Metal Heating and Air Conditioning Contractors (California)	Construction	Sheet Metal Workers	1,250
Southern California Drywall Finishers (California)[3]	Construction	Painters	1,800
Southern California General Contractors (California)[3]	Construction	Plasterers and Cement Masons	3,500
Tecumseh Products Co., Lauson Engine Division (New Holstein, Wis.)	Machinery	Machinists	2,000
Teledyne Continental Motors, General Products Division (Muskegon, Mich.)	Machinery	Auto Workers (Ind.)	1,400
Wagner Castings Co. (Decatur, Ill.)	Primary metals	Allied Industrial Workers	1,000
Western Airlines, Clerical (Interstate)[2]	Air transportation	Railway Clerks	3,800
	Government activity	**Employee organization[1]**	
California: Oakland-Alameda Contra Costa Transit District	Transportation	Amalgamated Transit	1,850
Oakland Municipal Employees	Multidepartment	Service Employees	2,100
Connecticut: New Haven Board of Education	Education	Teachers	1,350
Maryland: Baltimore White Collar Classified	Multidepartment	Classified Municipal Employees Association of Baltimore City, Inc. (Ind.)	5,800
Montgomery County Board of Education	Education	National Education Association (Ind.)	5,000
Montgomery County Board of Education, Supporting Service	Education	Montgomery County Council of Supporting Services Employees, Inc. (Ind.)	6,000
Massachusetts: Boston Municipal Employees	Multidepartment	Service Employees	3,700
Department of Mental Health	Social Services	American Federation of State, County and Municipal Employees; and Service Employees	15,000
Michigan: Detroit Department of Transportation, Equipment Division	Transportation	Amalgamated Transit	1,350
Detroit Municipal Employees	Multidepartment	American Federation of State, County and Municipal Employees	8,000
New Jersey: College of Medicine and Dentistry	Education	Teamsters (Ind.)	2,250
Hudson County Municipal Employees	Multidepartment	Teamsters (Ind.)	1,750
Oregon: Lane County Municipal Employees	Multidepartment	American Federation of State, County and Municipal Employees	1,000
Portland Municipal Employees	Multidepartment	District Council of Trade Unions	1,800
Pennsylvania: Temple University, Faculty	Education	American Association of University Professors (Ind.)	1,500
Wisconsin: Milwaukee Board of School Directors	Education	Service Employees	1,100

[1] Affiliated with AFL–CIO except where noted as independent (Ind.).

[2] Industry area (group of companies signing same contract).

[3] Information is from newspaper reports.

Developments in Industrial Relations

Administration announces new anti-inflation plan

President Carter on March 14 announced a new anti-inflation program that he said would restore "discipline" to both Government and American consumers without imposing mandatory wage and price controls. He accepted the Pay Advisory Committee's recommendation that annual pay increases fall within a 7.5- to 9.5-percent range. (See *Monthly Labor Review,* March 1980, pp. 55–56.) The President also indicated that he will ask the Congress to increase the staff of the Council on Wage and Price Stability to permit closer monitoring of wage increases and to require smaller firms with annual sales of $100 million or more to report quarterly price actions to the council. (Presently, only firms with annual sales of $250 million or more are required to report.)

The new plan stressed budgetary restraints, calling for spending cuts of $18 billion during fiscal 1981 (which begins October 1, 1980) as well as cuts in the current fiscal year. The reduction will be achieved by deferring, reducing, or canceling most of the new or expanded programs included in the budget for fiscal 1981, submitted to the Congress on January 28; cutting expenditures for personnel operations and maintenance in Government; and reducing Federal civilian jobs by more than 20,000 by October 1980.

Other aspects of the plan involved the use of credit, with the President and the Federal Reserve Board moving to restrict unsecured loans by consumers and bank-to-bank loans, and energy, with the President imposing a conservation fee of about 10 cents a gallon on gasoline refined from imported petroleum.

Productivity, a long-term factor in inflation, has slowed sharply in the past 10 years and actually declined in 1979. To counter this development, the President said that he was asking his Commission on an Agenda for the 1980's for "recommendations for revitalizing our economy."

The proposal to cut the Federal budget drew an immediate objection from AFL–CIO President Lane Kirkland, who contended that the burden would fall most heavily on those already suffering most from inflation. Kirkland maintained that the new policies will do nothing to attack the "direct causes of inflation—the escalating costs of energy, housing, food, and medical care and the incredibly high interest rates that have a critical impact on all sectors of the economy."

Coal Commission issues final report

The final report of the President's Commission on Coal calls on the United Mine Workers and the Bituminous Coal Operators' Association to immediately begin negotiating on renewal of the coal contract which expires in March 1981. Both sides said they were pleased with the commission's final report which offers measures for improving labor-management relations, reducing U.S. dependence on oil, and for dealing with the continuing problem of coal-mine safety and the living conditions of miners.

Recalling that the last five contract settlements in the industry have been preceded by strikes, the commission attributed the strained labor-management relations in the industry to internal factors, such as dissension among leaders of the union and an influx of young, inexperienced workers. On the management side, the commission said that the BCOA's unity had been broken by a growing diversity of interest between underground and surface mining firms and between the traditional operators and some of the newer producers.

However, the commission concluded this portion of its report on an optimistic note, saying that the young supervisors and workers in the industry are maturing and gaining experience in mining—wildcat strikes have declined and that productivity appears to be improving—and citing the growing realization by labor and management of their mutual role in attaining a healthy, stable industry.

In addition to calling for an early start on collective bargaining, the commission also recommended that the union's leaders continue their efforts to stop wildcat strikes and "stranger picketing" and that the growing body of arbitration awards regarding these activities be respected; that labor and management continue their efforts to improve productivity, and that they expand training in this area, as well as in job safety, grievance handling, and labor-management relations; and that the parties establish a joint committee, headed by a neutral

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"Developments in Industrial Relations" is prepared by George Ruben and other members of the staff of the Division of Trends in Employee Compensation, Bureau of Labor Statistics, and is largely based on information from secondary sources.

person, for continuing action on issues of mutual concern.

The commission presented statistics showing that coal mining is the most hazardous major occupation and made four recommendations; (1) that labor and management accept the principle that there is no place in the industry for firms and employees who are not prepared to observe safe mining practices; (2) that the Mine Safety and Health Administration increase its inspection and enforcement activities in mines the commission finds to have accident and fatality rates consistently and substantially above national averages; (3) that the National Academy of Science, in cooperation with all interested parties, conduct an investigation of the factors that distinguish safe mines from unsafe mines; and (4) that the BCOA and the UMW continue the joint task force on safety that had been established in cooperation with the commission.

The commission found that miners' living conditions have improved in the last generation to the point of being "more closely in line with mainstream America." However, the commission advocated three actions to counter problems resulting from expansion of the industry: that coal companies and other large landholders in areas lacking adequate housing make available parcels of land for new housing; that coal companies retain part of their working capital in local lending institutions committed to improving local housing; and that regional government subdivisions, in cooperation with mine owners and employees, identify and obtain public sector funding to spur the building of homes, roads, and utilities, and that the power of eminent domain be used to acquire land otherwise not available for housing.

The increasing price of petroleum, military developments that threaten the security of world supplies of petroleum, and doubts about public acceptance of nuclear power caused the commission to broaden its inquiry beyond the original mandate "to report on ways to improve labor-management relations." Under this broadened mandate, the commission presented principles it said must govern the Nation's efforts to meet the energy shortage. Specific recommendations that conformed with the principles included: use of coal to replace oil and natural gas in generating electricity and in industrial boilers; use of natural gas to replace oil in home and commercial heating and in industrial uses where coal is impractical; and reserving oil primarily for petrochemical products and transportations uses.

The President's Commission on Coal was established in 1978. It was chaired by John D. Rockefeller IV, Governor of West Virginia. Other members were Jesse F. Core, Adjunct Professor of Mining Engineering, Pennsylvania State University; Marvin Friedman, Vice President, Ruttenberg, Friedman, Kilgallon, Gutchess and Associates, Inc., Washington, D.C.; W. Dewey Presley, Director and Chairman of the Executive Committee, First International Bancshares, Inc., Dallas, Tex.; and W. Willard Wirtz, Wirtz and Lapointe, Washington, D.C.

In a related development in the industry, members of the BCOA ratified structural changes that will put the largest operators in control of the coming negotiations with the UMW. The change in bargaining approach was expected to induce U.S. Steel Corp. to withdraw its threat to leave the BCOA. The change also resulted in the return of Consolidation Coal Co., the Nation's second largest producer, which had quit the BCOA in May 1979 because it believed there was excessive disunity in the ranks of the operators—particularly the smaller ones—during the 1978 bargaining.

Under the restructuring, the executives of the nine largest companies are in charge of the bargaining, with the three-member bargaining team to consist of representatives of U.S. Steel and the largest producers, Peabody Coal Co. and Consolidation Coal Co. The smaller companies opposed the restructuring, but their proposal to temper the change drew only 22 percent of the votes.

Firestone to close six plants

The problems of the tire manufacturing industry were reflected in Firestone Tire and Rubber Co.'s announcement that it plans to close six plants. Company chairman and chief executive officer Richard A. Riley said the closings were necessary "to meet changing market conditions" and would eliminate "unneeded capacity that has been used mainly for the production of bias-ply tires."

Another Firestone official said that the domestic industry has been running at only 65 to 75 percent of capacity and projected demand is slowing. Among the reasons for lower production are increased use of radial tires, which wear longer than bias-ply tires; decreased driving due to increasing fuel costs; elimination of spare tires on some cars; and increased imports.

United Rubber Workers president Peter Bommarito said that he was shocked that the company would take "such drastic action" without first asking the union for help in keeping the plants open. Bommarito declared that the U.S. automobile manufacturers had aggravated the tire industry's problems by failing to produce fuel-efficient cars, thus losing sales to foreign companies. He indicated that the union would initiate immediate discussions with Firestone on ways to keep the plants open. Under the union's 1979 contracts, tire manufacturers are required to give the union 6 months' notice of plant closings.

According to a Firestone official, the severance pay, pension, and other costs of the shutdowns will total about $82 million, but will be partly offset by $33 million from the sale of inventories. The company reported a loss of $13.8 million for the 3 months ended January 31, compared with a profit of $34.8 million for the same period a year earlier.

The plants involved are in Salinas and Los Angeles, Calif., Dayton, Barbeton, and Akron, Ohio, and Pottstown, Pa. A total of 7,265 active employees will be affected, in addition to the 1,575 already on layoff. According to the union, this will bring to 19,200 the number of jobs lost in the industry since 1975. In January, Uniroyal, Inc., announced plans to close two of its five plants, which is expected to result in a loss of 3,300 jobs. In 1979, Mansfield Tire and Rubber Co. declared bankruptcy.

In a separate announcement, Firestone offered its 69,500 employees and retirees $100 if they buy a new domestic automobile in April. The company said such purchases will aid the automobile and rubber industries, as well as the general economy.

Large oil refineries negotiate pattern contract

The round of bargaining in petroleum refining moved rapidly towards a close, as the first of the major companies settled with the Oil, Chemical and Atomic Workers, ending an 11-week strike and setting a pattern for bargaining in the industry. The two similar accords were with Gulf Oil Corp. and Cities Service Co. The union had settled earlier with some small refineries on the package it had been seeking, but the major companies had balked at some demands. (See *Monthly Labor Review*, April 1980, p. 63.)

Gulf and Cities Service agreed to new 2-year contracts, while the earlier settlements provided for wage and benefit improvements during the final year of the existing 2-year contracts. Bargaining at all companies was conducted under reopening provisions of the existing contracts, negotiated in 1979.

The 1980 Gulf settlement provided for a wage increase of 5 percent plus 52 cents an hour, effective immediately, and a 10.5-percent increase in January 1981. The immediate increase included the 5-percent deferred raise already scheduled for that date under the 1979 settlement.

Under the Gulf settlement, the company's monthly payment to the health-care plan will be increased by $18.50 for family coverage and by $6 for single employees, effective immediately, and by $18 and $6 in January 1981. This will bring Gulf's obligation to $120.50 monthly for family coverage and $47 for single employees. However, employees will be required to pay any increase in the premium in excess of Gulf's obligation. A dental plan also was established, with Gulf paying $15.50 a month for family coverage and $4 for single coverage. The agreement also provided for a sixth week of paid vacation after 30 years of service.

Union president Robert Goss expressed "disappointment" that the oil workers had not won the company-paid health-care plan they had been seeking, but, "We just can't compete with the raw power of the multinational companies." One factor that definitely strengthened the companies' bargaining position is that the refineries are highly automated and can be operated by management employees during a walkout.

New contracts for glass container workers

Owens-Illinois, Inc., and the Glass Bottle Blowers negotiated 3-year contracts that set a pattern for several other companies in the glass container industry. The bargaining round involved a total of 77,000 workers, including 12,000 at Owens-Illinois, the largest firm.

The three separate, but essentially identical, Owens-Illinois accords covered production and related workers at 17 plants in the East, production and related employees at seven Western plants, and automatic machine operators at all plants. The agreements provide for a 68-cent general wage increase on the April 1 termination date of existing contracts and 55 cents on April 1 of 1981 and 1982. In addition, the increment between job grades was increased by an amount ranging from 10 cents an hour for employees in the lowest pay grade to no change for those in the highest grade. Production and maintenance workers in the Eastern plants received additional 2-, 1-, and 1-cent general increases on the respective dates to reduce a wage differential with the other employees. Other wage terms at all plants include an escalator clause that provides for adjustments in April of 1981 and 1982 if the Consumer Price Index rises more than 9 percent during the preceding 12 months. Adjustments will be at the rate of 1 cent for each 0.5-point increase in the index.

Shift differentials were increased by 3 cents an hour, to 20 cents for the afternoon shift and 24 cents for the night shift. Vacation pay was increased for employees with 22 to 25 years of service and all employees will receive an additional paid holiday. The monthly pension rate for each year of service was increased by $3 for employees in the lowest pay grades and by $2 for those in the highest, bringing the range to $14–$16. The benefit rate also was increased to a minimum $9 for current retirees, which affected employees who had retired before 1971 at $6.25 or $7 rates.

Life insurance coverage was increased by $3,000, bringing the new range to $13,000–$15,000, varying by job grade. The weekly sickness and accident benefit was increased by $30; and the maximum lifetime orthodontic benefit was increased to $1,000 per individual (formerly $750).

The companies that have settled on terms similar to Owens-Illinois include Brockway Glass Co., Thatcher Glass Manufacturing Co., Kerr Glass Manufacturing Co., Midland Glass Co., and Anchor Hocking Glass Corp.

Sugar companies settle

The International Longshoremen's and Warehousemen's Union and 12 Hawaiian sugar companies agreed to 2-year contracts that provided for February 1, 1980, and 1981 wage increases ranging from 55 cents an hour for employees in the lowest pay grade to 75 cents for those in the highest. After the 1981 increases, rates will range from $6.09 to $8.625 an hour. The same increase will apply at two "distressed" plantations that also settled—Maunakea Sugar Co. and Holo Coast Processing Co.—but will be accomplished in four steps instead of two.

Other provisions at all 14 plantations include a 10th annual paid holiday; increases in shift premiums; industrywide standardization of some job classifications; and an optional family-enrollment dental plan to replace the current plan that covers children only.

Eastern's flight attendants get new contract

Eastern Airlines and the Transport Workers negotiated a 3-year contract for flight attendants that provides for a 6-percent pay increase retroactive to April 1979, 2.5 percent retroactive to October 1979, 4 percent in May and December 1980, 5 percent in July 1981, and 6 percent in January 1982. The 5,500 employees also will receive automatic wage escalator adjustments in January of 1981 and 1982 of $1 a month for each 0.3-point movement in the Consumer Price Index. "Over-water-pay" was increased to $1.50 an hour (formerly $1.05), the "away-from-base" allowance was increased to $1.25 an hour (formerly 90 cents), and a pay step was added for employees with 13 years of service.

The minimum pension rate was increased to $24 a month for each year of service, and there is a provision for returning the contributions employees made before the plan became fully company-financed in 1977.

Eastern's variable earnings plan was continued. Under this plan, which was established in 1977 for the flight attendants and certain other employees, 3.5 percent of wages is withheld from paychecks but is returned to employees at yearend if the company's annual profit amounts to 2 percent of sales. If the profit is more than 2 percent, employees receive the full 3.5 percent and an additional amount up to 3.5 percent. If the profit is less than 2 percent, employees receive part of the withheld amount.

Honeywell employees reopen contract, get raises

About 8,700 Honeywell, Inc. employees in Minneapolis, Minn., were covered by a 2-year settlement with Local 1145 of the Teamsters. The new contract, negotiated under a reopening provision, was effective immediately, superseding the final year of the existing 3-year agreement.

The settlement provided for wage increases of 13 percent immediately and 11 percent in February 1981. There was no provision for a wage escalator clause. Company officials said they agreed to the relatively large set wage increases—rather than smaller increases and an escalator clause—because an escalator clause makes it more difficult to predict labor costs. Vice President Charles Brown said that a wage escalator clause that provides for cents-per-hour pay adjustments tends to be less beneficial to skilled employees because it reduces their percentage pay differential over less skilled workers.

The vacation schedule was increased by one day in the year in which employees attain 2, 5, 7, 10, 13, 16, and 22 years of service, and the maximum was increased to 30 days after 30 years, formerly 25 days after 24 years. There also were some improvements in insurance benefits. The separate 4-year pension contract provided for raising the benefit rate for future retirees to $18 a month for each year of credited service (formerly $12). Benefit rates for current retirees were increased to $14 (formerly $12), or to $12 (formerly $7–$10), depending on the date of retirement.

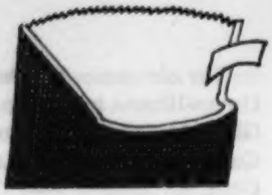
Minority attorneys at Justice charge bias

Attorneys employed by the U.S. Department of Justice filed an administrative complaint charging that the agency discriminates against minorities in hiring, training, and promotion. The formal complaint was filed by leaders of the group, the Racial and Ethnic Minority Attorneys Caucus, on behalf of about 150 attorneys after unsuccessful negotiations on the issue. The attorneys make up about 8 percent of all attorneys within the six units of the agency covered by the complaint.

Specifically, the complaint asserted that the units failed to hire or promote members of minority groups in adequate numbers; denied them equal access to training and the most interesting cases; and evaluated job performance in a manner that resulted in a disproportionate share of pay awards going to nonminority attorneys.

The 2 years of negotiations prior to the filing reportedly were not successful because the leaders of the caucus had been seeking remedies beyond those in the agency's affirmative action plan. ☐

Book Reviews



The unemployed tell their story

Not Working: An Oral History of the Unemployed. By Harry Maurer. New York, Holt, Rinehart and Winston, 1980. 297 pp. $12.95.

Not Working is an important book about unemployment in American society. Unlike the typical book on the subject, it focuses on people rather than statistics. It is about unemployed executives and clerks, engineers and auto workers, college professors and high school dropouts. In his oral history of unemployment, Harry Maurer has done for the unemployed what Studs Terkel did for the employed. And he has done it well.

In 1976, Maurer spent several months traveling around the United States interviewing the unemployed. This book is the fruit of that effort and many of his more than four dozen portraits of the unemployed are not easily forgotten. A gifted interviewer, Maurer managed to get a wide spectrum of America's jobless to talk freely and frankly about themselves and what it's like to be jobless in a work-oriented society.

The book vividly illustrates that unemployment does not just hit blacks or those without skills or education. Even for those who seem to have "made it," employment security is often tenuous. Nor does education alone guarantee a place in today's job market. Some of the most memorable interviews are with "high level" or "professional" workers.

There is, for example, Grace Keaton, fired without warning from a high-level job in a New York publishing house after 12 years of service. No one will hire her for a high-level job—nor will they consider her for a lower level job.

There is particularly good coverage of the plight of the middle-aged jobless professional, a problem that receives less than its share of public concern. Take Martin Penn, a 57-year-old scholar with a Ph. D. in anthropology, the victim of a layoff from a prestigious think-tank beset with shrinking government contracts. Lowering his sights after years of futile search for an appropriate job, and almost prepared to deny he has a Ph. D., Penn wonders what's wrong with the country when a person has to be ashamed of having an education.

Well-educated young people often find no demand for their labor or are forced into unskilled jobs. Kristen Jacobs, a recent and disillusioned liberal arts graduate of the University of Michigan, competes with 300 other applicants for a $3.60-an-hour job.

The author paints just as clear a picture of what it's like for those who have always been on the bottom of the job ladder. Minority youths are not dismal statistics. They appear as people who are being assaulted and destroyed by unemployment—or by the low wages and unsteady jobs that may be available from time to time.

Some ghetto teenagers interviewed by Maurer are receiving training. But the problems are shown to persist beyond the teens. Maurer's young adult minority jobless scarcely fit the stereotype of the jobless and poor as lazy. Ken Dutton, a 21-year-old black veteran in Seattle, Wash., camps out from 10 p.m. in the desperate hope that he will be one of the lucky few to be interviewed by Alcoa the next morning. Micky Eldridge, a 23-year-old black man in the South—out of work for a year—survives by collecting discarded coke bottles and selling them for 5 cents apiece. Eddie Varga, a 24-year-old Los Angeles Chicano—graduate of a 2-year technical college—lives on unemployment insurance and hopes for the miracle of a $3-an-hour job. While Willie Hawkins, a 23-year-old Birmingham black with hypertension, receives a call from an auto company for a same-day interview for a once-in-a-lifetime chance at a decent-paying job. In a frantic attempt to bring his blood pressure down quickly enough to pass the physical, he donates blood and takes large doses of Epsom salts just prior to the interview.

Maurer's people are real, with all the strengths and frailties of human beings. He has not canonized them, nor masked their shortcomings. Some are not eligible for unemployment benefits; others are too humiliated to take unemployment benefits; still others take them to survive, despite injured pride; some take them as a form of revenge; and a few abuse the system. For another few, all middle class, unemployment brings positive benefits. A teacher laid off during the New York fiscal crisis, for example, realizes that she had become a prisoner of a detested job. For her, being fired becomes a form of freedom.

This book also points to other problems. For in talking about not working, the jobless are also talking about working. The extent to which alienation and purposelessness exist in the workplace is hotly disputed. But among those in *Not Working*, it is commonplace.

The book also provides very useful insights into subtle aspects of the labor market, especially the secondary labor market. Like Elliot Liebow's *Tally,* we hear about the secondary labor market from those forced to spend their lives in it.

In *Unemployment in History,* John A. Garraty claims that, unlike the jobless of previous eras, today's unemployed are not plagued by psychological torment and feelings of self-blame. But Harry Maurer finds the opposite to be true. "What astonished me—more than any other discovery in the course of writing this book—was the degree to which unemployed people blame themselves." Even those made jobless by mass layoffs and other events clearly beyond their control tended to blame themselves. Unemployment, it turns out, means for many people psychological devastation, feelings of worthlessness, leisure turned to emptiness. Maurer's findings are consistent with the more structured research of Robert McKersie of Cornell University, who studied job loss among laid-off New York State civil servants, and M. Harvey Brenner's well-known study of the social costs of unemployment for the Joint Economic Committee.

If self-torment and guilt are as prevalent among all of the unemployed as among Maurer's group, the often observed lack of political protests by the jobless becomes more comprehensible. Self-blame effectively depoliticizes the victims of unemployment. The author feels that the jobless would do better to shift their attention to those who so willingly and unconcernedly want to increase unemployment.

There is, of course, no way of knowing just how representative Maurer's interviewees are of all the unemployed. He met the jobless in a variety of ways: some through organizational contacts; others directly in unemployment offices. Only a minority of the latter agreed to be interviewed. Were those who declined to be interviewed full of more self-blame than the others? Or less? Were they better off? Or worse off? Social scientists who want the answers to those questions will have to pick up where Maurer left off.

Some of Maurer's unemployed were hard hit by the last recession. In 1976, unemployment still averaged 7.7 percent. Though many ultimately may have found jobs, their scars are apt to remain. As Jim Hughes, a jobless Indiana Republican expressed it, "I'm always gonna look back on this and say, 'Hey, I've been through it. I know what it's like.' It's been rough. Human damage, you might say."

The unemployed deserve better. And there are still six million official jobless. So Harry Maurer's humanistic book should be of interest not only to economists, psychologists, sociologists, and others in the academic world but should be read by all who are concerned with current talk of increasing unemployment as a weapon against inflation. The Humphrey-Hawkins Full Employment and Balanced Growth Act (Public Law 95-523) declares among other things that it is the continuing policy and responsibility of the Federal Government to "promote full employment." The act also recognizes the problem of inflation but, based on considerable evidence, it rejects the idea of an inevitable inverse relationship between unemployment and inflation. Thus, it aims to reduce inflation while pursuing full employment. By showing what unemployment does to those forced to bear its costs, *Not Working* may help to focus national attention on the need to implement that law with vigor.

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Working less and enjoying it more

Job Sharing: A New Pattern for Quality of Work and Life. By Gretl S. Meier. Kalamazoo, Mich., W. E. Upjohn Institute for Employment Research, 1979. 187 pp. $4.50.

Job sharing (commonly defined as two workers or more sharing one full-time job) is designed to increase both the number and quality of part-time jobs. This new type of schedule is part of a trend toward more flexible work arrangements. It responds specifically, however, to two recent phenomena. One is the increasing reluctance of many workers to work below their skill level in exchange for shorter hours. The second is a slowdown in the long-term growth in the supply of traditional part-time jobs.

Gretl S. Meier's excellent book covers recent experiences and trends in job sharing. It examines different types of arrangements, the advantages, disadvantages, and problems of job sharing for both employees and employers, and emerging issues. Her own survey of about 240 job sharers and more than 80 lengthy interviews with job sharers and their supervisors furnish the basic materials for the book.

To fulfill the author's criteria for job sharing, the sharing must be voluntary, involve the deliberate conversion of a full-time position, and provide fringe benefits (although not all the arrangements described meet the second and third requirements). Some sharers work in close partnership—pooling resources and sharing decisions and responsibility for the whole job; others work more or less independently. In some instances, job sharers are husband and wife; in others they never meet, communicating by phone or note only. The many variations on the general theme have given rise to such special terms as split, paired, twinned, and tandem jobs. (Work-sharing, which is undertaken to avoid layoffs, is an altogether different phenomenon.)

Sharing a full-time job does provide some sharers with more highly skilled work than would most traditional part-time jobs. The survey group includes, for example, managers, teachers, counselors, researchers, and physicians. (However, in the large majority of cases the combined earnings of both partners did not exceed the ceiling on which the salary of one worker would be taxed under social security.) Most job sharers surveyed received such fringe benefits as vacations, holidays, and sick leave, prorated in many cases on the basis of hours. Health benefits varied widely, with some sharers receiving full coverage and others excluded.

The greatest reward perceived by job sharers is the opportunity to balance worklife with the rest of life. "Work is central in the lives of job sharers, but not the sole criterion for identity."

Meier acknowledges that at present job sharers represent an "infinitesimal proportion of all jobholders" and that "until a larger, more varied pool . . . exists, it will be difficult to assess the benefits as well as the costs of the new arrangements—either to the organization or the individuals." She urges, however, that choices in implementing new work schedules not rest solely on narrow cost-benefit calculations, but take into account the relation of work to the totality of life. Whatever the outcome for this particular work schedule, recent increases in the number of both working couples and single-parent families and growing concerns for employment opportunities for handicapped workers make the upgrading of part-time work options an important objective.

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Quick introduction to our way of life

Vietnamese Americans: Patterns of Resettlement and Socioeconomic Adaptation in the U.S. By Darrel Montero. Boulder, Colo., Westview Press, 1979. 218 pp., bibliography. $17.50.

Refugee movements are by their very nature sudden, disruptive, often traumatic events. As such, receiving countries typically face a complex task in successfully resettling large numbers of homeless people without some strain on the domestic social fabric. Seldom is there adequate time or resources to gather detailed information on the newcomers' backgrounds, initial adjustment difficulties on arrival, and subsequent socioeconomic progress, despite the potential value of such information for better accommodating future refugees.

In the last 5 years, more than 170,000 Indochinese have fled to the United States, the largest single refugee group to enter this country in such a brief period. Nevertheless, the U.S. Department of Health, Education, and Welfare has managed to produce a rich longitudinal data source on them, and this volume, by Darrel Montero, gives a valuable first look at its main findings. In a book addressed primarily to immigration specialists, Montero sets himself two objectives: first, to provide a systematic description and analysis of the survey's methodology and central results; then, to construct a model which integrates these results with existing knowledge on the resettlement and employment patterns of earlier immigrants.

The book opens with a chapter on Vietnam, briefly scanning its history from the 10th century B.C. to the U.S. defeat in April 1975. One cannot help thinking that the author's desire to deepen our understanding of the refugees' backgrounds, motivations, and expectations would have been better served had he focused on the evolution and operation of social, educational, and labor market structures, particularly in the urban areas whence most refugees came. Instead, he presents a largely political survey of premodern Vietnam, devoting a single page to the two decades since the mid-1950's which most shaped the refugees' lives.

In the following chapter, however, Montero gives a lucid description of the resettlement process in the United States and initial adjustment problems. After an abrupt, ill-prepared departure, the refugee family was taken to a relocation center at Camp Pendleton, Calif., or 1 of 3 other military bases. To minimize the financial burden on war-weary taxpayers, the Federal Interagency Task Force in charge of resettlement adopted a policy of moving its charges out of the camps quickly and scattering them across the country in the care of sponsoring groups and families. This practice isolated the new arrivals from their countrymen and impeded the formation of the sort of indigenous ethnic communities which new immigrant groups have traditionally relied on for social, economic, and emotional support.

But, Montero argues, the relocation centers and private sponsors helped acclimate the Vietnamese and prepared them for eventual self-sufficiency. Food, shelter, medical care, English language courses, and vocational training were freely supplied in the camps and the subsequent sponsorships provided not only economic security, but closer contact with American society and culture and assistance in locating employment. The refugees' demographic characteristics count as additional advantages. Drawing on Immigration and Naturalization Service data, the author notes that most refugees are young (nine-tenths under age 45), well educated, from relatively affluent urban families, and among their homeland's social and occupational elite.

How have they fared in the American labor market? To trace the refugees' socioeconomic adaptation, Montero presents the salient findings of five waves of national survey interviews conducted under the auspices of the Department of Health, Education, and Welfare between July 1975 and August 1977. The profile which emerges is one of "substantial progress" in which "the Vietnamese are moving steadily toward economic self-sufficiency." Employment rates are high for both men and women, more than 80 percent are working full time by Survey V, and income has steadily risen to a median annual level of $9,600 in 1977.

At the same time, however, the refugees have suffered marked downward occupational mobility. One-third of household heads were professional workers in Vietnam, but fewer than 1 in 5 could find similar employment in the United States. Former managers and administrators encountered even greater difficulties. This pattern is in striking accord with that found for other immigrant groups in recent studies by Chiswick, North, and the reviewer.

To place the Vietnamese experience in a wider sociohistorical context, the author concludes by advancing what he dubs a model of "Spontaneous International Migration." Comparisons are drawn between the route taken by earlier Japanese and Chinese immigrants —from their homelands, to ethnic enclaves, thence toward assimilation—and the ongoing movement of the Vietnamese. Aided by their "anticipatory socialization" among American troops and employers in Vietnam as well as further preparation in the camps and sponsorships, the refugees will, it is predicted, have less need for ethnic concentrations and assimilate more rapidly than other immigrants. This is less a genuine theoretical model than a rough descriptive outline. Furthermore, comparisons with other refugee groups, like the Cubans who also had considerable premigration contact with Americans but remain concentrated in ethnic enclaves, would seem more relevant.

Nonetheless, *Vietnamese Americans* serves a clear need for more precise panel data on recent immigrant cohorts; in fact, more than half of its pages consist of statistical tables. Until the Department of Health, Education, and Welfare gives researchers access to the survey's original data tapes, this book will be a unique source of detailed information for immigration scholars.

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NOTES ON CURRENT LABOR STATISTICS

This section of the *Review* presents the principal statistical series collected and calculated by the Bureau of Labor Statistics. A brief introduction to each group of tables provides definitions, notes on the data, sources, and other material usually found in footnotes.

Readers who need additional information are invited to consult the BLS regional offices listed on the inside front cover of this issue of the *Review*. Some general notes applicable to several series are given below.

Seasonal adjustment. Certain monthly and quarterly data are adjusted to eliminate the effect of such factors as climatic conditions, industry production schedules, opening and closing of schools, holiday buying periods, and vacation practices, which might otherwise mask short-term movements of the statistical series. Tables containing these data are identified as "seasonally adjusted." Seasonal effects are estimated on the basis of past experience. When new seasonal factors are computed each year, revisions may affect seasonally adjusted data for several preceding years. For a technical discussion of the method used to make seasonal adjustments, see "Appendix A. The BLS Seasonal Factor Method," *BLS Handbook of Methods for Surveys and Studies*, Bulletin 1910 (Bureau of Labor Statistics, 1976), pp. 272–78, and *X-11 Variant of the Census Method II Seasonal Adjustment Program*, Technical Paper No. 15 (Bureau of the Census, 1967). Seasonally adjusted labor force data in tables 2–7 were last revised in the February 1980 issue of the *Review* to reflect the preceding year's experience. Beginning in January 1980, the BLS introduced two major modifications in the seasonal adjustment methodology for labor force data. First, the data are being seasonally adjusted with a new procedure called X-11/ARIMA, which was developed at Statistics Canada as an extension of the standard X-11 method. A detailed description of the procedure appears in *The X-11 ARIMA Seasonal Adjustment Method* by Estela Bee Dagum (Statistics Canada Catalogue No. 12-564E, September 1979).

The second change is that seasonal factors are now being calculated for use during the first 6 months of the year, rather than for the entire year, and then are calculated at mid-year for the July-December period. Revisions of historical data continue to be made only at the end of each calendar year. Annual revision of the seasonally adjusted payroll data in tables 11, 13, 16, and 18 was last introduced in the November 1979 issue of the *Review*. New seasonal factors for productivity data in tables 33 and 34 are usually introduced in the September issue. Seasonally adjusted indexes and percent changes from month to month and from quarter to quarter are published for numerous Consumer and Producer Price Index series. However, seasonally adjusted indexes are not published for the U.S. average All Items CPI. Only seasonally adjusted percent changes are available for this series.

Adjustments for price changes. Some data are adjusted to eliminate the effect of changes in price. These adjustments are made by dividing current dollar values by the Consumer Price Index or the appropriate component of the index, then multiplying by 100. For example, given a current hourly wage rate of $3 and a current price index number of 150, where 1967 = 100, the hourly rate expressed in 1967 dollars is $2 ($3/150 × 100 = $2). The resulting values are described as "real," "constant," or "1967" dollars.

Availability of information. Data that supplement the tables in this section are published by the Bureau of Labor Statistics in a variety of sources. Press releases provide the latest statistical information published by the Bureau; the major recurring releases are published according to the schedule given below. The *Handbook of Labor Statistics 1978*, Bulletin 2000, provides more detailed data and greater historical coverage for most of the statistical series presented in the *Monthly Labor Review*. More information from the household and establishment surveys is provided in *Employment and Earnings*, a monthly publication of the Bureau, and in two comprehensive data books issued annually—*Employment and Earnings, United States* and *Employment and Earnings, States and Areas*. More detailed information on wages and other aspects of collective bargaining appears in the monthly periodical, *Current Wage Developments*. More detailed price information is published each month in the periodicals, the *CPI Detailed Report* and *Producer Prices and Price Indexes*.

Symbols

p = preliminary. To improve the timeliness of some series, preliminary figures are issued based on representative but incomplete returns.
r = revised. Generally this revision reflects the availability of later data but may also reflect other adjustments.
n.e.c. = not elsewhere classified.

Schedule of release dates for major BLS statistical series

Title and frequency (monthly except where indicated)	Release date	Period covered	Release date	Period covered	MLR table number
Employment situation	May 2	April	June 6	May	1 - 11
Producer Price Indexes	May 9	April	June 6	May	26 - 30
Consumer Price Index	May 23	April	June 24	May	22 - 25
Real earnings	May 23	April	June 24	May	14 - 20
Productivity and costs (quarterly):					
Nonfinancial corporations	May 28	1st quarter	....	....	31 - 34
Work stoppages	May 28	April	June 30	May	37
Labor turnover in manufacturing	May 30	April	June 30	May	12 - 13

EMPLOYMENT DATA FROM THE HOUSEHOLD SURVEY

EMPLOYMENT DATA in this section are obtained from the Current Population Survey, a program of personal interviews conducted monthly by the Bureau of the Census for the Bureau of Labor Statistics. The sample consists of about 65,000 households beginning in January 1980, selected to represent the U.S. population 16 years of age and older. Households are interviewed on a rotating basis, so that three-fourths of the sample is the same for any 2 consecutive months.

Definitions

Employed persons are (1) those who worked for pay any time during the week which includes the 12th day of the month or who worked unpaid for 15 hours or more in a family-operated enterprise and (2) those who were temporarily absent from their regular jobs because of illness, vacation, industrial dispute, or similar reasons. A person working at more than one job is counted only in the job at which he or she worked the greatest number of hours.

Unemployed persons are those who did not work during the survey week, but were available for work except for temporary illness and had looked for jobs within the preceding 4 weeks. Persons who did not look for work because they were on layoff or waiting to start new jobs within the next 30 days are also counted among the unemployed. The **unemployment rate** represents the number unemployed as a percent of the civilian labor force.

The **civilian labor force** consists of all employed or unemployed persons in the civilian noninstitutional population; the **total labor force** includes military personnel. Persons **not in the labor force** are those not classified as employed or unemployed; this group includes persons retired, those engaged in their own housework, those not working while attending school, those unable to work because of longterm illness, those discouraged from seeking work because of personal or job market factors, and those who are voluntarily idle. The **noninstitutional population** comprises all persons 16 years of age and older who are not inmates of penal or mental institutions, sanitariums, or homes for the aged, infirm, or needy.

Full-time workers are those employed at least 35 hours a week; **part-time workers** are those who work fewer hours. Workers on part-time schedules for economic reasons (such as slack work, terminating or starting a job during the week, material shortages, or inability to find full-time work) are among those counted as being on full-time status, under the assumption that they would be working full time if conditions permitted. The survey classifies unemployed persons in full-time or part-time status by their reported preferences for full-time or part-time work.

Notes on the data

From time to time, and especially after a decennial census, adjustments are made in the Current Population Survey figures to correct for estimating errors during the preceding years. These adjustments affect the comparability of historical data presented in table 1. A description of these adjustments and their effect on the various data series appear in the Explanatory Notes of *Employment and Earnings*.

Data in tables 2–7 are seasonally adjusted, based on the seasonal experience through December 1979.

1. Employment status of the noninstitutional population, 16 years and over, selected years, 1950–79

[Numbers in thousands]

Year	Total noninstitutional population	Total labor force		Civilian labor force						Not in labor force
		Number	Percent of population	Total	Employed			Unemployed		
					Total	Agriculture	Nonagricultural industries	Number	Percent of labor force	
1950	106,645	63,858	59.9	62,208	58,918	7,160	51,758	3,288	5.3	42,787
1955	112,732	68,072	60.4	65,023	62,170	6,450	55,722	2,852	4.4	44,660
1960	119,759	72,142	60.2	69,628	65,778	5,458	60,318	3,852	5.5	47,617
1964	127,224	75,830	59.6	73,091	69,305	4,523	64,782	3,786	5.2	51,394
1965	129,236	77,178	59.7	74,455	71,088	4,361	66,726	3,366	4.5	52,058
1966	131,180	78,893	60.1	75,770	72,895	3,979	68,915	2,875	3.8	52,288
1967	133,319	80,793	60.6	77,347	74,372	3,844	70,527	2,975	3.8	52,527
1968	135,562	82,272	60.7	78,737	75,920	3,817	72,103	2,817	3.6	53,291
1969	137,841	84,240	61.1	80,734	77,902	3,606	74,296	2,832	3.5	53,602
1970	140,182	85,903	61.3	82,715	78,627	3,462	75,165	4,088	4.9	54,280
1971	142,596	86,929	61.0	84,113	79,120	3,387	75,732	4,993	5.9	55,666
1972	145,775	88,991	61.0	86,542	81,702	3,472	78,230	4,840	5.6	56,785
1973	148,263	91,040	61.4	88,714	84,409	3,452	80,957	4,304	4.9	57,222
1974	150,827	93,240	61.8	91,011	85,935	3,492	82,443	5,076	5.6	57,587
1975	153,449	94,793	61.8	92,613	84,783	3,380	81,403	7,830	8.5	58,655
1976	156,048	96,917	62.1	94,773	87,485	3,297	84,188	7,288	7.7	59,130
1977	158,559	99,534	62.8	97,401	90,546	3,244	87,302	6,855	7.0	59,025
1978	161,058	102,537	63.7	100,420	94,373	3,342	91,031	6,047	6.0	58,521
1979	163,620	104,996	64.2	102,908	96,945	3,297	93,648	5,963	5.8	58,623

2. Employment status by sex, age, and race, seasonally adjusted

[Numbers in thousands]

Employment status	Annual average		1979										1980		
	1978	1979	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
TOTAL															
Total noninstitutional population[1]	161,058	163,620	162,909	163,008	163,260	163,469	163,685	163,891	164,106	164,468	164,682	164,898	165,101	165,298	165,506
Total labor force	102,537	104,996	104,595	104,280	104,476	104,552	105,475	105,218	105,586	105,688	105,744	106,088	106,310	106,346	106,184
Civilian noninstitutional population[1]	158,941	161,532	160,819	160,926	161,182	161,393	161,604	161,801	162,013	162,375	162,589	162,809	163,020	163,211	163,416
Civilian labor force	100,420	102,908	102,505	102,198	102,398	102,476	103,093	103,128	103,494	103,595	103,652	103,999	104,229	104,260	104,094
Employed	94,373	96,945	96,623	96,254	96,495	96,652	97,184	97,004	97,504	97,474	97,608	97,912	97,804	97,953	97,656
Agriculture	3,342	3,297	3,320	3,215	3,246	3,243	3,267	3,315	3,364	3,294	3,385	3,359	3,270	3,326	3,358
Nonagricultural industries	91,031	93,648	93,303	93,039	93,249	93,409	93,917	93,689	94,140	94,180	94,223	94,553	94,534	94,626	94,298
Unemployed	6,047	5,963	5,882	5,944	5,903	5,824	5,909	6,124	5,990	6,121	6,044	6,087	6,425	6,307	6,438
Unemployment rate	6.0	5.8	5.7	5.8	5.8	5.7	5.7	5.9	5.8	5.9	5.8	5.9	6.2	6.0	6.2
Not in labor force	58,521	58,623	58,314	58,728	58,784	58,917	58,511	58,673	58,519	58,780	58,937	58,810	58,791	58,951	59,322
Men, 20 years and over															
Civilian noninstitutional population[1]	67,006	68,293	67,939	67,997	68,123	68,227	68,319	68,417	68,522	68,697	68,804	68,940	69,047	69,140	69,238
Civilian labor force	53,464	54,486	54,315	54,239	54,288	54,370	54,579	54,597	54,735	54,760	54,709	54,781	54,855	55,038	54,996
Employed	51,212	52,264	52,151	52,049	52,158	52,201	52,325	52,311	52,453	52,443	52,374	52,478	52,279	52,531	52,300
Agriculture	2,361	2,350	2,350	2,295	2,301	2,305	2,327	2,375	2,377	2,371	2,438	2,427	2,387	2,435	2,394
Nonagricultural industries	48,852	49,913	49,801	49,754	49,857	49,896	49,998	49,936	50,076	50,072	49,936	50,051	49,892	50,096	49,906
Unemployed	2,252	2,223	2,164	2,190	2,130	2,169	2,254	2,286	2,282	2,317	2,335	2,303	2,577	2,507	2,696
Unemployment rate	4.2	4.1	4.0	4.0	3.9	4.0	4.1	4.2	4.2	4.2	4.3	4.2	4.7	4.6	4.9
Not in labor force	13,541	13,807	13,624	13,758	13,835	13,857	13,740	13,820	13,787	13,937	14,095	14,159	14,192	14,102	14,242
Women, 20 years and over															
Civilian noninstitutional population[1]	75,489	76,860	76,476	76,532	76,670	76,784	76,897	77,006	77,124	77,308	77,426	77,542	77,656	77,766	77,876
Civilian labor force	37,416	38,910	38,574	38,415	38,619	38,653	39,033	39,304	39,239	39,362	39,445	39,659	39,878	39,857	39,751
Employed	35,180	36,698	36,362	36,216	36,411	36,457	36,873	37,000	37,075	37,112	37,248	37,402	37,574	37,604	37,496
Agriculture	586	591	595	572	577	583	585	600	628	572	612	582	540	567	582
Nonagricultural industries	34,593	36,107	35,767	35,644	35,834	35,874	36,288	36,400	36,447	36,540	36,636	36,820	37,034	37,037	36,914
Unemployed	2,236	2,213	2,212	2,199	2,208	2,196	2,160	2,304	2,164	2,250	2,197	2,257	2,304	2,254	2,255
Unemployment rate	6.0	5.7	5.7	5.7	5.7	5.7	5.5	5.9	5.5	5.7	5.6	5.7	5.8	5.7	5.7
Not in labor force	38,073	37,949	37,902	38,117	38,051	38,131	37,864	37,702	37,885	37,946	37,981	37,883	37,778	37,909	38,125
Both sexes, 16 - 19 years															
Civilian noninstitutional population[1]	16,447	16,379	16,404	16,397	16,389	16,381	16,387	16,377	16,367	16,370	16,360	16,326	16,317	16,305	16,302
Civilian labor force	9,540	9,512	9,616	9,544	9,491	9,453	9,481	9,227	9,520	9,473	9,498	9,559	9,497	9,365	9,346
Employed	7,981	7,984	8,110	7,989	7,926	7,994	7,986	7,693	7,976	7,919	7,986	8,032	7,952	7,818	7,859
Agriculture	395	356	375	348	368	355	355	340	359	351	335	350	344	325	381
Nonagricultural industries	7,586	7,628	7,735	7,641	7,558	7,639	7,631	7,353	7,617	7,568	7,651	7,682	7,608	7,493	7,478
Unemployed	1,559	1,528	1,506	1,555	1,565	1,459	1,495	1,534	1,544	1,554	1,512	1,527	1,545	1,547	1,487
Unemployment rate	16.3	16.1	15.7	16.3	16.5	15.4	15.8	16.6	16.2	16.4	15.9	16.0	16.3	16.5	15.9
Not in labor force	6,907	6,867	6,788	6,853	6,898	6,928	6,906	7,150	6,847	6,897	6,862	6,767	6,820	6,940	6,956
White															
Civilian noninstitutional population[1]	139,580	141,614	141,063	141,123	141,331	141,492	141,661	141,822	141,981	142,296	142,461	142,645	142,806	142,951	143,115
Civilian labor force	88,456	90,602	90,260	89,996	90,120	90,215	90,659	90,759	91,082	91,147	91,242	91,579	91,852	91,977	91,821
Employed	83,836	86,025	85,754	85,497	85,632	85,775	86,120	85,976	86,425	86,454	86,571	86,894	86,895	87,081	86,822
Unemployed	4,620	4,577	4,506	4,499	4,488	4,440	4,539	4,783	4,657	4,693	4,671	4,685	4,957	4,896	4,999
Unemployment rate	5.2	5.1	5.0	5.0	5.0	4.9	5.0	5.3	5.1	5.1	5.1	5.1	5.4	5.3	5.4
Not in labor force	51,124	51,011	50,648	51,200	51,313	51,213	51,107	51,161	50,900	51,149	51,219	51,066	50,954	50,975	51,294
Black and other															
Civilian noninstitutional population[1]	19,361	19,918	19,755	19,802	19,850	19,901	19,943	19,979	20,032	20,079	20,126	20,163	20,214	20,261	20,301
Civilian labor force	11,964	12,306	12,238	12,191	12,219	12,260	12,386	12,343	12,404	12,512	12,391	12,432	12,453	12,362	12,266
Employed	10,537	10,920	10,860	10,767	10,816	10,887	11,023	10,982	11,063	11,076	11,044	11,024	10,979	10,937	10,823
Unemployed	1,427	1,386	1,378	1,424	1,403	1,373	1,363	1,361	1,341	1,436	1,347	1,408	1,474	1,424	1,443
Unemployment rate	11.9	11.3	11.3	11.7	11.5	11.2	11.0	11.0	10.8	11.5	10.9	11.3	11.8	11.5	11.8
Not in labor force	7,397	7,612	7,504	7,627	7,674	7,629	7,579	7,639	7,264	7,567	7,737	7,731	7,761	7,899	8,035

[1] As in table 1, population figures are not seasonally adjusted.

NOTE: The monthly data in this table have been revised to reflect seasonal experience through 1979.

3. Selected employment indicators, seasonally adjusted

[In thousands]

Selected categories	Annual average		1979										1980		
	1978	1979	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
CHARACTERISTIC															
Total employed, 16 years and over	94,373	96,945	96,623	96,254	96,495	96,652	97,184	97,004	97,504	97,474	97,608	97,912	97,804	97,953	97,656
Men	55,491	56,499	56,449	56,294	56,372	56,477	56,570	56,408	56,714	56,629	56,580	56,734	56,486	56,732	56,601
Women	38,882	40,446	40,174	39,960	40,123	40,175	40,614	40,596	40,790	40,845	41,028	41,178	41,318	41,221	41,051
Married men, spouse present	38,688	39,090	39,193	38,910	39,045	39,079	39,176	39,180	39,198	39,124	38,845	38,924	38,749	38,955	38,745
Married women, spouse present	21,881	22,724	22,605	22,376	22,547	22,664	22,908	22,869	22,937	22,919	22,940	23,027	23,111	23,178	23,202
OCCUPATION															
White-collar workers	47,205	49,342	48,996	49,061	49,136	49,192	49,536	49,663	49,816	49,738	49,912	49,911	50,313	50,448	50,302
Professional and technical	14,245	15,050	15,012	15,091	15,100	15,010	15,057	15,068	15,141	15,057	15,131	15,272	15,337	15,444	15,397
Managers and administrators, except farm	10,105	10,516	10,392	10,398	10,427	10,534	10,612	10,698	10,659	10,639	10,617	10,535	10,608	10,971	10,756
Salesworkers	5,951	6,163	6,055	6,084	6,101	6,103	6,163	6,145	6,181	6,261	6,362	6,346	6,452	6,185	6,113
Clerical workers	16,904	17,613	17,537	17,488	17,508	17,545	17,704	17,752	17,835	17,781	17,802	17,758	17,915	17,848	18,037
Blue-collar workers	31,531	32,066	32,041	31,705	31,904	31,992	32,051	31,849	32,209	32,205	32,110	32,302	31,882	31,754	31,670
Craft and kindred workers	12,386	12,880	12,792	12,703	12,820	12,944	12,876	12,761	12,993	13,001	12,925	13,041	12,814	12,728	12,767
Operatives, except transport	10,875	10,909	10,991	10,770	10,755	10,804	10,884	10,909	10,964	10,967	10,963	11,042	10,678	10,661	10,579
Transport equipment operatives	3,541	3,612	3,569	3,564	3,644	3,605	3,627	3,604	3,617	3,593	3,628	3,635	3,616	3,571	3,558
Nonfarm laborers	4,729	4,665	4,689	4,668	4,685	4,639	4,664	4,575	4,635	4,644	4,594	4,584	4,774	4,795	4,767
Service workers	12,839	12,834	12,847	12,907	12,772	12,805	12,766	12,621	12,859	12,937	12,899	12,970	12,979	13,080	12,981
Farmworkers	2,798	2,703	2,774	2,659	2,626	2,679	2,678	2,707	2,722	2,695	2,718	2,694	2,660	2,764	2,733
MAJOR INDUSTRY AND CLASS OF WORKER															
Agriculture:															
Wage and salary workers	1,419	1,413	1,415	1,379	1,424	1,423	1,419	1,384	1,399	1,381	1,475	1,451	1,428	1,417	1,449
Self-employed workers	1,607	1,580	1,583	1,553	1,519	1,539	1,556	1,614	1,642	1,602	1,622	1,596	1,554	1,646	1,600
Unpaid family workers	316	304	314	291	283	291	291	310	325	313	310	310	293	283	300
Nonagricultural industries:															
Wage and salary workers	84,253	86,540	86,439	86,105	86,232	86,309	86,454	86,421	86,912	86,982	87,020	87,384	87,578	87,419	87,221
Government	15,289	15,369	15,281	15,359	15,616	15,318	15,393	15,279	15,407	15,423	15,358	15,397	15,414	15,540	15,622
Private industries	68,966	71,171	71,158	70,746	70,616	70,991	71,061	71,142	71,505	71,559	71,662	71,987	72,163	71,879	71,599
Private households	1,363	1,240	1,262	1,172	1,195	1,235	1,219	1,211	1,313	1,261	1,211	1,228	1,132	1,178	1,115
Other industries	67,603	69,931	69,896	69,574	69,421	69,756	69,842	69,931	70,192	70,298	70,451	70,759	71,031	70,702	70,484
Self-employed workers	6,305	6,652	6,542	6,463	6,606	6,629	6,752	6,689	6,731	6,812	6,781	6,737	6,752	6,899	6,825
Unpaid family workers	472	455	446	465	460	474	519	450	449	430	417	409	379	397	376
PERSONS AT WORK [1]															
Nonagricultural industries	85,693	88,133	87,847	86,608	87,785	87,749	88,769	88,855	88,723	88,638	88,617	89,180	89,454	88,985	88,585
Full-time schedules	70,543	72,647	72,529	71,659	72,496	72,243	72,915	73,053	73,159	73,204	72,997	73,137	73,223	73,110	72,749
Part time for economic reasons	3,216	3,281	3,211	3,279	3,283	3,284	3,274	3,298	3,167	3,315	3,392	3,519	3,513	3,406	3,418
Usually work full time	1,249	1,325	1,254	1,287	1,273	1,322	1,334	1,401	1,273	1,354	1,413	1,491	1,549	1,380	1,463
Usually work part time	1,967	1,956	1,957	1,992	2,010	1,962	1,940	1,897	1,894	1,961	1,979	2,028	1,964	2,026	1,955
Part time for noneconomic reasons	11,934	12,205	12,107	11,670	12,006	12,222	12,580	12,504	12,397	12,119	12,228	12,524	12,718	12,469	12,418

[1] Excludes persons "with a job but not at work" during the survey period for such reasons as vacation, illness, or industrial disputes.

NOTE: The monthly data in this table have been revised to reflect seasonal experience through 1979.

4. Selected unemployment indicators, seasonally adjusted

[Unemployment rates]

Selected categories	Annual average		1979										1980		
	1978	1979	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
CHARACTERISTIC															
Total, 16 years and over	6.0	5.8	5.7	5.8	5.8	5.7	5.7	5.9	5.8	5.9	5.8	5.9	6.2	6.0	6.2
Men, 20 years and over	4.2	4.1	4.0	4.0	3.9	4.0	4.1	4.2	4.2	4.2	4.3	4.2	4.7	4.6	4.9
Women, 20 years and over	6.0	5.7	5.7	5.7	5.7	5.7	5.5	5.9	5.5	5.7	5.6	5.7	5.8	5.7	5.7
Both sexes, 16 – 19 years	16.3	16.1	15.7	16.3	16.5	15.4	15.8	16.6	16.2	16.4	15.9	16.0	16.3	16.5	15.9
White, total	5.2	5.1	5.0	5.0	5.0	4.9	5.0	5.3	5.1	5.1	5.1	5.1	5.4	5.3	5.4
Men, 20 years and over	3.7	3.6	3.4	3.5	3.4	3.5	3.6	3.7	3.7	3.7	3.7	3.7	4.1	4.0	4.4
Women, 20 years and over	5.2	5.0	5.0	5.0	5.0	4.9	4.8	5.2	4.8	5.0	4.9	5.0	5.1	5.2	4.9
Both sexes, 16 – 19 years	13.9	13.9	13.6	13.9	14.2	13.2	13.8	14.8	14.3	14.1	13.9	13.9	14.0	13.8	13.8
Black and other, total	11.9	11.3	11.3	11.7	11.5	11.2	11.0	11.0	10.8	11.5	10.9	11.3	11.8	11.5	11.8
Men, 20 years and over	8.6	8.4	8.7	8.6	8.4	8.1	8.4	8.1	8.0	8.6	8.4	8.6	9.6	9.2	9.3
Women, 20 years and over	10.6	10.1	10.0	10.5	10.0	10.4	10.0	10.3	9.8	10.2	9.5	10.0	10.0	9.0	10.5
Both sexes, 16 – 19 years	36.3	33.5	31.5	34.3	36.1	33.5	31.5	32.6	32.3	35.1	32.8	34.3	34.6	37.9	33.0
Married men, spouse present	2.8	2.7	2.6	2.7	2.5	2.7	2.8	2.9	2.9	2.9	2.9	2.8	3.4	3.1	3.4
Married women, spouse present	5.5	5.1	5.2	5.2	5.2	5.1	4.9	5.3	4.8	5.2	4.8	5.0	5.2	5.4	5.3
Women who head families	8.5	8.3	8.2	8.3	8.6	9.0	8.1	7.9	7.7	8.4	8.4	8.4	9.2	8.5	8.7
Full-time workers	5.5	5.3	5.2	5.3	5.2	5.2	5.3	5.4	5.3	5.4	5.4	5.4	5.7	5.6	5.8
Part-time workers	9.0	8.7	9.0	8.7	9.3	8.6	8.3	8.8	8.4	8.9	8.3	8.5	8.7	8.9	8.3
Unemployed 15 weeks and over	1.4	1.2	1.3	1.2	1.2	1.1	1.0	1.1	1.1	1.2	1.1	1.2	1.3	1.2	1.3
Labor force time lost[1]	6.5	6.3	6.2	6.4	6.3	6.3	6.4	6.4	6.2	6.4	6.4	6.4	6.7	6.6	6.8
OCCUPATION															
White-collar workers	3.5	3.3	3.3	3.3	3.2	3.4	3.3	3.5	3.3	3.4	3.2	3.3	3.4	3.4	3.3
Professional and technical	2.6	2.4	2.2	2.3	2.1	2.5	2.5	2.5	2.4	2.7	2.4	2.3	2.2	2.3	2.3
Managers and administrators, except farm	2.1	2.1	2.1	2.3	2.2	2.1	2.0	2.3	2.2	2.2	1.9	2.0	1.9	2.2	2.4
Salesworkers	4.1	3.9	4.1	4.0	4.0	4.4	3.5	4.0	3.8	3.8	3.7	3.8	4.4	4.5	4.0
Clerical workers	4.9	4.6	4.8	4.5	4.5	4.6	4.5	4.9	4.5	4.7	4.4	4.6	4.8	4.7	4.5
Blue-collar workers	6.9	6.9	6.6	6.9	6.8	6.6	6.8	7.3	7.1	7.2	7.5	7.2	8.0	7.7	8.0
Craft and kindred workers	4.6	4.5	4.5	4.4	4.2	4.3	4.4	4.7	4.3	4.6	4.9	4.4	4.9	4.8	5.4
Operatives, except transport	8.1	8.4	7.8	8.5	8.2	7.7	8.3	8.9	9.0	9.1	9.0	9.0	9.9	9.2	9.3
Transport equipment operatives	5.2	5.4	5.2	5.9	5.4	5.7	5.1	6.2	6.1	5.6	5.2	5.0	6.9	6.7	6.6
Nonfarm laborers	10.7	10.8	10.2	10.6	11.1	10.6	11.0	11.3	11.0	10.7	12.2	12.2	12.3	12.0	13.0
Service workers	7.4	7.1	7.3	7.3	7.2	7.2	7.1	7.1	6.7	6.8	6.6	6.6	6.9	6.9	7.1
Farmworkers	3.8	3.8	3.3	3.4	3.6	3.2	4.2	3.9	4.1	4.3	4.5	4.3	4.4	3.9	4.0
INDUSTRY															
Nonagricultural private wage and salary workers[2]	5.9	5.7	5.6	5.7	5.7	5.6	5.7	6.0	5.8	5.9	5.8	5.8	6.2	6.0	6.2
Construction	10.6	10.2	10.1	10.5	10.0	10.0	10.0	10.1	9.6	9.9	10.2	10.3	10.8	10.5	13.0
Manufacturing	5.5	5.5	5.2	5.3	5.4	5.4	5.7	5.9	6.0	6.0	5.9	5.9	6.7	6.4	6.5
Durable goods	4.9	5.0	4.4	4.7	4.4	4.9	5.4	5.4	5.3	5.5	5.6	5.5	6.7	6.3	6.4
Nondurable goods	6.3	6.4	6.4	6.3	6.9	6.3	6.2	6.8	7.1	6.8	6.3	6.4	6.8	6.7	6.7
Transportation and public utilities	3.7	3.7	3.9	3.0	3.6	3.1	3.8	3.7	4.0	3.8	4.2	4.1	4.4	4.4	3.8
Wholesale and retail trade	6.9	6.5	6.3	6.6	6.4	6.7	6.3	6.5	6.4	6.4	6.5	6.4	6.6	6.4	6.3
Finance and service industries	5.1	4.9	4.8	4.8	4.9	4.7	4.9	5.2	4.7	4.9	4.6	4.7	4.6	4.6	4.9
Government workers	3.9	3.7	4.1	3.7	3.6	3.6	3.6	3.7	3.3	4.0	3.6	3.6	3.8	4.0	4.2
Agricultural wage and salary workers	8.8	9.1	8.0	8.7	9.3	7.8	9.7	9.9	10.0	9.9	10.1	9.4	10.3	9.2	10.2

[1] Aggregate hours lost by the unemployed and persons on part time for economic reasons as a percent of potentially available labor force hours.

[2] Includes mining, not shown separately.

NOTE: The monthly data in this table have been revised to reflect seasonal experience through 1979.

5. Unemployment rates, by sex and age, seasonally adjusted

Sex and age	Annual average		1979										1980		
	1978	1979	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
Total, 16 years and over	6.0	5.8	5.7	5.8	5.8	5.7	5.7	5.9	5.8	5.9	5.8	5.9	6.2	6.0	6.2
16 to 19 years	16.3	16.1	15.7	16.3	16.5	15.4	15.8	16.6	16.2	16.4	15.9	16.0	16.3	16.5	15.9
16 to 17 years	19.3	18.1	18.5	18.7	18.9	17.5	17.3	18.5	16.9	18.4	17.3	18.0	19.0	18.7	17.4
18 to 19 years	14.2	14.6	13.5	14.3	15.0	14.4	14.5	15.4	15.6	15.0	14.7	14.5	14.0	15.1	14.7
20 to 24 years	9.5	9.0	8.8	8.6	8.9	8.9	9.1	9.3	9.2	9.6	8.8	9.8	10.1	9.5	9.7
25 years and over	4.0	3.9	3.9	4.0	3.9	3.9	3.9	4.0	3.9	4.0	4.0	3.8	4.2	4.1	4.4
25 to 54 years	4.2	4.1	4.1	4.2	4.0	4.1	4.0	4.2	4.1	4.2	4.3	4.1	4.4	4.5	4.7
55 years and over	3.2	3.0	3.1	3.1	3.1	2.9	3.2	3.1	2.9	3.0	2.7	2.7	3.5	2.8	2.8
Men, 16 years and over	5.2		5.0	5.1	5.0	4.9	5.1	5.2	5.2	5.2	5.2	5.2	5.7	5.5	5.7
16 to 19 years	15.7	15.8	15.8	16.0	16.1	14.5	15.4	16.3	16.1	15.7	15.8	15.6	16.2	15.6	14.8
16 to 17 years	19.2	17.9	18.9	17.9	18.9	16.8	16.1	18.0	16.7	17.1	17.8	17.9	19.0	18.0	15.9
18 to 19 years	13.2	14.2	13.6	14.1	14.0	14.0	14.8	15.1	15.3	14.4	14.0	13.6	13.9	14.1	14.0
20 to 24 years	9.1	8.6	8.3	8.0	8.2	8.3	8.8	8.8	8.8	9.5	8.4	9.4	10.4	9.9	10.4
25 years and over	3.3	3.3	3.2	3.3	3.1	3.2	3.3	3.4	3.3	3.4	3.5	3.2	3.7	3.6	3.9
25 to 54 years	3.4	3.4	3.3	3.3	3.2	3.2	3.4	3.5	3.6	3.5	3.8	3.4	3.8	3.8	4.2
55 years and over	3.1	2.9	2.8	3.0	2.8	3.1	3.3	3.1	2.8	2.8	2.6	2.6	3.5	2.6	2.7
Women, 16 years and over	7.2	6.8	6.8	6.9	6.9	6.8	6.6	7.0	6.6	6.9	6.6	6.8	6.8	6.8	6.8
16 to 19 years	17.0	16.4	15.5	16.6	16.9	16.5	16.2	17.0	16.4	17.2	16.1	16.4	16.3	17.6	17.3
16 to 17 years	19.5	18.3	18.0	19.6	18.8	18.3	18.6	19.0	17.2	19.8	16.7	18.0	19.1	19.5	19.2
18 to 19 years	15.3	15.0	13.3	14.5	16.0	14.9	14.2	15.7	15.9	15.6	15.5	15.5	14.2	16.2	15.6
20 to 24 years	10.1	9.6	9.5	9.4	9.7	9.7	9.4	9.8	9.6	9.7	9.3	10.2	9.8	9.1	9.0
25 years and over	5.1	4.8	4.9	4.9	4.9	4.8	4.7	4.9	4.6	4.9	4.7	4.7	4.9	4.9	5.0
25 to 54 years	5.4	5.2	5.3	5.3	5.2	5.2	5.0	5.3	5.0	5.2	5.0	5.1	5.2	5.4	5.5
55 years and over	3.3	3.2	3.6	3.2	3.6	2.8	3.1	3.2	2.9	3.4	2.9	2.9	3.4	3.0	2.9

6. Unemployed persons, by reason for unemployment, seasonally adjusted

[Numbers in thousands]

Reason for unemployment	1979										1980		
	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
NUMBER OF UNEMPLOYED													
Lost last job	2,457	2,520	2,356	2,449	2,526	2,680	2,632	2,731	2,729	2,728	2,988	2,907	3,047
On layoff	791	839	725	816	797	915	855	929	987	944	1,019	1,031	1,129
Other job losers	1,666	1,681	1,631	1,633	1,729	1,765	1,777	1,802	1,742	1,784	1,969	1,876	1,918
Left last job	864	847	940	857	846	875	825	835	845	800	779	813	788
Reentered labor force	1,766	1,778	1,767	1,753	1,762	1,788	1,760	1,762	1,698	1,771	1,797	1,784	1,803
Seeking first job	808	800	824	781	726	745	801	804	736	858	811	827	805
PERCENT DISTRIBUTION													
Total unemployed	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Job losers	41.7	42.4	40.0	41.9	43.1	44.0	43.7	44.5	45.4	44.3	46.9	45.9	47.3
On layoff	13.4	14.1	12.3	14.0	13.6	15.0	14.2	15.2	16.4	15.3	16.0	16.3	17.5
Other job losers	28.3	28.3	27.7	28.0	29.5	29.0	29.5	29.4	29.0	29.0	30.9	29.6	29.8
Job leavers	14.7	14.2	16.0	14.7	14.4	14.4	13.7	13.6	14.1	13.0	12.2	12.8	12.2
Reentrants	30.0	29.9	30.0	30.0	30.1	29.4	29.2	28.7	28.3	28.8	28.2	28.2	28.0
New entrants	13.7	13.5	14.0	13.4	12.4	12.2	13.3	13.1	12.3	13.9	12.7	13.1	12.5
UNEMPLOYED AS A PERCENT OF THE CIVILIAN LABOR FORCE													
Job losers	2.4	2.5	2.3	2.4	2.5	2.6	2.5	2.6	2.6	2.6	2.9	2.8	2.9
Job leavers	.8	.8	.9	.8	.8	.8	.8	.8	.8	.8	.7	.8	.8
Reentrants	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.7	1.7	1.7	1.7
New entrants	.8	.8	.8	.8	.7	.7	.8	.8	.7	.8	.8	.8	.8

7. Duration of unemployment, seasonally adjusted

[Numbers in thousands]

Weeks of unemployment	Annual average		1979										1980		
	1978	1979	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
Less than 5 weeks	2,793	2,869	2,769	2,876	2,823	2,860	2,820	3,168	2,778	2,956	2,919	2,916	3,184	2,995	2,996
5 to 14 weeks	1,875	1,892	1,860	1,884	1,919	1,808	1,934	1,738	2,035	1,993	1,869	1,966	1,907	2,081	2,166
15 weeks and over	1,379	1,202	1,291	1,223	1,212	1,152	1,067	1,185	1,152	1,195	1,191	1,230	1,334	1,286	1,363
15 to 26 weeks	746	684	729	687	705	656	615	658	644	678	660	711	795	790	776
27 weeks and over	633	518	562	536	507	496	452	527	508	517	531	519	539	496	587
Average (mean) duration, in weeks	11.9	10.8	11.8	11.0	10.9	10.5	10.1	10.7	10.7	10.5	10.6	10.5	10.5	10.7	11.0

NOTE: The monthly data in these tables have been revised to reflect seasonal experience through 1979.

EMPLOYMENT, HOURS, AND EARNINGS DATA FROM ESTABLISHMENT SURVEYS

EMPLOYMENT, HOURS, AND EARNINGS DATA in this section are compiled from payroll records reported monthly on a voluntary basis to the Bureau of Labor Statistics and its cooperating State agencies by 162,000 establishments representing all industries except agriculture. In most industries, the sampling probabilities are based on the size of the establishment; most large establishments are therefore in the sample. (An establishment is not necessarily a firm; it may be a branch plant, for example, or warehouse.) Self-employed persons and others not on a regular civilian payroll are outside the scope of the survey because they are excluded from establishment records. This largely accounts for the difference in employment figures between the household and establishment surveys.

LABOR TURNOVER DATA in this section are compiled from personnel records reported monthly on a voluntary basis to the Bureau of Labor Statistics and its cooperating State agencies. A sample of 40,000 establishments represents all industries in the manufacturing and mining sectors of the economy.

Definitions

Employed persons are all persons who received pay (including holiday and sick pay) for any part of the payroll period including the 12th of the month. Persons holding more than one job (about 5 percent of all persons in the labor force) are counted in each establishment which reports them.

Production workers in manufacturing include blue-collar worker supervisors and all nonsupervisory workers closely associated with production operations. Those workers mentioned in tables 14–20 include production workers in manufacturing and mining; construction workers in construction; and nonsupervisory workers in transportation and public utilities, in wholesale and retail trade, in finance, insurance, and real estate, and in service industries. These groups account for about four-fifths of the total employment on private nonagricultural payrolls.

Earnings are the payments production or nonsupervisory workers receive during the survey period, including premium pay for overtime or late-shift work but excluding irregular bonuses and other special payments. **Real earnings** are earnings adjusted to eliminate the effects of price change. The **Hourly Earnings Index** is calculated from average hourly earnings data adjusted to exclude the effects of two types of changes that are unrelated to underlying wage-rate developments: fluctuations in overtime premiums in manufacturing (the only sector for which overtime data are available) and the effects of changes and seasonal factors in the proportion of workers in high-wage and low-wage industries. **Spendable earnings** are earnings from which estimated social security and Federal income taxes have been deducted. The Bureau of Labor Statistics computes spendable earnings from gross weekly earnings for only two illustrative cases: (1) a worker with no dependents and (2) a married worker with three dependents.

Hours represent the average weekly hours of production or nonsupervisory workers for which pay was received and are different from standard or scheduled hours. **Overtime hours** represent the portion of gross average weekly hours which were in excess of regular hours and for which overtime premiums were paid.

Labor turnover is the movement of all wage and salary workers from one employment status to another. **Accession rates** indicate the average number of persons added to a payroll in a given period per 100 employees; **separation rates** indicate the average number dropped from a payroll per 100 employees. Although month-to-month changes in employment can be calculated from the labor turnover data, the results are not comparable with employment data from the employment and payroll survey. The labor turnover survey measures changes during the calendar month while the employment and payroll survey measures changes from midmonth to midmonth.

Notes on the data

Establishment data collected by the Bureau of Labor Statistics are periodically adjusted to comprehensive counts of employment (called "benchmarks"). The latest complete adjustment was made with the release of September 1979 data, published in the November 1979 issue of the *Review*. Consequently, data published in the *Review* prior to that issue are not necessarily comparable to current data. Complete comparable historical unadjusted and seasonally adjusted data are published in a Supplement to Employment and Earnings (unadjusted data from April 1977 through June 1979 and seasonally adjusted data from January 1974 through June 1979) and in *Employment and Earnings, United States, 1909–78*, BLS Bulletin 1312–11 (for prior periods).

Data on recalls were shown for the first time in tables 12 and 13 in the January 1978 issue of the *Review*. For a detailed discussion of the recalls series, along with historical data, see "New Series on Recalls from the Labor Turnover Survey," *Employment and Earnings*, December 1977, pp. 10–19.

A comprehensive discussion of the differences between household and establishment data on employment appears in Gloria P. Green, "Comparing employment estimates from household and payroll surveys," *Monthly Labor Review*, December 1969, pp. 9–20. See also *BLS Handbook of Methods for Surveys and Studies*, Bulletin 1910 (Bureau of Labor Statistics, 1976).

The formulas used to construct the spendable average weekly earnings series reflect the latest provisions of the Federal income tax and social security tax laws. For the spendable average weekly earnings formulas for the years 1978–80, see *Employment and Earnings*, March 1980, pp. 10–11. Real earnings data are adjusted using the Consumer Price Index for Urban Wage Earners and Clerical Workers (CPI-W).

8. Employment by industry, 1950–79

[Nonagricultural payroll data, in thousands]

Year	Total	Mining	Construction	Manufacturing	Transportation and public utilities	Wholesale and retail trade	Wholesale trade	Retail trade	Finance, insurance, and real estate	Services	Government		
											Total	Federal	State and local
1950	45,197	901	2,364	15,241	4,034	9,386	2,635	6,751	1,888	5,357	6,026	1,928	4,098
1951	47,819	929	2,637	16,393	4,226	9,742	2,727	7,015	1,956	5,547	6,389	2,302	4,087
1952	48,793	898	2,668	16,632	4,248	10,004	2,812	7,192	2,035	5,699	6,609	2,420	4,188
1953	50,202	866	2,659	17,549	4,290	10,247	2,854	7,393	2,111	5,835	6,645	2,305	4,340
1954	48,990	791	2,646	16,314	4,084	10,235	2,867	7,368	2,200	5,969	6,751	2,188	4,563
1955	50,641	792	2,839	16,882	4,141	10,535	2,926	7,610	2,298	6,240	6,914	2,187	4,727
1956	52,368	822	3,039	17,243	4,244	10,858	3,018	7,840	2,389	6,497	7,278	2,209	5,069
1957	52,853	828	2,962	17,174	4,241	10,886	3,028	7,858	2,438	6,708	7,616	2,217	5,399
1958	51,324	751	2,817	15,945	3,976	10,750	2,980	7,770	2,481	6,765	7,839	2,191	5,648
1959[1]	53,268	732	3,004	16,675	4,011	11,127	3,082	8,045	2,549	7,087	8,083	2,233	5,850
1960	54,189	712	2,926	16,796	4,004	11,391	3,143	8,248	2,629	7,378	8,353	2,270	6,083
1961	53,999	672	2,859	16,326	3,903	11,337	3,133	8,204	2,688	7,620	8,594	2,279	6,315
1962	55,549	650	2,948	16,853	3,906	11,566	3,198	8,368	2,754	7,982	8,890	2,340	6,550
1963	56,653	635	3,010	16,995	3,903	11,778	3,248	8,530	2,830	8,277	9,225	2,358	6,868
1964	58,283	634	3,097	17,274	3,951	12,160	3,337	8,823	2,911	8,660	9,596	2,348	7,248
1965	60,765	632	3,232	18,062	4,036	12,716	3,466	9,250	2,977	9,036	10,074	2,378	7,696
1966	63,901	627	3,317	19,214	4,158	13,245	3,597	9,648	3,058	9,498	10,784	2,564	8,220
1967	65,803	613	3,248	19,447	4,268	13,606	3,689	9,917	3,185	10,045	11,391	2,719	8,672
1968	67,897	606	3,350	19,781	4,318	14,099	3,779	10,320	3,337	10,567	11,839	2,737	9,102
1969	70,384	619	3,575	20,167	4,442	14,705	3,907	10,798	3,512	11,169	12,195	2,758	9,437
1970	70,880	623	3,588	19,367	4,515	15,040	3,993	11,047	3,645	11,548	12,554	2,731	9,823
1971	71,214	609	3,704	18,623	4,476	15,352	4,001	11,351	3,772	11,797	12,881	2,696	10,185
1972	73,675	628	3,889	19,151	4,541	15,949	4,113	11,836	3,908	12,276	13,334	2,684	10,649
1973	76,790	642	4,097	20,154	4,656	16,607	4,277	12,329	4,046	12,857	13,732	2,663	11,068
1974	78,265	697	4,020	20,077	4,725	16,987	4,433	12,554	4,148	13,441	14,170	2,724	11,446
1975	76,945	752	3,525	18,323	4,542	17,060	4,415	12,645	4,165	13,892	14,686	2,748	11,937
1976	79,382	779	3,576	18,997	4,582	17,755	4,546	13,209	4,271	14,551	14,871	2,733	12,138
1977	82,423	813	3,851	19,682	4,713	18,516	4,708	13,808	4,467	15,303	15,079	2,727	12,352
1978	86,446	851	4,271	20,476	4,927	19,499	4,957	14,542	4,727	16,220	15,476	2,753	12,723
1979	89,482	957	4,644	20,972	5,154	20,137	5,170	14,966	4,963	17,043	15,612	2,773	12,839

[1] Data include Alaska and Hawaii beginning in 1959.

9. Employment by State

[Nonagricultural payroll data, in thousands]

State	Feb. 1979	Jan. 1980	Feb. 1980^{p}	State	Feb. 1979	Jan. 1980	Feb. 1980^{p}
Alabama	1,339.9	1,362.2	1,366.3	Montana	268.5	277.8	276.8
Alaska	155.1	158.0	159.5	Nebraska	606.6	616.9	617.7
Arizona	957.8	995.2	1,001.7	Nevada	365.1	388.6	391.1
Arkansas	727.0	744.9	746.2	New Hampshire[1]	...	375.0	...
California	9,412.2	9,726.2	9,728.2	New Jersey[1]	2,940.6	3,002.0	2,995.4
Colorado	1,178.9	1,232.7	1,237.1	New Mexico	445.9	462.9	466.2
Connecticut[1]	1,383.2	1,401.2	1,397.7	New York	7,010.5	7,086.8	7,104.3
Delaware	247.0	252.4	255.3	North Carolina	2,326.4	2,395.2	2,391.1
District of Columbia	602.5	611.5	611.9	North Dakota	230.4	240.2	239.4
Florida	3,339.2	3,498.9	3,525.7	Ohio	4,391.6	4,413.1	4,402.6
Georgia	2,080.2	2,123.4	2,132.4	Oklahoma	1,049.8	1,104.3	1,107.6
Hawaii	392.2	403.5	407.6	Oregon	1,011.7	1,042.7	1,047.9
Idaho	324.4	331.4	329.1	Pennsylvania	4,694.5	4,779.1	4,752.2
Illinois	4,859.3	4,874.8	4,884.7	Rhode Island	391.0	391.7	390.5
Indiana	2,206.9	2,207.8	2,195.4	South Carolina	1,149.1	1,184.1	1,186.8
Iowa	1,101.5	1,118.6	1,117.7	South Dakota	230.1	234.0	234.1
Kansas	920.1	947.7	943.2	Tennessee	1,734.7	1,777.6	1,775.9
Kentucky	1,207.8	1,229.8	1,216.8	Texas	5,447.5	5,711.1	5,711.2
Louisiana	1,476.2	1,511.8	1,508.3	Utah	532.8	560.7	563.0
Maine	397.5	406.7	407.7	Vermont	192.7	199.2	200.9
Maryland	1,572.8	1,589.2	1,600.4	Virginia	2,028.7	2,097.2	2,086.4
Massachusetts[1]	2,525.7	2,609.3	2,614.3	Washington[1]	...	1,589.0	...
Michigan	3,620.6	3,506.1	3,495.5	West Virginia	621.3	633.6	629.3
Minnesota[1]	1,702.1	1,762.0	1,766.2	Wisconsin	1,892.1	1,950.3	1,958.6
Mississippi	820.3	835.9	835.2	Wyoming	187.2	206.9	208.1
Missouri	1,942.0	1,961.4	1,959.7				

[1] Revised series; not strictly comparable with previously published data.

10. Employment by industry division and major manufacturing group

[Nonagricultural payroll data, in thousands]

Industry division and group	Annual average		1979										1980		
	1978	1979	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.[p]	Mar.[p]
TOTAL	86,446	89,482	88,207	88,820	89,671	90,541	89,618	89,673	90,211	90,678	90,902	91,009	89,285	89,346	89,774
MINING	851	957	926	932	944	968	976	986	980	982	984	984	982	977	991
CONSTRUCTION	4,271	4,644	4,226	4,413	4,662	4,881	4,993	5,048	4,984	4,976	4,879	4,711	4,350	4,260	4,301
MANUFACTURING	20,476	20,972	20,887	20,907	20,988	21,234	20,965	20,996	21,192	21,094	20,966	20,902	20,699	20,645	20,667
Production workers	14,714	15,010	14,993	15,002	15,061	15,240	14,946	14,960	15,172	15,082	14,954	14,891	14,674	14,608	14,641
Durable goods	12,246	12,690	12,664	12,697	12,739	12,677	12,712	12,598	12,805	12,737	12,661	12,649	12,525	12,515	12,532
Production workers	8,786	9,053	9,081	9,105	9,129	9,223	9,031	8,907	9,116	9,058	8,983	8,971	8,825	8,808	8,827
Lumber and wood products	752.4	758.4	745.5	748.8	763.8	783.2	776.8	780.0	776.3	771.3	748.9	729.2	709.2	706.8	702.7
Furniture and fixtures	491.1	487.3	491.8	487.8	483.9	484.2	475.5	483.5	485.3	487.6	488.7	486.9	484.4	480.1	480.7
Stone, clay, and glass products	698.0	710.8	697.2	706.6	718.6	733.1	727.1	728.2	723.6	721.0	712.9	699.6	680.8	677.7	681.9
Primary metal industries	1,212.7	1,243.9	1,251.1	1,259.0	1,258.6	1,274.3	1,260.7	1,244.5	1,244.3	1,225.1	1,216.7	1,204.4	1,201.6	1,199.1	1,196.9
Fabricated metal products	1,673.4	1,727.2	1,719.8	1,723.7	1,727.8	1,749.0	1,715.7	1,716.1	1,735.3	1,738.3	1,738.2	1,730.4	1,703.8	1,705.9	1,708.9
Machinery, except electrical	2,319.2	2,462.5	2,459.5	2,468.0	2,463.6	2,491.2	2,485.1	2,467.1	2,496.4	2,447.2	2,440.9	2,455.8	2,522.5	2,522.8	2,526.9
Electric and electronic equipment	1,999.5	2,108.7	2,082.6	2,086.1	2,095.2	2,128.2	2,111.7	2,089.5	2,136.1	2,143.7	2,146.3	2,153.1	2,144.5	2,139.2	2,139.5
Transportation equipment	1,991.7	2,048.3	2,083.9	2,082.2	2,091.8	2,077.9	2,027.7	1,933.2	2,051.0	2,040.9	2,009.7	2,043.4	1,943.6	1,946.0	1,947.8
Instruments and related products	653.5	690.4	683.2	686.5	686.5	698.8	692.9	695.3	692.7	695.4	695.9	699.8	698.9	700.6	704.6
Miscellaneous manufacturing	454.0	452.4	449.0	448.0	448.9	457.4	438.6	460.6	463.8	466.9	462.8	446.4	435.9	437.2	442.2
Nondurable goods	8,230	8,283	8,223	8,210	8,249	8,357	8,253	8,398	8,387	8,357	8,305	8,253	8,174	8,130	8,135
Production workers	5,928	5,957	5,912	5,897	5,932	6,017	5,915	6,053	6,056	6,024	5,971	5,920	5,849	5,800	5,814
Food and kindred products	1,721.2	1,716.3	1,666.9	1,657.3	1,669.6	1,716.6	1,737.8	1,810.0	1,814.1	1,766.8	1,725.0	1,695.9	1,650.5	1,636.4	1,623.9
Tobacco manufactures	69.6	66.2	64.4	62.5	61.9	62.1	62.1	69.0	72.2	71.9	64.8	66.7	65.1	63.3	60.6
Textile mill products	900.2	891.9	894.4	890.4	892.5	900.4	875.5	890.4	888.9	889.8	893.9	893.5	887.4	887.7	889.9
Apparel and other textile products	1,332.5	1,313.1	1,326.6	1,323.7	1,327.5	1,333.1	1,278.7	1,308.9	1,309.1	1,317.0	1,306.2	1,292.0	1,284.4	1,306.8	1,317.3
Paper and allied products	700.9	714.1	708.8	710.8	712.7	724.6	719.6	723.3	718.5	717.7	715.9	714.0	711.8	710.1	710.1
Printing and publishing	1,193.1	1,242.9	1,229.5	1,231.0	1,234.7	1,243.4	1,245.8	1,245.4	1,246.1	1,254.5	1,265.6	1,272.0	1,269.5	1,274.0	1,277.4
Chemicals and allied products	1,098.3	1,112.7	1,103.9	1,106.7	1,110.9	1,126.6	1,123.0	1,121.2	1,114.9	1,115.0	1,115.2	1,115.6	1,113.9	1,114.3	1,117.1
Petroleum and coal products	208.7	213.8	208.3	210.8	212.9	216.8	218.0	218.3	218.1	218.1	217.2	214.9	213.1	162.3	161.7
Rubber and miscellaneous plastics products	751.9	767.5	774.4	772.0	777.0	779.4	767.4	765.8	762.0	762.6	757.6	747.5	742.2	737.4	738.4
Leather and leather products	255.6	243.8	245.7	245.1	249.2	253.7	224.7	245.8	243.1	243.1	243.2	240.7	236.1	237.8	238.1
TRANSPORTATION AND PUBLIC UTILITIES	4,927	5,154	5,060	4,989	5,125	5,231	5,200	5,210	5,242	5,244	5,255	5,254	5,149	5,124	5,140
WHOLESALE AND RETAIL TRADE	19,490	20,137	19,690	19,957	20,119	20,222	20,118	20,137	20,260	20,314	20,580	20,932	20,224	20,050	20,112
WHOLESALE TRADE	4,957	5,170	5,098	5,112	5,146	5,211	5,208	5,211	5,206	5,235	5,251	5,234	5,211	5,212	5,226
RETAIL TRADE	14,542	14,966	14,592	14,845	14,973	15,011	14,910	14,926	15,054	15,079	15,329	15,698	15,013	14,838	14,886
FINANCE, INSURANCE, AND REAL ESTATE	4,727	4,963	4,870	4,900	4,936	5,003	5,032	5,053	5,002	5,013	5,029	5,041	5,040	5,044	5,060
SERVICES	16,220	17,043	16,749	16,897	17,039	17,239	17,314	17,312	17,225	17,292	17,281	17,270	17,111	17,277	17,456
GOVERNMENT	15,476	15,612	15,799	15,825	15,858	15,763	15,020	14,931	15,326	15,763	15,928	15,915	15,730	15,969	16,047
Federal	2,753	2,773	2,740	2,750	2,773	2,824	2,838	2,844	2,751	2,756	2,760	2,770	2,763	2,803	2,805
State and local	12,723	12,839	13,059	13,075	13,085	12,939	12,182	12,087	12,575	13,007	13,168	13,145	12,967	13,166	13,242

11. Employment by industry division and major manufacturing group, seasonally adjusted

[Nonagricultural payroll data, in thousands]

Industry division and group	1979										1980		
	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.[p]	Mar.[p]
TOTAL	89,039	89,036	89,398	89,626	89,713	89,762	89,803	89,982	90,100	90,241	90,652	90,774	90,634
MINING	940	940	944	949	956	968	973	979	983	991	1,000	1,000	1,006
CONSTRUCTION	4,614	4,559	4,648	4,662	4,688	4,674	4,671	4,694	4,714	4,783	4,893	4,830	4,695
MANUFACTURING	21,073	21,066	21,059	21,063	21,079	20,957	20,949	20,899	20,836	20,881	20,890	20,889	20,848
Production workers	15,153	15,134	15,112	15,096	15,090	14,956	14,957	14,894	14,829	14,865	14,846	14,821	14,792
Durable goods	12,751	12,752	12,739	12,760	12,786	12,714	12,737	12,650	12,587	12,615	12,601	12,648	12,616
Production workers	9,158	9,146	9,119	9,123	9,124	9,044	9,066	8,972	8,908	8,931	8,894	[illegible],923	8,900
Lumber and wood products	769	761	762	757	753	752	758	760	751	740	737	736	724
Furniture and fixtures	493	490	487	485	488	484	480	482	483	483	484	481	482
Stone, clay, and glass products	718	714	715	715	711	710	708	709	704	706	708	709	702
Primary metal industries	1,259	1,260	1,254	1,257	1,256	1,245	1,236	1,226	1,223	1,208	1,208	1,210	1,204
Fabricated metal products	1,732	1,732	1,730	1,737	1,730	1,714	1,716	1,723	1,726	1,725	1,712	1,723	1,721
Machinery, except electrical	2,450	2,466	2,471	2,484	2,500	2,492	2,496	2,455	2,438	2,444	2,512	2,513	2,517
Electric and electronic equipment	2,093	2,101	2,106	2,124	2,131	2,092	2,117	2,125	2,125	2,140	2,149	2,148	2,150
Transportation equipment	2,094	2,084	2,077	2,057	2,073	2,079	2,086	2,025	1,994	2,019	1,938	1,976	1,958
Instruments and related products	685	689	688	693	694	695	692	696	694	698	700	702	707
Miscellaneous manufacturing	458	455	449	451	450	451	448	449	449	452	453	450	451
Nondurable goods	8,322	8,314	8,320	8,303	8,293	8,243	8,212	8,249	8,249	8,266	8,289	8,241	8,232
Production workers	5,995	5,988	5,993	5,973	5,966	5,912	5,891	5,922	5,921	5,934	5,954	5,898	5,892
Food and kindred products	1,736	1,728	1,725	1,720	1,707	1,696	1,691	1,707	1,710	1,715	1,707	1,706	1,692
Tobacco manufactures	69	69	70	69	68	64	65	65	60	62	64	65	65
Textile mill products	897	892	893	892	892	886	884	887	889	893	891	890	893
Apparel and other textile products	1,324	1,325	1,324	1,312	1,324	1,302	1,294	1,299	1,292	1,297	1,309	1,313	1,315
Paper and allied products	716	717	714	715	718	717	714	715	714	713	718	717	717
Printing and publishing	1,232	1,234	1,236	1,242	1,250	1,247	1,245	1,252	1,262	1,263	1,273	1,278	1,280
Chemicals and allied products	1,108	1,111	1,114	1,119	1,116	1,111	1,110	1,113	1,114	1,119	1,123	1,122	1,122
Petroleum and coal products	213	213	213	212	212	213	215	217	217	217	219	167	165
Rubber and miscellaneous plastics products	780	781	784	775	777	764	751	751	749	745	745	743	744
Leather and leather products	247	244	247	247	229	243	243	243	242	242	240	240	239
TRANSPORTATION AND PUBLIC UTILITIES	5,116	5,024	5,130	5,190	5,169	5,194	5,180	5,218	5,229	5,223	5,212	5,191	5,197
WHOLESALE AND RETAIL TRADE	20,054	20,088	20,129	20,116	20,122	20,126	20,169	20,243	20,308	20,254	20,428	20,530	20,499
WHOLESALE TRADE	5,134	5,138	5,156	5,180	5,182	5,185	5,190	5,209	5,235	5,218	5,248	5,265	5,263
RETAIL TRADE	14,920	14,950	14,973	14,936	14,940	14,941	14,979	15,034	15,073	15,036	15,180	15,265	15,236
FINANCE, INSURANCE, AND REAL ESTATE	4,899	4,915	4,936	4,958	4,972	5,003	4,997	5,018	5,039	5,056	5,081	5,086	5,091
SERVICES	16,833	16,880	16,954	17,051	17,092	17,141	17,191	17,257	17,298	17,357	17,442	17,505	17,544
GOVERNMENT	15,510	15,564	15,598	15,637	15,635	15,699	15,673	15,674	15,693	15,696	15,706	15,744	15,754
Federal	2,757	2,758	2,770	2,788	2,785	2,813	2,762	2,770	2,771	2,771	2,791	2,823	2,822
State and local	12,753	12,806	12,828	12,849	12,850	12,886	12,911	12,904	12,922	12,925	12,915	12,921	12,932

12. Labor turnover rates in manufacturing, 1977 to date

[Per 100 employees]

Year	Annual average	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
	Total accessions												
1977	4.0	3.7	3.7	4.0	3.8	4.6	4.9	4.3	5.3	4.6	3.9	3.1	2.4
1978	4.1	3.8	3.2	3.8	4.0	4.7	4.9	4.4	5.4	4.9	4.3	3.3	2.4
1979	3.9	4.0	3.4	3.8	3.9	4.7	4.8	4.3	4.9	4.4	4.1	2.9	2.2
1980	...	3.8	p3.2	...	...	...	...	...	...	...	...	...	...
	New hires												
1977	2.8	2.2	2.1	2.6	2.7	3.5	3.7	3.0	4.0	3.5	3.0	2.2	1.6
1978	3.1	2.5	2.2	2.7	2.9	3.6	3.9	3.3	4.2	3.9	3.5	2.6	1.7
1979	2.9	2.8	2.5	2.8	2.8	3.6	3.8	3.1	3.7	3.4	3.1	2.2	1.5
1980	...	2.4	p2.1	...	...	...	...	...	...	...	...	...	...
	Recalls												
1977	.9	1.2	1.3	1.1	.9	.8	.8	.9	1.0	.8	.6	.6	.6
1978	.7	1.0	.7	.8	.8	.8	.7	.8	.9	.7	.6	.5	.5
1979	.7	.9	.7	.7	.7	.8	.7	.9	.9	.8	.7	.5	.5
1980	...	1.1	p.9	...	...	...	...	...	...	...	...	...	...
	Total separations												
1977	3.8	3.9	3.4	3.4	3.4	3.5	3.5	4.3	5.1	4.9	3.8	3.4	3.4
1978	3.9	3.6	3.1	3.5	3.6	3.7	3.8	4.1	5.3	4.8	4.1	3.5	3.4
1979	4.0	3.8	3.2	3.6	3.6	3.8	3.9	4.3	5.7	4.7	4.2	3.8	3.5
1980	...	4.1	p3.5	...	...	...	...	...	...	...	...	...	...
	Quits												
1977	1.8	1.4	1.3	1.6	1.7	1.9	1.9	1.9	3.1	2.8	1.9	1.5	1.2
1978	2.1	1.5	1.4	1.8	2.0	2.1	2.2	2.1	3.5	3.1	2.3	1.7	1.3
1979	2.0	1.8	1.6	1.9	2.0	2.1	2.1	2.0	3.3	2.7	2.1	1.6	1.1
1980	...	1.6	p1.4	...	...	...	...	...	...	...	...	...	...
	Layoffs												
1977	1.1	1.7	1.4	1.0	.9	.8	.8	1.5	1.0	1.1	1.1	1.1	1.5
1978	.9	1.2	.9	.9	.8	.7	.7	1.0	.8	.8	.9	1.0	1.4
1979	1.1	1.1	.8	.8	.9	.7	.8	1.4	1.3	1.1	1.2	1.5	1.7
1980	...	1.6	p.12	...	...	...	...	...	...	...	...	...	...

13. Labor turnover rates in manufacturing, by major industry group

[Per 100 employees]

Major industry group	Accession rates									Separation rates								
	Total			New hires			Recalls			Total			Quits			Layoffs		
	Feb. 1979	Jan. 1980	Feb. 1980p	Feb. 1979	Jan. 1980	Feb. 1980p	Feb. 1979	Jan. 1980	Feb. 1980p	Feb. 1979	Jan. 1980	Feb. 1980p	Feb. 1979	Jan. 1980	Feb. 1980p	Feb. 1979	Jan. 1980	Feb. 1980p
MANUFACTURING	3.4	3.8	3.2	2.5	2.4	2.1	0.7	1.1	0.9	3.2	4.1	3.5	1.6	1.6	1.4	0.8	1.6	1.2
Seasonally adjusted	4.2	4.1	3.9	3.3	2.9	2.8	...	...	...	4.0	4.2	4.2	2.2	2.0	1.9	.9	1.3	1.3
Durable goods	3.2	3.5	3.0	2.4	2.1	1.9	.6	1.0	.8	2.9	3.9	3.2	1.4	1.4	1.2	.7	1.7	1.2
Lumber and wood products	4.6	4.7	4.7	3.6	2.9	2.8	.8	1.6	1.7	5.3	5.9	5.7	2.7	2.4	2.2	1.5	2.6	2.6
Furniture and fixtures	4.2	4.6	3.9	3.7	3.6	3.1	.4	.7	.7	4.6	5.0	4.0	2.7	2.5	2.2	.8	1.4	.8
Stone, clay, and glass products	3.6	3.6	3.3	2.3	1.9	1.8	1.1	1.6	1.4	3.5	4.8	3.9	1.4	1.4	1.2	1.2	2.6	1.9
Primary metal industries	2.5	3.1	2.1	1.7	1.2	.9	.5	1.6	.9	2.2	3.2	2.5	.7	.7	.6	.5	1.6	1.1
Fabricated metal products	3.5	4.0	3.4	2.8	2.5	2.2	.5	1.2	1.0	3.4	4.3	3.7	1.7	1.6	1.4	.9	1.8	1.4
Machinery, except electrical	2.7	2.9	2.4	2.3	2.1	1.8	.2	.5	.4	2.2	2.8	2.4	1.1	1.2	1.0	.3	.8	.6
Electric and electronic equipment	3.1	3.1	2.9	2.3	2.1	2.0	.4	.5	.5	2.8	3.4	2.8	1.4	1.4	1.2	.5	1.0	.7
Transportation equipment	3.2	3.3	2.9	2.0	1.5	1.4	.8	1.4	1.0	2.5	4.8	3.3	1.0	.9	.8	.7	3.0	1.6
Instruments and related products	2.7	2.9	2.9	2.2	2.3	2.5	.2	.3	.3	2.3	2.5	2.6	1.3	1.4	1.4	.3	.4	.4
Miscellaneous manufacturing	5.1	5.8	4.3	3.4	3.1	2.5	1.6	2.4	1.7	4.1	6.1	4.6	2.0	2.0	1.6	1.2	3.1	2.0
Nondurable goods	3.6	4.2	3.6	2.6	2.8	2.5	.8	1.2	.9	3.6	4.3	3.9	1.9	2.0	1.8	1.0	1.5	1.3
Food and kindred products	4.4	4.8	4.3	2.9	2.9	2.5	1.4	1.6	1.5	4.9	5.9	5.2	2.4	2.4	2.0	1.7	2.6	2.4
Tobacco manufacturers	1.8	3.5	1.7	.9	1.4	.7	.4	1.7	.9	4.2	4.0	4.7	.5	.9	.7	2.6	2.3	3.3
Textile mill products	3.9	4.5	3.9	2.9	3.5	3.0	.5	.7	.6	3.8	4.4	4.0	2.4	2.5	2.3	.5	.8	.7
Apparel and other products	4.9	6.8	5.6	3.2	4.0	3.7	1.4	2.6	1.7	4.9	5.8	5.1	2.5	2.9	2.7	1.6	2.0	1.5
Paper and allied products	2.2	2.7	2.1	1.5	1.5	1.4	.5	1.0	.6	2.4	2.7	2.5	1.0	1.0	.8	.7	.9	1.0
Printing and publishing	3.1	3.4	3.0	2.5	2.8	2.5	.4	.5	.4	2.7	3.3	3.0	1.7	1.9	1.8	.5	.8	.6
Chemicals and allied products	1.6	1.6	1.6	1.2	1.2	1.2	.3	.3	.3	1.5	1.6	1.5	.6	.7	.6	.3	.3	.4
Petroleum and coal products	1.9	1.9	1.7	1.5	1.5	1.3	.2	.2	.3	1.8	2.2	1.9	.5	.7	.7	.4	.6	.3
Rubber and miscellaneous plastics products	4.2	4.8	3.7	3.3	3.1	2.4	.5	1.5	1.0	4.0	5.4	4.5	2.2	2.1	1.8	.7	2.1	1.8
Leather and leather products	5.2	6.9	6.0	3.6	4.4	4.0	1.3	2.3	1.6	6.0	7.1	6.1	3.2	3.3	3.0	1.7	2.7	2.1

14. Hours and earnings, by industry division, 1948–79

[Gross averages, production or nonsupervisory workers on nonagricultural payrolls]

Year	Average weekly earnings	Average weekly hours	Average hourly earnings	Average weekly earnings	Average weekly hours	Average hourly earnings	Average weekly earnings	Average weekly hours	Average hourly earnings	Average weekly earnings	Average weekly hours	Average hourly earnings
	Total private			Mining			Construction			Manufacturing		
1948	$49.00	40.0	$1.225	$65.56	39.4	$1.664	$65.27	38.1	$1.713	$53.12	40.0	$1.328
1949	50.24	39.4	1.275	62.33	36.3	1.717	67.56	37.7	1.792	53.88	39.1	1.378
1950	53.13	39.8	1.335	67.16	37.9	1.772	69.68	37.4	1.863	58.32	40.5	1.440
1951	57.86	39.9	1.45	74.11	38.4	1.93	76.96	38.1	2.02	63.34	40.6	1.56
1952	60.65	39.9	1.52	77.59	38.6	2.01	82.86	38.9	2.13	66.75	40.7	1.64
1953	63.76	39.6	1.61	83.03	38.8	2.14	86.41	37.9	2.28	70.47	40.5	1.74
1954	64.52	39.1	1.65	82.60	38.6	2.14	88.91	37.2	2.39	70.49	39.6	1.78
1955	67.72	39.6	1.71	89.54	40.7	2.20	90.90	37.1	2.45	75.30	40.7	1.85
1956	70.74	39.3	1.80	95.06	40.8	2.33	96.38	37.5	2.57	78.78	40.4	1.95
1957	73.33	38.8	1.89	98.25	40.1	2.45	100.27	37.0	2.71	81.19	39.8	2.04
1958	75.08	38.5	1.95	96.08	38.9	2.47	103.78	36.8	2.82	82.32	39.2	2.10
1959[1]	78.78	39.0	2.02	103.68	40.5	2.56	108.41	37.0	2.93	88.26	40.3	2.19
1960	80.67	38.6	2.09	105.04	40.4	2.60	112.67	36.7	3.07	89.72	39.7	2.26
1961	82.60	38.6	2.14	106.92	40.5	2.64	118.08	36.9	3.20	92.34	39.8	2.32
1962	85.91	38.7	2.22	110.70	41.0	2.70	122.47	37.0	3.31	96.56	40.4	2.39
1963	88.46	38.8	2.28	114.40	41.6	2.75	127.19	37.3	3.41	99.23	40.5	2.45
1964	91.33	38.7	2.36	117.74	41.9	2.81	132.06	37.2	3.55	102.97	40.7	2.53
1965	95.45	38.8	2.46	123.52	42.3	2.92	138.38	37.4	3.70	107.53	41.2	2.61
1966	98.82	38.6	2.56	130.24	42.7	3.05	146.26	37.6	3.89	112.19	41.4	2.71
1967	101.84	38.0	2.68	135.89	42.6	3.19	154.95	37.7	4.11	114.49	40.6	2.82
1968	107.73	37.8	2.85	142.71	42.6	3.35	164.49	37.3	4.41	122.51	40.7	3.01
1969	114.61	37.7	3.04	154.80	43.0	3.60	181.54	37.9	4.79	129.51	40.6	3.19
1970	119.83	37.1	3.23	164.40	42.7	3.85	195.45	37.3	5.24	133.33	39.8	3.35
1971	127.31	36.9	3.45	172.14	42.4	4.06	211.67	37.2	5.69	142.44	39.9	3.57
1972	136.90	37.0	3.70	189.14	42.6	4.44	221.19	36.5	6.06	154.71	40.5	3.82
1973	145.39	36.9	3.94	201.40	42.4	4.75	235.89	36.8	6.41	166.46	40.7	4.09
1974	154.76	36.5	4.24	219.14	41.9	5.23	249.25	36.6	6.81	176.80	40.0	4.42
1975	163.53	36.1	4.53	249.31	41.9	5.95	266.08	36.4	7.31	190.79	39.5	4.83
1976	175.45	36.1	4.86	273.90	42.4	6.46	283.73	36.8	7.71	209.32	40.1	5.22
1977	189.00	36.0	5.25	301.20	43.4	6.94	295.65	36.5	8.10	228.90	40.3	5.68
1978	203.70	35.8	5.69	332.11	43.3	7.67	318.32	36.8	8.65	249.27	40.4	6.17
1979	219.91	35.7	6.16	364.64	43.0	8.48	341.69	36.9	9.26	268.94	40.2	6.69
	Transportation and public utilities			Wholesale and retail trade			Finance, insurance, and real estate			Services		
1948	....	....	....	$40.80	40.4	$1.010	$45.48	37.9	$1.200	....	....	....
1949	....	....	....	42.93	40.5	1.060	47.63	37.8	1.260	....	....	....
1950	....	....	....	44.55	40.5	1.100	50.52	37.7	1.340	....	....	....
1951	....	....	....	47.79	40.5	1.18	54.67	37.7	1.45	....	....	....
1952	....	....	....	49.20	40.0	1.23	57.08	37.8	1.51	....	....	....
1953	....	....	....	51.35	39.5	1.30	59.57	37.7	1.58	....	....	....
1954	....	....	....	53.33	39.5	1.36	62.04	37.6	1.65	....	....	....
1955	....	....	....	55.16	39.4	1.40	63.92	37.6	1.70	....	....	....
1956	....	....	....	57.48	39.1	1.47	65.68	36.9	1.78	....	....	....
1957	....	....	....	59.60	38.7	1.54	67.53	36.7	1.84	....	....	....
1958	....	....	....	61.76	38.6	1.60	70.12	37.1	1.89	....	....	....
1959[1]	....	....	....	64.41	38.8	1.66	72.74	37.3	1.95	....	....	....
1960	....	....	....	66.01	38.6	1.71	75.14	37.2	2.02	....	....	....
1961	....	....	....	67.41	38.3	1.76	77.12	36.9	2.09	....	....	....
1962	....	....	....	69.91	38.2	1.83	80.94	37.3	2.17	....	....	....
1963	....	....	....	72.01	38.1	1.89	84.38	37.5	2.25	....	....	....
1964	$118.78	41.1	$2.89	74.66	37.9	1.97	85.79	37.3	2.30	$70.03	36.1	$1.94
1965	125.14	41.3	3.03	76.91	37.7	2.04	88.91	37.2	2.39	73.60	35.9	2.05
1966	128.13	41.2	3.11	79.39	37.1	2.14	92.13	37.3	2.47	77.04	35.5	2.17
1967	130.82	40.5	3.23	82.35	36.6	2.25	95.72	37.1	2.58	80.38	35.1	2.29
1968	138.85	40.6	3.42	87.00	36.1	2.41	101.75	37.0	2.75	83.97	34.7	2.42
1969	147.74	40.7	3.63	91.39	35.7	2.56	108.70	37.1	2.93	90.57	34.7	2.61
1970	155.93	40.5	3.85	96.02	35.3	2.72	112.67	36.7	3.07	96.66	34.4	2.81
1971	168.82	40.1	4.21	101.09	35.1	2.88	117.85	36.6	3.22	103.06	33.9	3.04
1972	187.86	40.4	4.65	106.45	34.9	3.05	122.98	36.6	3.36	110.85	33.9	3.27
1973	203.31	40.5	5.02	111.76	34.6	3.23	129.20	36.6	3.53	117.29	33.8	3.47
1974	217.48	40.2	5.41	118.02	34.2	3.48	137.61	36.5	3.77	126.00	33.6	3.75
1975	233.44	39.7	5.88	126.45	33.9	3.73	148.19	36.5	4.06	134.67	33.5	4.02
1976	256.71	39.8	6.45	133.79	33.7	3.97	155.43	36.4	4.27	143.52	33.3	4.31
1977	278.90	39.9	6.99	142.52	33.3	4.28	165.26	36.4	4.54	153.45	33.0	4.65
1978	302.80	40.0	7.57	153.64	32.9	4.67	178.36	36.4	4.90	163.67	32.8	4.99
1979	326.38	39.9	8.18	164.96	32.6	5.06	191.66	36.3	5.28	175.27	32.7	5.36

[1] Data include Alaska and Hawaii beginning in 1959.

15. Weekly hours, by industry division and major manufacturing group

[Gross averages, production or nonsupervisory workers on private nonagricultural payrolls]

Industry division and group	Annual Average		1979										1980		
	1978	1979	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.p	Mar.p
TOTAL PRIVATE	35.8	35.7	35.7	35.1	35.5	35.9	36.0	36.0	35.8	35.7	35.6	35.9	35.1	35.1	35.2
MINING	43.3	43.0	42.9	42.6	42.8	43.3	41.7	43.1	43.5	43.7	43.7	43.9	43.4	43.0	43.4
CONSTRUCTION	36.8	36.9	37.0	35.5	37.2	37.9	37.7	38.0	37.9	37.6	36.5	37.1	35.1	35.6	35.5
MANUFACTURING	40.4	40.2	40.6	38.9	40.1	40.4	39.9	40.0	40.3	40.3	40.4	40.9	39.8	39.7	39.8
Overtime hours	3.6	3.3	3.6	2.5	3.3	3.4	3.2	3.3	3.6	3.4	3.4	3.4	3.0	2.9	3.0
Durable goods	41.1	40.8	41.4	39.3	40.8	41.0	40.4	40.4	40.8	40.8	40.8	41.6	40.3	40.2	40.3
Overtime hours	3.8	3.5	3.9	2.6	3.6	3.6	3.4	3.4	3.6	3.5	3.5	3.5	3.1	3.0	3.1
Lumber and wood products	39.8	39.5	39.7	39.1	39.6	40.2	39.4	39.9	40.1	39.8	38.8	39.2	38.1	38.3	38.1
Furniture and fixtures	39.3	38.5	39.0	37.5	38.2	38.8	38.0	38.6	39.0	39.3	39.2	39.9	38.4	38.2	38.2
Stone, clay, and glass products	41.6	41.5	41.8	41.1	41.9	42.1	41.5	41.7	41.7	41.7	41.7	41.8	40.1	40.0	40.4
Primary metal industries	41.8	41.4	41.9	41.7	41.4	41.6	41.3	40.8	41.3	40.9	40.7	40.9	40.7	40.5	40.6
Fabricated metal products	41.0	40.8	41.3	38.8	40.7	41.0	40.3	40.5	40.8	41.0	41.0	41.9	40.6	40.4	40.6
Machinery except electrical	42.0	41.8	42.6	40.3	41.7	42.0	41.2	41.3	41.9	41.6	41.9	42.8	41.5	41.5	41.5
Electric and electronic equipment	40.3	40.3	40.7	38.8	40.2	40.5	39.6	39.7	40.5	40.3	40.9	41.3	40.2	40.1	40.2
Transportation equipment	42.2	41.2	42.3	37.9	41.6	41.3	40.9	40.5	40.7	41.3	40.8	42.6	40.1	39.9	40.0
Instruments and related products	40.9	40.8	41.3	40.0	40.8	40.7	40.3	40.3	40.7	40.8	41.4	41.6	41.0	40.8	40.8
Miscellaneous manufacturing	38.8	38.9	39.2	37.6	38.5	39.0	38.7	38.9	39.3	39.3	39.6	39.7	39.1	38.7	38.8
Nondurable goods	39.4	39.3	39.3	38.2	39.1	39.4	39.2	39.4	39.6	39.4	39.6	39.9	39.0	38.9	38.9
Overtime hours	3.2	3.1	3.1	2.5	2.9	3.0	3.0	3.2	3.5	3.2	3.3	3.2	2.9	2.8	2.8
Food and kindred products	39.7	39.9	39.6	39.0	39.6	39.8	40.1	40.3	40.6	40.0	40.2	40.3	39.5	39.1	39.0
Tobacco manufactures	38.1	38.0	38.1	37.6	38.9	39.0	36.1	37.6	39.1	38.8	39.0	39.5	37.4	37.0	37.7
Textile mill products	40.4	40.3	40.4	38.6	40.1	40.6	39.9	40.3	40.8	40.8	41.3	41.5	40.9	40.8	40.7
Apparel and other textile products	35.6	35.2	35.4	33.9	35.1	35.6	35.4	35.6	35.4	35.5	35.6	35.9	35.2	35.4	35.4
Paper and allied products	42.9	42.6	42.6	41.6	42.4	42.8	42.5	42.6	42.7	42.6	42.9	43.5	42.6	42.3	42.4
Printing and publishing	37.6	37.5	37.7	36.8	37.3	37.4	37.4	37.9	37.9	37.5	37.9	38.1	37.2	37.0	37.3
Chemicals and allied products	41.9	41.8	41.9	41.9	41.8	41.8	41.7	41.8	41.8	41.7	42.1	42.2	41.7	41.6	41.8
Petroleum and coal products	43.6	43.8	43.8	43.9	43.7	43.4	44.1	42.6	44.7	44.1	44.8	43.4	36.1	39.6	38.8
Rubber and miscellaneous plastics products	40.9	40.5	41.4	39.4	40.5	40.7	40.2	40.0	40.5	40.5	40.3	40.7	40.3	39.9	40.1
Leather and leather products	37.1	36.5	35.9	35.3	36.4	37.1	36.9	36.6	36.8	36.5	36.8	37.3	36.7	36.9	36.3
TRANSPORTATION AND PUBLIC UTILITIES	40.0	39.9	39.8	39.0	39.6	40.0	40.0	40.3	39.9	39.9	40.2	40.0	39.5	39.7	39.8
WHOLESALE AND RETAIL TRADE	32.9	32.6	32.4	32.5	32.4	32.9	33.3	33.2	32.7	32.5	32.4	32.9	31.9	31.9	32.0
WHOLESALE TRADE	38.8	38.8	38.9	38.6	38.9	39.0	39.0	38.9	38.8	38.9	38.9	39.1	38.5	38.4	38.5
RETAIL TRADE	31.0	30.7	30.3	30.6	30.4	31.0	31.5	31.4	30.7	30.4	30.4	31.0	29.8	29.8	30.0
FINANCE, INSURANCE, AND REAL ESTATE	36.4	36.3	36.3	36.4	36.1	36.2	36.4	36.2	36.3	36.3	36.4	36.4	36.3	36.3	36.4
SERVICES	32.8	32.7	32.6	32.5	32.5	32.9	33.3	33.2	32.7	32.6	32.6	32.8	32.5	32.5	32.6

16. Weekly hours, by industry division and major manufacturing group, seasonally adjusted

[Gross averages, production or nonsupervisory workers on private nonagricultural payrolls]

Industry division and group	1979										1980		
	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.ᵖ	Mar.ᵖ
TOTAL PRIVATE	35.9	35.3	35.7	35.6	35.6	35.6	35.7	35.6	35.7	35.7	35.7	35.5	35.4
MINING	43.1	42.9	42.8	43.0	41.6	43.2	43.1	43.1	43.2	43.9	44.4	43.5	43.6
CONSTRUCTION	37.1	35.5	37.1	37.2	36.8	37.2	37.5	36.5	36.8	37.1	37.6	36.8	35.6
MANUFACTURING	40.6	39.1	40.2	40.1	40.2	40.1	40.2	40.2	40.1	40.2	40.3	40.0	39.8
Overtime hours	3.7	2.7	3.5	3.4	3.3	3.2	3.2	3.2	3.3	3.2	3.2	3.1	3.1
Durable goods	41.4	39.5	40.9	40.7	40.7	40.7	40.7	40.8	40.6	40.7	40.8	40.5	40.3
Overtime hours	4.0	2.7	3.8	3.6	3.5	3.3	3.3	3.3	3.4	ᶜ3.2	ᶜ3.2	3.1	3.1
Lumber and wood products	40.0	39.1	39.4	39.4	39.3	39.5	39.7	39.4	38.9	39.0	39.5	38.9	38.4
Furniture and fixtures	39.1	38.1	38.5	38.5	38.4	38.3	38.6	38.8	38.9	39.0	39.0	38.9	38.3
Stone, clay, and glass products	42.0	41.2	41.7	41.6	41.4	41.3	41.5	41.3	41.5	41.6	41.3	40.9	40.6
Primary metal industries	42.0	41.8	41.4	41.2	41.3	41.0	41.0	41.1	40.7	40.6	40.8	40.6	40.7
Fabricated metal products	41.3	39.1	40.7	40.7	40.8	40.6	40.7	40.9	40.7	41.0	40.9	40.8	40.6
Machinery, except electrical	42.4	40.5	42.0	42.0	41.9	41.6	41.9	41.6	41.6	41.6	41.7	41.5	41.3
Electric and electronic equipment	40.7	39.0	40.4	40.3	40.2	39.8	40.3	40.3	40.6	40.5	40.4	40.3	40.2
Transportation equipment	42.3	37.9	41.5	40.8	40.9	41.7	40.6	41.3	40.6	41.0	41.0	40.4	40.0
Instruments and related products	41.2	40.3	40.8	40.6	40.7	40.5	40.6	40.7	41.0	40.8	41.5	41.0	40.7
Miscellaneous manufacturing	39.0	37.6	38.6	38.9	39.3	39.1	39.1	39.1	39.1	39.2	39.5	39.1	38.6
Nondurable goods	39.4	38.6	39.2	39.2	39.2	39.2	39.3	39.3	39.4	39.4	39.5	39.3	39.0
Overtime hours	3.3	2.7	3.0	3.0	3.0	3.0	3.1	3.0	3.2	3.1	3.1	3.0	3.0
Food and kindred products	40.0	39.6	39.8	39.8	39.8	39.7	40.0	39.9	40.0	39.9	40.0	39.7	39.4
Tobacco manufactures	38.0	37.6	38.9	37.6	38.5	38.0	38.6	38.3	37.8	36.8	38.5	37.8	37.6
Textile mill products	40.3	38.8	40.0	40.1	40.1	40.1	40.6	40.8	41.1	41.0	41.7	41.1	40.6
Apparel and other textile products	35.4	34.2	35.2	35.2	35.5	35.3	35.3	35.3	35.3	35.6	35.9	35.9	35.4
Paper and allied products	42.8	41.8	42.6	42.5	42.5	42.6	42.4	42.6	42.7	42.9	42.8	42.8	42.6
Printing and publishing	37.7	37.1	37.4	37.4	37.5	37.7	37.5	37.4	37.6	37.4	37.8	37.4	37.3
Chemicals and allied products	41.9	41.7	41.9	41.7	41.9	42.0	41.7	41.7	41.9	41.7	42.0	41.9	41.8
Petroleum and coal products	44.0	43.9	43.7	43.3	43.6	43.7	44.1	43.7	44.4	43.5	36.6	40.4	39.0
Rubber and miscellaneous plastics products	41.3	39.7	40.9	40.7	40.6	40.2	40.3	40.3	40.0	39.9	40.6	39.9	40.0
Leather and leather products	36.3	35.6	36.1	36.4	36.6	36.5	37.0	36.5	36.7	36.9	37.2	37.4	36.7
TRANSPORTATION AND PUBLIC UTILITIES	40.0	39.2	39.8	39.8	39.7	39.9	39.9	39.9	40.2	39.8	39.9	39.8	40.0
WHOLESALE AND RETAIL TRADE	32.7	32.8	32.6	32.6	32.6	32.5	32.6	32.6	32.7	32.6	32.5	32.3	32.4
WHOLESALE TRADE	39.0	38.7	39.0	38.8	38.8	38.7	38.7	38.8	38.9	38.9	38.8	38.7	38.6
RETAIL TRADE	30.7	30.9	30.6	30.6	30.6	30.5	30.7	30.6	30.7	30.6	30.5	30.3	30.4
FINANCE, INSURANCE, AND REAL ESTATE	36.4	36.5	36.1	36.2	36.3	36.1	36.4	36.2	36.5	36.4	36.2	36.3	36.5
SERVICES	32.8	32.7	32.7	32.7	32.8	32.7	32.7	32.6	32.7	32.9	32.7	32.7	32.8

c = corrected.

17. Hourly earnings, by industry division and major manufacturing group

[Gross averages, production or nonsupervisory workers on private nonagricultural payrolls]

Industry division and group	Annual average		1979										1980		
	1978	1979	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.^{p}	Mar.^{p}
TOTAL PRIVATE	$5.69	$6.16	$6.02	$6.03	$6.09	$6.12	$6.16	$6.19	$6.31	$6.32	$6.35	$6.39	$6.42	$6.46	$6.50
MINING	7.67	8.48	8.27	8.54	8.45	8.49	8.52	8.48	8.57	8.57	8.70	8.73	8.85	8.92	9.01
CONSTRUCTION	8.65	9.26	8.97	9.02	9.14	9.13	9.24	9.32	9.51	9.49	9.50	9.57	9.47	9.62	9.64
MANUFACTURING	6.17	6.69	6.56	6.54	6.63	6.66	6.71	6.69	6.80	6.82	6.86	6.97	6.96	6.99	7.05
Durable goods	6.58	7.12	6.99	6.95	7.07	7.11	7.15	7.12	7.24	7.25	7.29	7.41	7.39	7.45	7.53
Lumber and wood products	5.60	6.08	5.84	5.90	5.97	6.16	6.23	6.23	6.32	6.24	6.23	6.25	6.22	6.33	6.36
Furniture and fixtures	4.68	5.06	4.95	4.94	4.97	5.05	5.04	5.10	5.18	5.20	5.23	5.27	5.27	5.33	5.37
Stone, clay, and glass products	6.32	6.84	6.64	6.73	6.78	6.85	6.89	6.90	6.98	7.00	7.07	7.10	7.05	7.13	7.26
Primary metal industries	8.20	8.97	8.75	8.92	8.83	8.91	9.04	9.10	9.16	9.10	9.26	9.28	9.30	9.43	9.51
Fabricated metal products	6.34	6.82	6.72	6.62	6.77	6.81	6.80	6.83	6.93	6.96	6.99	7.12	7.06	7.12	7.19
Machinery, except electrical	6.77	7.33	7.19	7.10	7.25	7.34	7.35	7.35	7.48	7.45	7.51	7.65	7.67	7.71	7.77
Electric and electronic equipment	5.82	6.31	6.16	6.11	6.21	6.25	6.27	6.36	6.46	6.48	6.51	6.64	6.67	6.71	6.75
Transportation equipment	7.91	8.53	8.42	8.26	8.56	8.53	8.55	8.44	8.59	8.67	8.68	8.90	8.78	8.85	9.02
Instruments and related products	5.71	6.17	6.04	6.03	6.11	6.11	6.16	6.14	6.21	6.32	6.39	6.49	6.57	6.58	6.64
Miscellaneous manufacturing	4.69	5.04	4.95	4.96	5.00	4.99	5.03	5.04	5.07	5.12	5.15	5.22	5.31	5.33	5.37
Nondurable goods	5.53	6.00	5.85	5.90	5.91	5.94	6.03	6.04	6.11	6.14	6.21	6.26	6.28	6.27	6.30
Food and kindred products	5.80	6.27	6.12	6.19	6.22	6.22	6.28	6.28	6.33	6.36	6.51	6.56	6.62	6.64	6.86
Tobacco manufactures	6.13	6.69	6.64	6.80	6.83	6.82	6.83	6.59	6.54	6.43	7.01	7.04	7.13	7.32	7.56
Textile mill products	4.30	4.66	4.52	4.48	4.52	4.54	4.65	4.77	4.82	4.83	4.86	4.87	4.90	4.90	4.91
Apparel and other textile products	3.94	4.24	4.19	4.19	4.20	4.21	4.23	4.21	4.28	4.32	4.32	4.39	4.45	4.46	4.51
Paper and allied products	6.52	7.12	6.88	6.92	6.96	7.05	7.17	7.22	7.32	7.34	7.42	7.48	7.48	7.50	7.53
Printing and publishing	6.50	6.91	6.77	6.72	6.83	6.88	6.90	6.94	7.04	7.06	7.09	7.17	7.20	7.26	7.30
Chemicals and allied products	7.01	7.59	7.36	7.50	7.47	7.53	7.60	7.65	7.73	7.82	7.87	7.91	7.96	7.99	8.06
Petroleum and coal products	8.63	9.37	9.31	9.44	9.39	9.32	9.39	9.35	9.51	9.49	9.57	9.49	9.48	9.21	9.11
Rubber and miscellaneous plastics products	5.52	5.96	5.86	5.82	5.90	5.91	5.95	5.94	6.03	6.12	6.14	6.21	6.25	6.26	6.31
Leather and leather products	3.89	4.23	4.17	4.18	4.18	4.19	4.19	4.22	4.29	4.31	4.34	4.36	4.46	4.48	4.51
TRANSPORTATION AND PUBLIC UTILITIES	7.57	8.18	7.90	7.88	7.94	8.03	8.23	8.32	8.45	8.45	8.52	8.55	8.56	8.60	8.62
WHOLESALE AND RETAIL TRADE	4.67	5.06	4.98	5.00	5.00	5.02	5.05	5.06	5.13	5.15	5.18	5.18	5.34	5.36	5.38
WHOLESALE TRADE	5.88	6.39	6.23	6.30	6.29	6.34	6.39	6.41	6.51	6.51	6.57	6.68	6.72	6.74	6.80
RETAIL TRADE	4.20	4.53	4.47	4.49	4.49	4.50	4.51	4.52	4.58	4.59	4.62	4.61	4.78	4.78	4.80
FINANCE, INSURANCE, AND REAL ESTATE	4.90	5.28	5.16	5.23	5.22	5.22	5.29	5.29	5.38	5.37	5.42	5.49	5.55	5.60	5.68
SERVICES	4.99	5.36	5.26	5.29	5.27	5.27	5.29	5.30	5.45	5.48	5.54	5.60	5.65	5.69	5.72

18. Hourly Earnings Index for production or nonsupervisory workers on private nonagricultural payrolls, by industry division

[Seasonally adjusted data: 1967 = 100]

Industry	1979										1980			Feb. 1980 to Mar. 1980	Mar. 1979 to Mar. 1980
	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.^{p}	Mar.^{p}		
TOTAL PRIVATE (in current dollars)	225.2	226.8	227.5	229.0	230.9	232.2	234.3	234.9	237.3	239.5	240.5	242.5	245.0	1.0	8.8
Mining	256.1	264.1	262.7	264.9	266.9	265.6	266.1	268.0	271.6	273.2	274.0	276.2	279.9	1.3	9.3
Construction	216.5	218.1	220.4	220.4	222.1	223.1	224.4	224.0	225.8	227.6	225.1	230.0	231.2	.5	6.8
Manufacturing	228.7	231.0	232.3	233.9	235.4	236.9	238.7	240.0	242.1	244.3	245.3	248.0	250.2	.9	9.4
Transportation and public utilities	243.1	241.7	243.7	246.4	251.3	252.6	255.6	255.8	258.9	260.7	261.2	263.0	265.7	1.0	9.3
Wholesale and retail trade	219.4	220.9	221.0	222.6	223.8	225.4	227.0	227.4	229.5	231.3	234.7	235.4	237.6	.9	8.3
Finance, insurance, and real estate	204.8	207.5	207.0	208.0	210.8	211.5	214.4	213.1	216.2	218.5	218.6	220.7	225.8	2.3	10.3
Services	223.3	225.0	224.3	225.7	227.0	228.4	231.5	232.3	234.7	237.7	238.0	239.7	242.1	1.0	8.4
TOTAL PRIVATE (in constant dollars)	107.3	107.0	106.3	105.8	105.6	105.1	104.9	104.1	104.1	103.8	102.8	102.2	(1)	(1)	(1)

[1] Not available

19. Weekly earnings, by industry division and major manufacturing group

[Gross averages, production or nonsupervisory workers on private nonagricultural payrolls]

Industry division and group	Annual average		1979										1980		
	1978	1979	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb. p	Mar. p
TOTAL PRIVATE	$203.70	$219.91	$214.91	$211.65	$216.20	$219.71	$221.76	$222.84	$225.90	$225.62	$226.06	$229.40	$225.34	$226.75	$228.80
MINING	332.11	364.64	354.78	363.80	361.66	367.62	355.28	365.49	372.80	374.51	380.19	383.25	384.09	383.56	391.03
CONSTRUCTION	318.32	341.69	331.89	320.21	340.01	346.03	348.35	354.16	360.43	356.82	346.75	355.05	332.40	342.47	342.22
MANUFACTURING	249.27	268.94	266.34	254.41	265.86	269.06	267.73	267.60	274.04	274.85	277.14	285.07	277.01	277.50	280.50
Durable goods	270.44	290.50	289.39	273.14	288.46	291.51	288.86	287.65	295.30	295.80	297.43	308.26	297.82	299.49	303.46
Lumber and wood products	222.86	240.16	231.85	230.69	236.41	247.63	245.46	248.58	253.43	248.35	241.72	245.00	238.98	242.44	242.32
Furniture and fixtures	183.92	195.32	193.05	185.25	189.85	195.94	191.52	196.86	202.02	204.36	205.02	210.27	202.37	203.61	205.13
Stone, clay, and glass products	262.91	283.86	277.55	276.60	284.08	288.39	285.94	287.73	291.07	291.90	294.82	296.78	282.71	285.20	293.30
Primary metal industries	342.76	371.36	366.63	371.96	365.56	370.66	373.35	371.28	378.31	372.19	376.86	379.55	378.51	381.92	386.11
Fabricated metal products	259.94	278.26	277.54	256.86	275.54	279.21	274.04	276.62	282.74	285.36	286.59	298.33	286.64	287.65	291.91
Machinery except electrical	284.34	306.39	306.29	286.13	302.33	308.28	302.82	303.56	313.41	309.92	314.67	327.42	318.31	319.97	322.46
Electric and electronic equipment	234.55	254.29	250.71	237.07	249.64	253.13	248.29	252.49	261.63	261.14	266.26	274.23	268.13	269.07	271.35
Transportation equipment	333.80	351.44	356.17	313.05	356.10	352.29	349.70	341.82	349.61	358.07	354.14	379.14	352.06	353.12	360.80
Instruments and related products	233.54	251.74	249.45	241.20	249.29	248.68	248.25	247.44	252.75	257.86	264.55	269.98	269.37	268.46	270.91
Miscellaneous manufacturing	181.97	196.06	194.04	186.50	192.50	194.61	194.66	196.06	199.25	201.22	203.94	207.23	207.62	206.27	208.36
Nondurable goods	217.88	235.80	229.91	225.38	231.08	234.04	236.38	237.98	241.96	241.92	245.92	249.77	244.92	243.90	245.07
Food and kindred products	230.26	250.17	242.35	241.41	246.31	247.56	251.83	253.08	257.00	254.40	261.70	264.37	261.49	259.62	259.74
Tobacco manufactures	233.55	254.22	252.98	255.68	265.69	265.98	246.56	247.78	255.71	249.48	273.39	278.08	266.66	270.84	285.01
Textile mill products	173.72	187.80	182.61	172.93	181.25	184.32	185.54	192.23	196.66	197.06	200.72	202.11	200.41	199.92	199.84
Apparel and other textile products	140.26	149.25	148.33	142.04	147.42	149.88	149.74	149.88	151.51	153.36	153.79	157.60	156.64	157.88	159.65
Paper and allied products	279.71	303.31	293.09	287.87	295.10	302.74	304.73	307.57	312.56	312.68	318.32	325.38	318.65	317.25	319.27
Printing and publishing	244.40	259.13	255.23	247.30	254.76	257.31	258.06	263.03	266.82	264.75	268.71	273.18	267.84	268.62	272.29
Chemicals and allied products	293.72	317.26	308.38	314.25	312.25	314.75	316.92	319.77	323.11	326.09	331.33	333.80	331.93	332.38	336.49
Petroleum and coal products	376.27	410.41	407.76	414.42	410.34	404.49	414.10	407.66	425.10	418.51	428.74	411.87	342.23	364.72	353.47
Rubber and miscellaneous plastics products	225.77	241.38	242.60	229.31	238.95	240.54	239.19	237.60	244.22	247.86	247.44	252.75	251.88	249.77	253.03
Leather and leather products	144.32	154.40	149.70	147.55	152.15	155.45	154.61	154.45	157.87	157.32	159.71	162.63	163.68	165.31	163.71
TRANSPORTATION AND PUBLIC UTILITIES	302.80	326.38	314.42	307.32	314.42	321.20	329.20	335.30	337.16	337.16	342.50	342.00	338.12	341.42	343.08
WHOLESALE AND RETAIL TRADE	153.64	164.96	161.35	162.50	162.00	165.16	166.17	167.99	167.75	167.38	167.83	170.42	170.35	170.98	172.16
WHOLESALE TRADE	228.14	247.93	242.35	243.18	244.68	247.26	249.21	249.35	252.59	253.24	255.57	261.19	258.72	258.82	261.80
RETAIL TRADE	130.20	139.07	135.44	137.39	136.50	139.50	142.07	141.93	140.61	139.54	140.45	142.91	142.44	142.44	144.00
FINANCE, INSURANCE, AND REAL ESTATE	178.36	191.66	187.31	190.37	188.44	188.96	192.56	191.50	195.29	194.93	197.29	199.84	201.47	203.28	206.75
SERVICES	163.67	175.27	171.48	171.93	171.28	173.38	176.16	175.96	178.22	178.65	180.60	183.68	183.63	184.93	186.47

20. Gross and spendable weekly earnings, in current and 1967 dollars, 1960 to date

[Averages for production or nonsupervisory workers on private nonagricultural payrolls]

Year and month	Private nonagricultural workers						Manufacturing workers					
	Gross average weekly earnings		Spendable average weekly earnings				Gross average weekly earnings		Spendable average weekly earnings			
			Worker with no dependents		Married worker with 3 dependents				Worker with no dependents		Married worker with 3 dependents	
	Current dollars	1967 dollars	Current dollars	1967 dollars	Current dollars	1967 dollars	Current dollars	1967 dollars	Current dollars	1967 dollars	Current dollars	1967 dollars
1960	$80.67	$90.95	$65.59	$73.95	$72.96	$82.25	$89.72	$101.15	$72.57	$81.82	$80.11	$90.32
1961	82.60	92.19	67.08	74.87	74.48	83.13	92.34	103.06	74.60	83.26	82.18	91.72
1962	85.91	94.82	69.56	76.78	76.99	84.98	96.56	106.58	77.86	85.94	85.53	94.40
1963	88.46	96.47	71.05	77.48	78.56	85.67	99.23	108.21	79.51	86.71	87.25	95.15
1964	91.33	98.31	75.04	80.78	82.57	88.88	102.97	110.84	84.40	90.85	92.18	99.22
1965	95.45	101.01	79.32	83.94	86.63	91.67	107.53	113.79	89.08	94.26	96.78	102.41
1966	98.82	101.67	81.29	83.63	88.66	91.21	112.19	115.42	91.45	94.08	99.33	102.19
1967	101.84	101.84	83.38	83.38	90.86	90.86	114.49	114.49	92.97	92.97	100.93	100.93
1968	107.73	103.39	86.71	83.21	95.28	91.44	122.51	117.57	97.70	93.76	106.75	102.45
1969	114.61	104.38	90.96	82.84	99.99	91.07	129.51	117.95	101.90	92.81	111.44	101.49
1970	119.83	103.04	96.21	82.73	104.90	90.20	133.33	114.64	106.32	91.42	115.58	99.38
1971	127.31	104.95	103.80	85.57	112.43	92.69	142.44	117.43	114.97	94.78	124.24	102.42
1972	136.90	109.26	112.19	89.54	121.68	97.11	154.71	123.47	125.34	100.03	135.57	108.20
1973	145.39	109.23	117.51	88.29	127.38	95.70	166.46	125.06	132.57	99.60	143.50	107.81
1974	154.76	104.78	124.37	84.20	134.61	91.14	176.80	119.70	140.19	94.92	151.56	102.61
1975	163.53	101.45	132.49	82.19	145.65	90.35	190.79	118.36	151.61	94.05	166.29	103.16
1976	175.45	102.90	143.30	84.05	155.87	91.42	209.32	122.77	167.83	98.43	181.32	106.35
1977	189.00	104.13	155.19	85.50	169.93	93.63	228.90	126.12	183.80	101.27	200.06	110.23
1978	203.70	104.30	165.39	84.69	180.71	92.53	249.27	127.63	197.40	101.08	214.87	110.02
1979	219.91	101.02	178.00	81.76	194.82	89.49	268.94	123.54	212.43	97.58	232.07	106.60
1979: March	214.91	102.68	174.35	83.30	190.93	91.22	266.34	127.25	210.65	100.65	230.10	109.94
April	211.65	99.93	171.98	81.20	188.39	88.95	254.41	120.12	202.32	95.52	221.05	104.37
May	216.20	100.89	175.29	81.80	191.93	89.56	265.86	124.06	210.04	98.14	229.74	107.20
June	219.71	101.30	177.85	82.00	194.67	89.75	269.06	124.05	212.51	97.98	232.17	107.04
July	221.76	101.08	179.35	81.75	196.26	89.45	267.73	122.03	211.61	96.45	231.16	105.36
August	222.84	100.60	180.13	81.32	197.11	88.99	267.60	120.81	211.52	95.49	231.06	104.32
September	225.90	100.98	182.36	81.52	199.42	89.15	274.04	122.50	215.89	96.51	235.94	105.47
October	225.62	100.01	182.16	80.74	199.21	88.30	274.85	121.83	216.44	95.94	236.56	104.86
November	226.06	99.32	182.48	80.18	199.54	87.67	277.14	121.77	217.99	95.78	238.30	104.70
December	229.40	99.74	184.84	80.37	202.08	87.86	285.07	123.94	223.38	97.12	244.31	106.22
1980: January	225.34	96.59	181.96	77.99	199.00	85.30	277.01	118.74	217.91	93.40	238.20	102.10
February[p]	226.75	95.88	182.98	77.37	200.07	84.60	277.50	117.34	218.24	92.28	238.57	100.88
March[p]	228.80	(1)	184.42	(1)	201.62	(1)	280.59	(1)	220.34	(1)	240.91	(1)

[1] Not available.

NOTE: The earnings expressed in 1967 dollars have been adjusted for changes in price level as measured by the Bureau's Consumer Price Index for Urban Wage Earners and Clerical Workers.

These series are described in "The Spendable Earnings Series: A Technical Note on its Calculation," **Employment and Earnings and Monthly Report on the Labor Force,** February 1969, pp. 6-13. See also "Spendable Earnings Formulas, 1978-80," **Employment and Earnings,** March 1980, pp. 10-11.

UNEMPLOYMENT INSURANCE DATA

UNEMPLOYMENT INSURANCE DATA are compiled monthly by the Employment and Training Administration of the U.S. Department of Labor from records of State and Federal unemployment insurance claims filed and benefits paid. Railroad unemployment insurance data are prepared by the U.S. Railroad Retirement Board.

Definitions

Data for **all programs** represent an unduplicated count of insured unemployment under the State, Ex-Servicemen, and UCFE programs, and the Railroad Insurance Act.

Under both State and Federal unemployment insurance programs for civilian employees, insured workers must report the completion of at least 1 week of unemployment before they are defined as unemployed. Persons not covered by unemployment insurance (about one-third of the labor force) and those who have exhausted or not yet earned benefit rights are excluded from the scope of the survey. **Initial claims** are notices filed by persons in unemployment insurance programs to indicate they are out of work and wish to begin receiving compensation. A claimant who continued to be unemployed a full week is then counted in the insured unemployment figure. The **rate of insured unemployment** expresses the number of insured unemployed as a percent of the average insured employment in a 12-month period.

An **application** for benefits is filed by a railroad worker at the beginning of his first period of unemployment in a benefit year; no application is required for subsequent periods in the same year. **Number of payments** are payments made in 14-day registration periods. The **average amount of benefit payment** is an average for all compensable periods, not adjusted for recovery of overpayments or settlement of underpayments. However, **total benefits** paid have been adjusted.

21. Unemployment insurance and employment service operations

[All items except average benefits amounts are in thousands]

Item	1979											1980	
	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.
All programs:													
Insured unemployment	3,209	2,921	2,610	2,230	2,119	2,429	2,377	2,164	2,236	2,559	3,047	3,740	3,730
State unemployment insurance program:[1]													
Initial claims[2]	1,576	1,396	1,589	1,309	1,400	1,978	1,545	1,219	1,641	1,827	2,263	2,835	......
Insured unemployment (average weekly volume)	3,053	2,750	2,440	2,078	1,991	2,300	2,245	2,024	2,057	2,384	2,864	3,537	3,518
Rate of insured unemployment	4.0	3.6	3.1	2.6	2.5	2.8	2.7	2.4	2.4	2.8	3.4	4.1	4.1
Weeks of unemployment compensated	10,762	11,105	8,956	8,442	7,197	7,889	8,830	6,993	7,638	8,107	9,171	13,766	......
Average weekly benefit amount for total unemployment	$90.31	$90.28	$89.25	$88.37	$87.25	$86.40	$88.56	$89.07	$90.59	$92.39	$94.54	$95.42	......
Total benefits paid	$915,146	$975,641	$777,699	$725,229	$610,269	$665,687	$767,025	$606,095	$673,965	$728,370	$843,869	$1,281,495	......
Unemployment compensation for ex-servicemen:[3]													
Initial claims[1]	21	21	20	20	24	28	28	23	26	24	24	25	......
Insured unemployment (average weekly volume)	53	52	48	45	45	51	52	52	52	54	56	60	56
Weeks of unemployment compensated	219	241	207	214	193	216	234	211	236	232	233	299	......
Total benefits paid	$20,469	$22,794	$19,617	$20,440	$18,623	$20,965	$23,861	$19,634	$23,325	$23,093	$23,093	$29,815	......
Unemployment compensation for Federal civilian employees:[4]													
Initial claims	13	12	12	12	13	16	13	13	18	15	15	19	......
Insured unemployment (average weekly volume)	35	33	27	24	23	2.5	25	25	28	29	31	34	32
Weeks of unemployment compensated	133	143	112	106	91	96	107	91	109	118	118	150	......
Total benefits paid	$12,256	$13,168	$10,345	$9,330	$8,341	$8,802	$9,829	$8,453	$10,093	$11,063	$11,047	$14,099	......
Railroad unemployment insurance:													
Applications	6	5	3	3	9	15	8	13	11	10	11	22	7
Insured unemployment (average weekly volume)	24	23	18	10	8	11	12	21	18	20	19	40	39
Number of payments	50	23	40	29	19	20	26	32	51	36	41	80	71
Average amount of benefit payment	$200.54	$204.72	$195.55	$177.39	$183.13	$190.10	$195.61	$189.08	$189.61	$183.38	$197.22	$199.01	$208.73
Total benefits paid	$9,871	$10,538	$7,276	$5,681	$3,314	$3,699	$3,767	$5,747	$8,003	$6,462	$8,085	$14,967	$14,573
Employment service:[5]													
New applications and renewals	......	8,059	9,180	10,452	11,907	13,186	14,479	15,525	......	......	......	......	......
Nonfarm placements	......	1,991	2,291	2,616	3,051	3,482	3,935	4,349	......	......	......	......	......

[1] Initial claims and State insured unemployment include data under the program for Puerto Rican sugarcane workers.

[2] Includes interstate claims for the Virgin Islands. Excludes transition claims under State programs.

[3] Excludes data on claims and payments made jointly with other programs.

[4] Includes the Virgin Islands. Excludes data on claims and payments made jointly with State programs.

[5] Cumulative total for fiscal year (October 1 - September 30).

NOTE: Data for Puerto Rico included. Dashes indicate data not available.

PRICE DATA

PRICE DATA are gathered by the Bureau of Labor Statistics from retail and primary markets in the United States. Price indexes are given in relation to a base period (1967 = 100, unless otherwise noted).

Definitions

The **Consumer Price Index** is a monthly statistical measure of the average change in prices in a fixed market basket of goods and services. Effective with the January 1978 index, the Bureau of Labor Statistics began publishing CPI's for two groups of the population. One index, a new CPI for All Urban Consumers, covers 80 percent of the total noninstitutional population; and the other index, a revised CPI for Urban Wage Earners and Clerical Workers, covers about half the new index population. The All Urban Consumers index includes, in addition to wage earners and clerical workers, professional, managerial, and technical workers, the self-employed, short-term workers, the unemployed, retirees, and others not in the labor force.

The CPI is based on prices of food, clothing, shelter, fuel, drugs, transportation fares, doctor's and dentist's fees, and other goods and services that people buy for day-to-day living. The quantity and quality of these items is kept essentially unchanged between major revisions so that only price changes will be measured. Prices are collected from over 18,000 tenants, 24,000 retail establishments, and 18,000 housing units for property taxes in 85 urban areas across the country. All taxes directly associated with the purchase and use of items are included in the index. Because the CPI's are based on the expenditures of two population groups in 1972–73, they may not accurately reflect the experience of individual families and single persons with different buying habits.

Though the CPI is often called the "Cost-of-Living Index," it measures only price change, which is just one of several important factors affecting living costs. Area indexes do not measure differences in the level of prices among cities. They only measure the average change in prices for each area since the base period.

Producer Price Indexes measure average changes in prices received in primary markets of the United States by producers of commodities in all stages of processing. The sample used for calculating these indexes contains about 2,800 commodities and about 10,000 quotations per month selected to represent the movement of prices of all commodities produced in the manufacturing, agriculture, forestry, fishing, mining, gas and electricity, and public utilities sectors. The universe includes all commodities produced or imported for sale in commercial transactions in primary markets in the United States.

Producer Price Indexes can be organized by stage of processing or by commodity. The stage of processing structure organizes products by degree of fabrication (that is, finished goods, intermediate or semifinished goods, and crude materials). The commodity structure organizes products by similarity of end-use or material composition.

To the extent possible, prices used in calculating Producer Price Indexes apply to the first significant commercial transaction in the United States, from the production or central marketing point. Price data are generally collected monthly, primarily by mail questionnaire. Most prices are obtained directly from producing companies on a voluntary and confidential basis. Prices generally are reported for the Tuesday of the week containing the 13th day of the month.

In calculating Producer Price Indexes, price changes for the various commodities are averaged together with implicit quantity weights representing their importance in the total net selling value of all commodities as of 1972. The detailed data are aggregated to obtain indexes for stage of processing groupings, commodity groupings, durability of product groupings, and a number of special composite groupings.

Price indexes for the output of selected SIC industries measure average price changes in commodities produced by particular industries, as defined in the *Standard Industrial Classification Manual 1972* (Washington, U.S. Office of Management and Budget, 1972). These indexes are derived from several price series, combined to match the economic activity of the specified industry and weighted by the value of shipments in the industry. They use data from comprehensive industrial censuses conducted by the U.S. Bureau of the Census and the U.S. Department of Agriculture.

Notes on the data

Beginning with the May 1978 issue of the *Review*, regional CPI's cross classified by population size, were introduced. These indexes will enable users in local areas for which an index is not published to get a better approximation of the CPI for their area by using the appropriate population size class measure for their region. The cross-classified indexes will be published bimonthly. (See table 24.)

For further details about the new and the revised indexes and a comparison of various aspects of these indexes with the old unrevised CPI, see *Facts About the Revised Consumer Price Index*, a pamphlet in the Consumer Price Index Revision 1978 series. See also *The Consumer Price Index: Concepts and Content Over the Years*. Report 517, revised edition (Bureau of Labor Statistics, May 1978).

For interarea comparisons of living costs at three hypothetical standards of living, see the family budget data published in the *Handbook of Labor Statistics, 1977*, Bulletin 1966 (Bureau of Labor Statistics, 1977), tables 122–133. Additional data and analysis on price changes are provided in the *CPI Detailed Report* and *Producer Prices and Price Indexes*, both monthly publications of the Bureau.

As of January 1976, the Wholesale Price Index (as it was then called) incorporated a revised weighting structure reflecting 1972 values of shipments. From January 1967 through December 1975, 1963 values of shipments were used as weights.

For a discussion of the general method of computing consumer, producer, and industry price indexes, see *BLS Handbook of Methods for Surveys and Studies*, Bulletin 1910 (Bureau of Labor Statistics, 1976), chapters 13–15. See also John F. Early, "Improving the measurement of producer price change," *Monthly Labor Review*, April 1978, pp. 7–15. For industry prices, see also Bennett R. Moss, "Industry and Sector Price Indexes," *Monthly Labor Review*, August 1965, pp. 974–82.

22. Consumer Price Index for Urban Wage Earners and Clerical Workers, annual averages and changes, 1967–79

[1967 = 100]

Year	All items		Food and beverages		Housing		Apparel and upkeep		Transportation		Medical care		Entertainment		Other goods and services	
	Index	Percent change	Index	Percent change	Index	Percent change	Index	Percent change	Index	Percent change	Index	Percent change	Index	Percent change	Index	Percent change
1967	100.0	...	100.0	...	100.0	...	100.0	...	100.0	...	100.0	...	100.0	...	100.0	...
1968	104.2	4.2	103.6	3.6	104.0	4.0	105.4	5.4	103.2	3.2	106.1	6.1	105.7	5.7	105.2	5.2
1969	109.8	5.4	108.8	5.0	110.4	6.2	111.5	5.8	107.2	3.9	113.4	6.9	111.0	5.0	110.4	4.9
1970	116.3	5.9	114.7	5.4	118.2	7.1	116.1	4.1	112.7	5.1	120.6	6.3	116.7	5.1	116.8	5.8
1971	121.3	4.3	118.3	3.1	123.4	4.4	119.8	3.2	118.6	5.2	128.4	6.5	122.9	5.3	122.4	4.8
1972	125.3	3.3	123.2	4.1	128.1	3.8	122.3	2.1	119.9	1.1	132.5	3.2	126.5	2.9	127.5	4.2
1973	133.1	6.2	139.5	13.2	133.7	4.4	126.8	3.7	123.8	3.3	137.7	3.9	130.0	2.8	132.5	3.9
1974	147.7	11.0	158.7	13.8	148.8	11.3	136.2	7.4	137.7	11.2	150.5	9.3	139.8	7.5	142.0	7.2
1975	161.2	9.1	172.1	8.4	164.5	10.6	142.3	4.5	150.6	9.4	168.6	12.0	152.2	8.9	153.9	8.4
1976	170.5	5.8	177.4	3.1	174.6	6.1	147.6	3.7	165.5	9.9	184.7	9.5	159.8	5.0	162.7	5.7
1977	181.5	6.5	188.0	6.0	186.5	6.8	154.2	4.5	177.2	7.1	202.4	9.6	167.7	4.9	172.2	5.8
1978	195.3	7.6	206.2	9.7	202.6	8.6	159.5	3.4	185.8	4.9	219.4	8.4	176.2	5.1	183.2	6.4
1979	217.7	11.5	228.7	10.9	227.5	12.3	166.4	4.3	212.8	14.5	240.1	9.4	187.6	6.5	196.3	7.2

23. Consumer Price Index for All Urban Consumers and revised CPI for Urban Wage Earners and Clerical Workers, U.S. city average—general summary and groups, subgroups, and selected items

[1967 = 100 unless otherwise specified]

General summary	All Urban Consumers							Urban Wage Earners and Clerical Workers (revised)						
	1979					1980		1979					1980	
	Feb.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Feb.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.
All items	207.1	223.4	225.4	227.5	229.9	233.2	236.4	207.1	223.7	225.6	227.6	230.0	233.3	236.5
Food and beverages	222.4	231.0	232.1	233.1	235.5	237.5	238.6	222.6	231.2	232.3	233.1	235.7	237.8	239.0
Housing	215.6	234.6	237.7	240.8	243.6	247.3	250.5	215.4	234.5	237.7	240.7	243.6	247.3	250.5
Apparel and upkeep	161.4	169.8	171.0	171.7	172.2	171.0	171.9	161.6	169.3	170.8	171.3	171.4	169.8	171.5
Transportation	195.6	221.4	222.7	224.9	227.7	233.5	239.6	196.1	222.4	223.4	225.7	228.3	234.1	240.2
Medical care	232.6	243.7	245.9	248.0	250.7	253.9	257.9	232.1	244.7	247.2	249.1	251.7	254.9	258.7
Entertainment	183.2	191.1	192.0	192.8	193.4	195.3	197.8	182.4	190.2	191.4	192.0	192.3	193.9	196.2
Other goods and services	191.9	201.7	202.3	202.9	204.0	206.3	208.1	191.9	200.6	201.4	202.0	203.0	206.0	207.7
Commodities	198.3	214.1	215.6	217.4	219.4	222.4	225.2	198.5	214.4	215.8	217.4	219.4	222.3	225.3
Commodities less food and beverages	184.8	203.3	204.9	206.9	208.8	212.0	215.5	184.7	203.5	205.0	206.9	208.7	212.0	215.7
Nondurables less food and beverages	184.2	213.2	214.9	216.6	219.0	224.6	231.8	184.7	214.8	216.6	218.1	220.5	226.3	234.1
Durables	183.6	194.5	196.0	198.4	199.8	201.3	202.1	183.2	193.5	194.8	196.9	198.2	199.6	200.3
Services	223.3	240.7	243.6	246.2	249.3	253.1	256.8	223.2	241.0	244.0	246.7	249.6	253.6	257.3
Rent, residential	171.0	179.0	181.4	182.1	182.9	184.1	185.6	170.9	178.9	181.2	181.9	182.7	183.9	185.5
Household services less rent	251.0	276.7	280.7	284.6	289.2	295.1	300.2	251.4	278.2	282.3	286.3	291.1	297.2	302.4
Transportation services	205.5	216.6	218.5	221.5	224.2	226.8	229.6	206.1	216.8	218.6	221.5	224.0	226.6	229.3
Medical care services	250.4	262.8	265.3	267.6	270.7	274.4	279.0	249.6	263.8	266.8	268.8	271.8	275.6	279.8
Other services	193.6	204.7	205.7	206.5	207.1	209.0	211.1	193.9	204.9	206.4	207.3	207.4	209.3	211.4
Special Indexes:														
All items less food	201.8	219.6	221.8	224.1	226.4	229.9	233.5	201.6	219.8	222.0	224.2	226.4	230.0	233.7
All items less mortgage interest costs	202.3	216.7	218.3	219.8	221.7	224.3	227.1	202.5	217.2	218.7	220.1	222.0	224.7	227.6
Commodities less food	183.7	201.8	203.4	205.4	207.2	210.4	213.8	183.6	202.0	203.5	205.4	207.1	210.3	214.0
Nondurables less food	182.2	209.6	211.3	212.9	215.2	220.5	227.3	182.7	211.0	212.9	214.4	216.7	222.1	229.4
Nondurables less food and apparel	196.2	232.7	234.8	236.8	240.1	248.6	258.2	196.5	234.2	236.3	238.2	241.5	250.2	260.1
Nondurables	204.0	223.1	224.5	225.8	228.2	232.0	236.3	204.5	223.9	225.3	226.5	229.0	232.9	237.4
Services less rent	232.9	252.1	255.1	258.2	261.6	266.1	270.2	232.9	252.6	255.7	258.8	262.1	266.7	270.8
Services less medical care	219.0	236.7	239.6	242.3	245.3	249.2	252.7	219.0	236.9	239.9	242.6	245.5	249.5	253.1
Domestically produced farm foods	218.5	223.7	224.1	224.5	227.5	229.2	229.1	218.6	223.6	224.0	224.4	227.5	229.0	229.2
Selected beef cuts	244.8	255.3	257.3	256.5	263.2	265.7	267.2	246.9	258.0	259.1	259.2	265.2	268.1	270.3
Energy	235.0	304.3	307.5	307.8	313.7	327.9	344.6	235.3	307.0	310.2	310.7	317.0	331.5	348.7
All items less energy	205.2	217.3	219.2	221.4	223.6	225.9	228.0	205.3	217.0	218.8	221.0	223.0	225.3	227.3
All items less food and energy	198.8	211.5	213.6	216.1	218.1	220.6	222.8	198.5	211.0	213.0	215.4	217.3	219.6	221.8
Commodities less food and energy	178.7	188.2	189.6	191.4	192.6	193.7	194.9	178.5	187.5	188.7	190.4	191.4	192.4	193.5
Energy commodities	231.1	325.3	329.0	332.5	340.0	361.5	385.0	231.5	326.5	330.2	333.8	341.5	362.8	386.4
Services less energy	222.0	238.4	241.3	244.6	247.6	251.6	255.2	221.9	238.7	241.7	245.1	248.0	252.2	255.7
Purchasing power of the consumer dollar, 1967 = $1	$0.483	$0.448	$0.444	$0.440	$0.435	$0.429	$0.423	$0.483	$0.447	$0.443	$0.439	$0.435	$0.429	$0.423

23. Continued—Consumer Price Index—U.S. city average

[1967=100 unless otherwise specified]

General summary	All Urban Consumers							Urban Wage Earners and Clerical Workers (revised)						
	1979					1980		1979					1980	
	Feb.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Feb.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.
FOOD AND BEVERAGES	222.4	231.0	232.1	233.1	235.5	237.5	238.6	222.6	231.2	232.3	233.1	235.7	237.8	239.0
Food	228.2	237.1	238.2	239.1	241.7	243.8	244.9	228.5	237.3	238.3	239.1	241.8	244.0	245.2
Food at home	228.0	234.7	235.4	236.0	238.7	240.6	241.3	227.9	234.2	234.8	235.4	238.3	240.1	241.1
Cereals and bakery products	212.2	225.6	227.0	228.7	231.6	234.2	236.8	212.9	226.6	227.9	229.7	232.3	234.7	237.4
Cereals and cereal products (12/77 = 100)	113.2	120.0	120.8	121.1	122.9	125.0	125.8	113.6	120.6	121.4	122.1	123.8	126.1	127.2
Flour and prepared flour mixes (12/77 = 100)	114.0	123.4	124.0	122.8	123.8	125.7	125.7	115.1	125.1	125.0	124.6	125.1	126.9	127.3
Cereal (12/77 = 100)	113.3	118.8	119.2	119.7	122.8	123.7	124.9	113.6	118.7	119.3	119.9	122.9	124.2	125.5
Rice, pasta, and cornmeal (12/77 = 100)	112.4	118.6	120.4	121.6	122.2	126.4	127.4	112.2	119.1	120.8	122.7	123.9	127.9	129.2
Bakery products (12/77 = 100)	112.0	119.2	119.9	121.0	122.4	123.5	125.1	112.4	119.7	120.3	121.3	122.7	123.6	125.1
White bread	185.8	200.7	202.5	204.5	207.4	208.6	210.7	185.7	200.5	202.3	203.9	206.6	207.4	209.7
Other breads (12/77 = 100)	111.9	119.6	120.5	121.3	123.3	123.8	124.6	113.5	122.5	123.8	124.2	126.0	126.9	127.5
Fresh biscuits, rolls, and muffins (12/77 = 100)	112.9	119.0	119.4	121.2	123.1	124.8	126.2	112.9	118.6	118.7	120.8	122.3	123.1	124.3
Fresh cakes and cupcakes (12/77 = 100)	109.8	116.7	117.6	119.4	120.3	121.7	122.8	110.6	116.8	118.1	119.1	120.1	120.8	122.2
Cookies (12/77 = 100)	112.4	115.9	116.6	117.1	117.8	119.7	122.8	113.5	117.8	118.3	118.4	119.6	121.5	124.0
Crackers and bread and cracker products (12/77 = 100)	111.3	114.8	115.0	114.5	116.2	117.5	119.9	110.6	114.9	115.0	116.1	116.3	118.4	121.0
Fresh sweetrolls, coffeecake, and donuts (12/77 = 100)	110.4	118.8	118.9	119.9	121.5	122.2	123.8	112.4	121.6	120.7	121.9	123.4	124.1	125.4
Frozen and refrigerated bakery products and fresh pies, tarts, and turnovers (12/77 = 100)	112.6	121.7	122.5	123.7	124.8	125.7	127.2	111.0	118.6	118.8	120.8	121.4	122.5	123.8
Meats, poultry, fish, and eggs	232.3	231.0	230.3	230.2	235.5	238.0	236.2	232.2	230.5	229.7	230.0	235.1	237.5	236.4
Meats, poultry, and fish	236.6	236.0	235.9	235.2	239.8	243.0	242.6	236.4	235.4	235.3	235.0	239.2	242.5	242.8
Meats	238.6	238.1	238.6	237.4	242.3	244.1	244.1	238.3	237.7	238.1	237.3	241.8	243.7	244.3
Beef and veal	243.4	254.2	256.2	255.5	262.2	264.6	266.2	245.3	256.4	257.5	257.7	263.7	266.7	268.9
Ground beef other than canned	255.5	261.4	263.4	264.2	271.2	271.4	273.3	255.9	263.5	265.8	266.0	273.0	272.7	276.2
Chuck roast	259.1	261.0	263.3	263.1	268.1	274.7	277.7	267.9	267.9	268.3	273.1	274.2	283.6	288.7
Round roast	220.9	229.2	230.3	229.1	238.1	241.9	244.5	222.7	231.0	233.0	232.7	240.5	245.1	245.8
Round steak	224.8	239.2	242.2	241.9	247.5	249.8	252.3	224.3	235.7	239.4	239.7	246.2	249.4	250.5
Sirloin steak	226.1	251.0	250.4	247.0	250.8	250.9	251.1	226.0	253.9	249.6	247.4	253.5	253.5	253.0
Other beef and veal (12/77 = 100)	137.3	145.6	147.1	146.3	150.2	151.8	152.2	138.0	146.6	147.0	146.6	149.9	151.9	152.8
Pork	232.3	206.5	204.3	201.0	205.0	206.4	202.8	231.9	206.1	204.7	201.5	205.6	206.8	204.1
Bacon	227.2	194.0	190.5	186.3	193.6	194.5	190.1	229.1	195.6	194.4	188.7	195.8	195.3	193.8
Pork chops	224.6	198.1	195.1	188.8	187.8	192.1	189.7	226.7	196.1	194.9	188.1	189.1	194.8	191.0
Ham other than canned (12/77 = 100)	106.8	95.2	94.8	95.9	102.5	99.1	95.7	105.6	94.3	94.0	95.4	100.9	96.5	95.2
Sausage	282.2	258.4	257.6	254.5	256.5	256.6	255.1	278.9	258.4	258.1	255.8	258.3	260.3	257.0
Canned ham	236.6	216.6	218.2	214.8	218.9	220.8	219.5	235.7	215.3	215.8	214.6	219.1	219.3	218.9
Other pork (12/77 = 100)	131.2	117.4	115.2	112.9	112.6	116.2	114.3	130.4	117.5	115.1	112.7	112.7	116.2	114.6
Other meats	229.6	240.2	240.7	242.0	243.0	243.2	244.7	226.4	236.6	238.0	238.5	239.5	239.3	240.9
Frankfurters	226.8	235.9	236.8	238.9	239.3	239.0	242.7	224.7	236.1	237.7	237.2	238.7	239.5	242.1
Bologna, liverwurst, and salami (12/77 = 100)	126.3	133.2	134.2	133.4	134.4	134.1	135.6	123.8	129.5	130.7	130.4	130.8	130.5	132.3
Other lunchmeats (12/77 = 100)	119.4	121.6	120.3	121.6	121.5	121.2	120.7	117.0	119.0	118.8	119.5	119.4	118.7	118.6
Lamb and organ meats (12/77 = 100)	124.3	135.6	137.7	138.3	140.0	141.6	142.4	124.8	136.9	138.8	139.8	141.7	142.5	143.4
Poultry	185.8	174.8	170.3	171.6	176.2	187.8	182.6	184.3	172.8	168.3	170.1	173.9	184.3	118.1
Fresh whole chicken	185.3	169.9	159.7	166.7	175.2	191.1	183.6	181.9	165.8	157.7	163.3	169.8	183.8	178.9
Fresh and frozen chicken parts (12/77 = 100)	118.6	111.8	110.1	110.8	112.3	120.7	116.8	119.0	110.9	108.4	110.7	111.8	118.7	117.0
Other poultry (12/77 = 100)	122.5	119.2	120.3	115.9	116.9	119.3	118.8	121.9	119.8	119.8	116.0	117.4	120.1	119.4
Fish and seafood	293.0	309.7	311.5	312.2	312.6	316.7	320.4	290.8	304.4	306.5	307.5	309.1	315.4	317.9
Canned fish and seafood (12/77 = 100)	107.9	113.9	115.2	116.8	117.1	118.5	120.3	107.3	113.5	114.5	116.0	116.5	118.4	119.7
Fresh and frozen fish and seafood (12/77 = 100)	113.8	120.4	120.7	120.1	120.2	121.9	123.0	112.9	117.5	118.1	117.8	118.5	121.2	122.0
Eggs	182.1	170.7	161.3	170.1	185.9	178.2	157.2	182.4	170.5	160.3	169.6	186.6	177.0	156.7
Dairy Products	200.6	211.3	213.3	216.0	216.9	218.4	219.5	201.1	212.0	214.0	216.3	217.4	218.9	219.8
Fresh milk and cream (12/77 = 100)	113.5	119.0	120.3	121.9	122.7	123.2	123.7	113.7	119.5	120.4	121.8	122.6	123.2	123.6
Fresh whole milk	186.0	195.4	197.6	200.4	201.2	202.3	203.2	186.3	195.6	197.4	199.7	200.9	201.8	202.7
Other fresh milk and cream (12/77 = 100)	113.2	118.1	119.2	120.6	122.0	122.1	122.7	113.3	119.3	119.8	121.1	122.2	122.8	123.0
Processed dairy products (12/77 = 100)	113.2	120.1	120.9	122.3	122.5	123.8	124.5	113.6	120.5	121.7	123.0	123.3	124.5	125.1
Butter	193.3	209.9	213.3	214.4	214.0	216.9	218.3	194.6	212.3	216.6	217.1	216.6	219.8	220.9
Cheese (12/77 = 100)	113.9	120.1	121.0	122.7	122.6	123.5	124.2	113.8	120.2	121.1	122.5	122.7	123.6	124.4
Ice cream and related products (12/77 = 100)	112.7	120.1	120.4	121.4	122.6	124.0	124.6	113.7	120.7	121.9	123.4	124.3	125.6	125.6
Other dairy products (12/77 = 100)	110.2	115.5	116.4	117.8	117.9	119.8	120.9	110.6	115.6	116.9	118.2	118.3	120.4	121.3
Fruits and vegetables	226.5	231.8	232.0	229.5	230.2	229.8	228.3	225.4	229.6	230.2	226.7	228.3	227.2	225.9
Fresh fruits and vegetables	232.7	234.7	235.5	230.1	230.1	227.2	223.1	231.9	232.9	233.6	226.7	228.5	224.9	220.6
Fresh fruits	217.5	271.6	260.4	242.7	234.9	233.6	235.8	215.2	271.2	260.6	238.3	233.3	232.7	234.7
Apples	212.9	244.7	212.7	207.2	221.8	230.4	239.6	209.4	243.1	212.9	207.7	220.2	230.1	237.6
Bananas	188.4	210.3	206.6	209.0	225.2	221.9	238.5	188.1	208.4	198.7	206.5	222.0	219.5	234.6
Oranges	254.3	312.3	306.7	293.9	256.7	236.2	231.1	245.1	291.8	290.3	283.3	249.5	231.3	228.4
Other fresh fruits (12/77 = 100)	109.6	147.1	143.9	127.5	121.1	122.5	121.4	109.9	152.3	149.7	125.7	121.6	122.7	121.3
Fresh vegetables	246.9	200.3	212.2	218.4	225.7	221.2	211.2	247.0	198.4	209.4	216.4	224.2	217.9	207.9
Potatoes	194.8	199.3	191.1	195.7	207.0	203.8	203.3	197.8	193.4	183.8	191.7	199.6	200.9	199.8
Lettuce	341.2	219.6	262.9	244.2	227.5	197.6	198.7	341.6	222.9	264.2	239.0	231.3	193.2	191.7
Tomatoes	195.0	178.5	194.4	225.3	227.9	216.7	184.9	199.0	179.2	194.1	225.4	224.8	213.2	184.3
Other fresh vegetables (12/77 = 100)	137.7	109.5	114.0	119.1	128.0	132.0	125.1	136.4	108.0	112.5	118.9	128.1	130.5	123.9
Processed fruits and vegetables	221.6	230.6	230.1	231.0	232.3	234.7	236.2	220.0	227.9	228.3	228.6	230.0	231.8	233.9
Processed fruits (12/77 = 100)	115.5	120.6	120.4	121.2	121.8	122.9	123.4	115.3	119.8	120.3	121.1	121.3	122.4	123.6
Frozen fruit and fruit juices (12/77 = 100)	114.0	116.3	116.3	116.6	116.8	117.2	117.6	113.8	114.9	115.2	115.7	115.9	116.5	117.8
Fruit juices and other than frozen (12/77 = 100)	112.8	119.3	119.8	122.1	123.6	125.1	126.0	113.0	119.7	120.7	122.4	123.4	124.5	126.3
Canned and dried fruits (12/77 = 100)	119.7	125.5	124.6	124.2	124.2	125.3	125.5	118.9	123.9	124.0	124.0	123.5	124.8	125.3
Processed vegetables (12/77 = 100)	107.2	111.2	110.9	110.9	111.7	113.0	114.0	106.4	109.9	109.8	109.4	110.5	111.2	112.2
Frozen vegetables (12/77 = 100)	107.3	108.8	110.2	110.2	110.6	111.9	113.0	106.7	108.4	110.2	109.6	110.8	111.4	111.7

23. Continued—Consumer Price Index—U.S. city average

[1967 = 100 unless otherwise specified]

General summary	All Urban Consumers							Urban Wage Earners and Clerical Workers (revised)						
	1979					1980		1979					1980	
	Feb.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Feb.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.
FOOD AND BEVERAGES — Continued														
Food — Continued														
Food at home — Continued														
Fruits and vegetables — Continued														
Cut corn and canned beans except lima (12/77 = 100)	111.0	114.7	113.6	113.4	114.4	114.5	115.2	110.2	112.6	111.9	111.8	113.0	112.7	113.4
Other canned and dried vegetables (12/77 = 100)	105.3	110.1	109.9	110.0	110.9	112.9	113.9	104.3	108.7	108.5	108.1	109.1	110.4	111.9
Other foods at home	261.9	276.0	278.0	279.6	281.1	283.5	288.0	261.5	274.7	276.5	278.3	279.9	282.6	287.3
Sugar and sweets	270.2	282.0	283.1	283.2	284.6	289.8	297.5	270.2	281.2	282.2	281.9	284.1	289.6	297.1
Candy and chewing gum (12/77 = 100)	113.5	119.7	119.9	120.1	120.1	121.3	122.4	113.8	119.3	119.6	119.8	119.9	121.2	122.2
Sugar and artificial sweeteners (12/77 = 100)	114.3	115.9	119.0	116.2	117.2	122.2	131.5	114.5	116.4	116.9	116.2	117.6	122.7	131.6
Other sweets (12/77 = 100)	109.4	115.3	115.9	116.4	117.5	118.7	119.5	108.2	114.0	114.8	114.6	116.6	117.5	118.5
Fats and oils (12/77 = 100)	219.2	231.5	231.9	232.3	233.0	233.9	235.9	219.8	230.7	231.9	232.8	233.7	234.9	236.5
Margarine	235.2	245.5	244.4	246.2	247.7	248.3	247.9	235.2	242.8	244.9	246.7	247.8	248.8	247.9
Nondairy substitutes and peanut butter (12/77 = 100)	109.1	114.6	115.1	115.1	115.7	115.3	116.4	109.1	114.5	114.6	115.0	115.8	116.1	117.2
Other fats, oils, and salad dressings (12/77 = 100)	113.2	120.6	121.1	121.0	121.1	121.9	123.6	113.8	120.4	121.0	121.3	121.5	122.3	123.8
Nonalcoholic beverages	347.8	367.7	372.1	374.3	375.4	378.5	384.5	347.0	365.0	368.2	370.7	372.3	375.6	383.0
Cola drinks, excluding diet cola	233.6	242.7	246.4	247.5	247.2	249.5	255.9	230.7	240.1	242.0	243.6	243.4	246.5	253.6
Carbonated drinks, including diet cola (12/77 = 100)	113.3	117.9	118.5	118.4	118.7	119.9	122.3	111.9	115.7	116.1	115.6	116.4	116.4	120.2
Roasted coffee	357.5	425.9	432.4	438.1	440.7	443.2	439.6	357.4	418.2	424.4	430.8	435.3	440.1	436.8
Freeze dried and instant coffee	335.0	359.9	366.5	370.2	374.3	378.2	382.2	335.3	358.9	365.3	369.3	372.9	376.8	380.4
Other noncarbonated drinks (12/77 = 100)	112.1	114.0	114.8	115.7	116.3	116.8	118.3	111.5	112.7	113.5	114.8	115.5	116.2	117.5
Other prepared foods	201.8	212.6	213.4	215.3	217.4	218.8	221.8	201.9	212.4	213.4	215.7	217.2	219.1	221.7
Canned and packaged soup (12/77 = 100)	108.8	113.1	113.4	114.3	115.9	116.5	118.1	108.9	113.3	113.3	114.8	116.3	118.8	117.9
Frozen prepared foods (12/77 = 100)	113.2	123.1	123.1	124.5	125.6	126.0	126.6	112.9	121.1	122.0	122.9	123.9	125.1	125.5
Snacks (12/77 = 100)	110.9	118.4	119.6	120.4	121.3	121.8	123.4	111.9	119.0	120.6	121.7	122.2	122.8	124.7
Seasonings, olives, pickles, and relish (12/77 = 100)	113.6	117.4	118.8	118.9	120.1	121.4	123.6	113.0	116.3	117.6	118.2	119.0	121.1	123.1
Other condiments (12/77 = 100)	110.4	115.9	115.8	116.8	119.5	120.8	123.7	110.8	117.5	117.0	118.5	120.2	121.4	124.6
Miscellaneous prepared foods (12/77 = 100)	112.2	116.8	117.2	119.0	118.9	119.6	120.7	112.0	116.3	116.7	118.6	118.7	119.7	120.5
Other canned and packaged prepared foods (12/77 = 100)	112.4	116.7	116.7	117.7	118.6	119.4	121.2	111.7	116.7	116.9	118.0	118.6	119.5	120.3
Food away from home	233.4	247.6	249.6	251.3	253.4	256.1	258.3	234.3	249.3	251.3	252.7	255.1	258.0	260.1
Lunch (12/77 = 100)	113.9	120.7	121.3	122.3	123.3	124.6	125.9	114.2	121.7	122.2	123.2	124.0	125.7	126.7
Dinner (12/77 = 100)	113.1	120.3	121.6	122.4	123.4	124.8	125.8	113.2	120.9	122.4	123.0	124.2	125.6	126.8
Other meals and snacks (12/77 = 100)	112.3	118.6	119.5	120.2	121.4	122.5	123.2	113.3	119.9	120.5	120.9	122.5	123.7	124.4
Alcoholic beverages	167.7	174.2	176.0	177.4	178.0	179.3	180.4	167.7	174.9	176.9	178.0	178.7	179.7	181.1
Alcoholic beverages at home (12/77 = 100)	108.9	113.3	114.6	115.6	116.0	116.8	117.4	109.6	114.3	115.7	116.5	117.0	117.6	118.3
Beer and ale	163.6	172.3	175.1	176.9	177.8	179.0	179.9	164.0	171.8	175.2	176.9	177.6	178.8	179.9
Whiskey	124.5	129.0	129.4	130.7	130.8	131.6	132.6	125.9	130.4	131.0	131.9	132.0	132.9	133.8
Wine	188.7	195.2	198.0	198.1	199.1	201.6	202.5	190.9	202.7	202.5	201.5	204.0	203.8	206.1
Other alcoholic beverages (12/77 = 100)	104.5	105.5	105.9	107.0	106.9	107.1	107.3	103.6	105.3	105.9	106.2	106.4	106.4	106.7
Alcoholic beverages away from home (12/77 = 100)	111.6	115.1	115.9	116.4	116.8	118.0	119.2	108.8	113.4	114.2	114.9	115.2	115.9	117.6
HOUSING	215.6	234.6	237.7	240.8	243.6	247.3	250.5	215.4	234.5	237.7	240.7	243.6	247.3	250.5
Shelter	225.9	247.4	251.5	255.9	259.4	264.0	267.2	226.2	248.2	252.4	256.9	260.4	265.1	268.3
Rent, residential	171.0	179.0	181.4	182.1	182.9	184.1	185.6	170.9	178.9	181.2	181.9	182.7	183.9	185.5
Other rental costs	224.8	239.3	241.6	243.1	244.9	251.1	255.7	224.7	238.6	241.3	242.6	244.4	251.1	255.6
Lodging while out of town	235.1	251.8	254.2	256.2	258.4	267.0	272.8	234.3	249.9	253.0	254.6	256.9	266.1	271.6
Tenants' insurance (12/77 = 100)	106.3	113.7	114.1	114.6	115.1	116.2	117.8	106.6	114.1	114.7	115.0	115.5	116.8	118.5
Homeownership	245.6	271.9	276.7	282.4	286.9	292.5	296.3	246.2	273.3	278.3	284.1	288.7	294.6	298.4
Home purchase	210.9	229.8	233.4	237.3	239.9	242.1	243.0	210.8	230.0	233.6	237.7	240.2	242.3	243.0
Financing, taxes, and insurance	283.5	323.0	330.5	340.1	348.3	359.8	367.7	285.0	325.6	333.5	343.5	351.6	363.4	371.6
Property insurance	297.4	316.7	319.9	320.8	323.1	327.7	333.7	297.6	318.5	321.9	322.6	324.5	328.8	336.2
Property taxes	180.8	184.7	185.1	185.1	186.0	186.7	188.2	182.3	186.1	186.5	186.6	187.4	188.2	189.9
Contracted mortgage interest cost	338.1	396.7	408.1	423.1	435.3	452.8	464.0	338.1	397.1	408.6	424.2	436.1	453.7	465.0
Mortgage interest rates	157.6	169.7	172.0	175.4	178.3	183.7	187.5	157.7	169.7	172.0	175.6	178.4	183.8	187.8
Maintenance and repairs	245.9	262.5	264.7	266.4	268.3	270.6	273.7	245.7	263.4	265.3	266.5	268.9	271.9	274.4
Maintenance and repair services	265.7	284.4	287.0	288.8	290.4	293.2	297.1	265.8	287.2	289.4	290.3	292.8	295.9	299.3
Maintenance and repair commodities	199.9	211.5	212.5	214.0	216.6	217.6	218.9	200.4	210.8	211.9	213.6	215.6	218.4	219.5
Paint and wallpaper, supplies, tools, and equipment (12/77 = 100)	110.3	117.0	117.4	118.8	121.6	122.5	123.5	111.3	116.1	116.6	118.1	120.3	122.2	122.3
Lumber, awnings, glass, and masonry (12/77 = 100)	108.9	115.2	116.0	115.5	115.4	115.9	115.8	109.5	115.7	116.2	117.2	118.1	119.6	119.3
Plumbing, electrical, heating, and cooling supplies (12/77 = 100)	105.7	111.9	112.8	113.4	114.7	114.7	115.3	106.0	112.6	113.8	114.0	114.5	117.0	117.9
Miscellaneous supplies and equipment (12/77 = 100)	107.9	112.9	113.3	113.8	114.3	115.4	116.4	106.1	111.2	111.9	112.2	112.3	113.2	114.5
Fuel and other utilities	223.3	251.2	252.9	252.0	256.1	258.6	263.8	223.5	251.7	253.4	252.4	256.7	259.2	264.4
Fuels	259.3	306.6	310.3	307.0	311.8	318.0	327.1	259.3	306.6	310.1	306.9	311.8	318.1	327.0
Fuel oil, coal, and bottled gas	326.1	461.6	470.8	477.4	488.0	514.0	539.1	326.4	462.5	471.7	478.2	480.0	515.1	540.3
Fuel oil	330.4	482.5	491.2	497.2	507.3	534.4	561.9	330.7	483.3	491.9	497.7	506.1	534.9	562.5
Other fuels (6/78 = 100)	99.5	114.4	118.5	121.7	126.0	132.7	136.6	99.6	114.6	118.8	122.2	126.6	133.7	137.9
Gas (piped) and electricity	241.2	270.1	272.5	267.3	270.8	273.0	278.8	241.0	268.9	272.2	267.1	270.7	273.0	278.5
Electricity	205.7	230.6	228.7	221.5	224.7	226.8	233.8	205.9	231.1	228.8	221.5	224.9	228.8	233.9
Utility (piped) gas	264.1	317.5	329.1	328.9	332.6	335.1	338.8	283.0	315.8	327.4	327.8	331.1	330.8	335.4

23. Continued—Consumer Price Index—U.S. city average

[1967 = 100 unless otherwise specified]

General summary	All Urban Consumers							Urban Wage Earners and Clerical Workers (revised)						
	1979					1980		1979					1980	
	Feb.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Feb.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.
HOUSING—Continued														
Fuel and other utilities—Continued														
Other utilities and public services	159.0	159.8	158.8	161.0	161.9	161.5	161.3	159.1	159.8	158.9	160.9	161.8	161.5	161.4
Telephone services	132.2	132.4	131.2	133.3	134.3	133.4	132.8	132.3	132.4	131.3	133.3	134.2	133.4	132.8
Local charges (12/77 = 100)	100.5	100.4	98.7	101.8	103.2	102.6	102.7	100.6	100.5	98.8	101.8	103.2	102.6	102.7
Interstate toll calls (12/77 = 100)	98.4	98.4	98.4	98.4	98.4	97.7	97.4	98.5	98.4	98.4	98.4	98.4	97.7	97.5
Intrastate toll calls (12/77 = 100)	100.7	101.4	101.7	101.5	101.5	100.8	98.8	100.6	101.3	101.5	101.3	101.3	100.6	98.7
Water and sewerage maintenance	240.6	245.3	245.6	247.1	247.2	250.0	252.3	241.1	245.5	245.8	247.2	247.3	250.5	253.0
Household furnishings and operations	186.0	192.2	193.3	195.1	195.8	196.9	199.0	184.8	190.6	191.7	193.2	193.9	194.9	196.8
Housefurnishings	160.0	164.1	165.2	166.6	166.9	167.6	169.3	159.4	163.5	164.4	165.5	165.9	166.5	167.9
Textile housefurnishings	169.2	175.3	177.8	178.9	178.6	176.7	182.9	170.4	174.9	177.2	178.4	177.3	175.3	181.2
Household linens (12/77 = 100)	103.1	106.7	107.7	106.8	106.3	105.4	110.1	103.4	106.3	107.4	108.3	107.2	106.0	109.8
Curtains, drapes, slipcovers, and sewing materials (12/77 = 100)	108.0	112.0	114.2	114.4	114.6	115.1	118.2	109.5	112.2	114.1	114.5	114.4	113.2	116.6
Furniture and bedding	172.1	178.3	180.0	182.2	182.8	184.0	185.2	171.5	178.5	180.3	182.1	182.7	183.6	184.3
Bedroom furniture (12/77 = 100)	108.6	114.8	116.4	117.7	118.3	119.1	120.5	107.8	113.0	114.8	115.9	116.0	116.8	117.5
Sofas (12/77 = 100)	103.8	107.1	107.3	107.9	108.2	108.2	108.5	103.8	108.6	109.6	111.7	111.6	110.6	110.3
Living room chairs and tables (12/77 = 100)	102.9	105.1	106.2	107.7	108.1	108.9	110.0	103.8	106.7	107.5	108.6	109.2	109.4	111.2
Other furniture (12/77 = 100)	110.5	113.9	115.0	116.8	117.1	118.1	118.3	109.7	114.2	114.7	115.3	115.9	117.8	117.5
Appliances including TV and sound equipment	134.5	136.2	136.9	137.5	137.5	137.8	138.3	134.0	135.7	135.7	136.2	136.9	137.2	137.8
Television and sound equipment (12/77 = 100)	103.7	104.7	104.9	105.0	105.3	105.3	105.4	103.0	104.4	104.1	104.4	104.8	104.9	104.9
Television	102.9	102.9	103.4	103.6	103.6	103.7	103.7	101.6	101.9	102.0	102.4	102.2	102.2	102.3
Sound equipment (12/77 = 100)	105.5	107.5	107.4	107.4	107.8	107.8	108.1	105.2	107.4	106.9	107.1	108.0	108.2	108.2
Household appliances	153.4	155.8	156.9	158.2	157.9	158.5	159.4	153.1	155.2	155.6	156.2	157.1	157.7	158.8
Refrigerators and home freezer	151.3	154.1	155.3	156.0	156.7	156.7	156.5	154.3	156.5	157.9	158.1	159.0	159.4	159.7
Laundry equipment (12/77 = 100)	107.7	110.9	112.1	113.1	113.6	114.1	115.0	107.1	111.2	111.3	112.2	112.8	113.8	114.7
Other household appliances (12/77 = 100)	108.3	109.1	109.8	110.8	109.9	110.5	111.3	107.1	107.2	107.2	107.6	108.2	108.6	109.5
Stoves, dishwashers, vacuums, and sewing machines (12/77 = 100)	109.1	108.6	109.0	109.7	108.6	110.0	110.8	108.2	107.7	106.9	107.1	108.1	109.2	110.5
Office machines, small electric appliances, and air conditioners (12/77 = 100)	107.5	109.7	110.7	112.1	111.4	111.1	112.0	105.8	106.8	107.6	108.2	108.3	107.8	108.4
Other household equipment (12/77 = 100)	107.9	110.9	111.2	112.4	113.0	114.6	115.9	107.3	110.3	110.8	111.6	111.8	113.3	114.4
Floor and window coverings, infants' laundry cleaning and outdoor equipment (12/77 = 100)	107.3	111.1	109.8	111.1	111.7	113.1	114.5	103.1	105.8	105.5	107.7	107.4	108.9	109.4
Clocks, lamps, and decor items (12/77 = 100)	104.1	108.0	108.6	110.0	110.1	111.6	112.7	104.9	107.0	107.1	108.2	107.3	109.4	109.8
Tableware, serving pieces, and nonelectric kitchenware (12/77 = 100)	111.8	114.7	115.4	116.8	117.2	119.9	121.4	109.9	114.5	114.7	115.2	115.2	117.3	118.9
Lawn equipment, power tools, and other hardware (12/77 = 100)	105.8	107.6	108.5	109.0	110.3	110.6	111.7	107.9	109.5	111.0	111.1	112.5	113.0	114.2
Housekeeping supplies	216.9	224.1	224.8	226.3	229.2	231.1	235.0	216.3	222.6	223.9	226.7	227.2	228.8	232.8
Soaps and detergents	210.0	215.1	217.9	220.6	221.2	224.1	228.9	208.4	214.5	216.3	218.2	219.7	222.2	226.5
Other laundry and cleaning products (12/77 = 100)	108.1	112.3	113.7	114.1	114.7	116.1	117.2	108.1	112.4	113.5	113.7	114.5	115.6	117.1
Cleansing and toilet tissue, paper towels and napkins (12/77 = 100)	114.1	116.4	117.2	119.2	120.5	120.6	121.2	114.1	117.1	117.9	119.6	120.9	121.8	123.4
Stationery, stationery supplies, and gift wrap (12/77 = 100)	106.1	109.9	109.5	111.3	111.9	111.6	112.7	105.4	108.3	108.6	109.2	109.3	109.0	112.3
Miscellaneous household products (12/77 = 100)	109.7	113.3	114.3	115.6	116.9	117.7	119.4	108.2	111.6	112.7	114.1	114.7	115.0	116.6
Lawn and garden supplies (12/77 = 100)	107.3	112.7	110.0	113.8	112.5	114.4	119.4	108.2	109.9	108.8	113.2	109.9	111.3	113.3
Housekeeping services	241.4	253.4	254.6	256.6	258.1	260.0	261.6	240.5	252.1	253.9	255.9	257.5	259.2	261.1
Postage	257.3	257.3	257.3	257.3	257.3	257.3	257.3	257.2	257.2	257.2	257.2	257.2	257.2	257.2
Moving, storage, freight, household laundry, and drycleaning services (12/77 = 100)	110.7	118.1	118.8	120.4	121.2	122.9	124.2	111.6	118.6	119.7	121.2	122.3	123.3	124.6
Appliance and furniture repair (12/77 = 100)	107.0	111.7	112.3	112.9	113.4	114.0	114.7	106.2	111.1	112.1	112.9	113.4	114.4	115.5
APPAREL AND UPKEEP	161.4	169.8	171.0	171.7	172.2	171.0	171.9	161.6	169.3	170.8	171.3	171.4	169.8	171.5
Apparel commodities	156.3	164.2	165.2	165.9	166.1	164.3	165.1	156.7	163.9	165.3	165.7	165.7	163.6	165.2
Apparel commodities less footwear	154.1	161.5	162.3	162.9	163.0	161.1	161.8	154.7	161.2	162.4	162.7	162.6	160.2	161.9
Men's and boys'	156.7	162.7	164.2	165.4	165.4	162.8	162.7	157.6	163.2	164.4	165.3	165.0	162.4	162.9
Men's (12/77 = 100)	99.2	102.7	103.5	104.3	104.3	102.6	102.3	100.2	103.2	103.8	104.5	104.2	102.3	102.4
Suits, sport coats, and jackets (12/77 = 100)	96.3	100.0	101.6	101.2	100.9	98.8	98.2	95.5	98.3	99.1	98.7	98.8	94.9	94.4
Coats and jackets (12/77 = 100)	94.0	96.5	97.8	98.1	98.0	95.5	93.6	97.8	99.1	99.5	99.7	99.1	95.6	92.2
Furnishings and special clothing (12/77 = 100)	105.3	110.6	109.9	112.4	112.3	112.2	112.7	104.1	108.6	109.1	110.0	109.9	109.3	111.1
Shirts (12/77 = 100)	102.2	107.2	108.5	109.7	110.5	108.6	109.3	102.6	107.1	108.3	109.4	111.5	108.3	109.4
Dungarees, jeans, and trousers (12/77 = 100)	98.0	99.0	99.5	100.5	100.4	98.2	97.7	100.4	102.5	102.8	104.0	103.4	102.2	102.2
Boys' (12/77 = 100)	99.7	104.8	106.3	106.6	106.6	105.6	106.3	99.0	103.9	105.3	105.6	105.8	104.7	105.9
Coats, jackets, sweaters, and shirts (12/77 = 100)	92.5	102.7	103.9	103.2	102.4	99.3	99.9	91.3	102.0	103.8	103.4	103.1	99.8	101.9
Furnishings (12/77 = 100)	105.2	109.4	110.8	111.5	111.9	111.5	110.9	105.2	108.8	110.1	109.7	110.2	100.7	109.5
Suits, trousers, sport coats, and jackets (12/77 = 100)	103.2	104.5	106.5	107.4	107.8	108.2	109.5	102.7	103.5	104.7	105.8	106.2	106.6	107.7
Women's and girls'	147.7	155.9	156.5	156.1	154.6	151.5	151.1	147.7	154.4	154.8	154.5	153.5	149.9	151.3
Women's (12/77 = 100)	99.0	103.9	103.4	103.0	102.8	100.8	100.8	99.4	103.0	103.3	103.0	102.3	100.1	101.4
Coats and jackets	161.0	174.1	173.9	173.3	170.0	166.4	163.1	163.5	175.7	174.1	172.4	167.9	165.0	162.4
Dresses	160.5	171.1	167.2	164.3	165.3	161.3	160.6	158.6	158.5	159.1	156.8	155.7	150.0	151.2
Separates and sportswear (12/77 = 100)	98.1	99.8	99.6	99.2	98.6	98.1	97.1	98.7	100.4	100.4	100.7	99.5	97.1	98.2
Underwear, nightwear, and hosiery (12/77 = 100)	103.6	106.2	106.6	108.1	108.2	108.6	110.2	104.1	107.4	107.9	108.9	108.3	109.1	110.6
Suits (12/77 = 100)	98.6	96.7	97.1	95.2	95.8	91.0	88.2	91.5	98.1	99.9	97.5	98.1	94.0	96.8
Girls (12/77 = 100)	94.6	102.4	103.6	103.9	102.8	100.5	98.9	93.4	101.1	101.5	101.7	101.4	97.9	97.3
Coats, jackets, dresses, and suits (12/77 = 100)	92.8	102.8	102.8	102.2	100.3	97.5	95.7	90.9	98.5	97.9	97.5	97.7	91.9	92.6
Separates and sportswear (12/77 = 100)	92.0	100.3	102.5	103.6	102.6	98.8	98.2	91.8	102.1	103.5	104.3	102.9	98.8	98.1
Underwear, nightwear, hosiery, and accessories (12/77 = 100)	102.2	105.7	106.7	107.2	107.3	106.7	105.6	100.5	103.5	103.9	104.2	104.4	104.4	103.5

23. Continued — Consumer Price Index — U.S. city average

[1967 = 100 unless otherwise specified]

General summary	All Urban Consumers							Urban Wage Earners and Clerical Workers (revised)						
	1979					1980		1979					1980	
	Feb.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Feb.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.
APPAREL AND UPKEEP — Continued														
Apparel commodities — Continued														
Apparel commodities less footwear — Continued														
Infants' and toddlers'	213.7	223.4	224.8	226.3	227.1	224.9	226.6	214.6	226.0	228.7	228.7	230.5	229.1	232.7
Other apparel commodities	164.8	172.6	175.5	177.8	180.9	184.4	191.4	167.5	174.9	178.7	179.8	182.9	185.5	191.8
Sewing materials and notions (12/77 = 100)	100.6	102.3	102.2	100.8	102.4	103.2	106.3	100.2	100.4	100.8	99.7	100.8	101.2	105.7
Jewelry and luggage (12/77 = 100)	109.2	115.6	118.3	121.0	123.1	126.1	131.2	112.0	118.9	122.3	123.8	126.2	128.4	132.3
Footwear	168.9	180.1	182.6	183.8	184.3	183.7	184.6	167.8	179.4	181.9	183.2	182.8	183.3	183.9
Men's (12/77 = 100)	106.8	115.0	116.7	117.7	117.3	117.8	118.3	106.7	116.3	118.0	119.1	119.4	119.3	119.4
Boys' and girls' (12/77 = 100)	106.6	111.6	113.0	114.0	115.8	117.3	117.9	105.8	111.6	113.0	114.5	114.7	116.9	118.0
Womens' (12/77 = 100)	104.5	112.0	113.5	113.9	113.8	111.6	112.1	103.4	109.6	111.1	111.2	111.8	109.4	109.5
Apparel services	197.3	210.2	212.5	214.2	216.6	220.7	222.9	196.8	208.7	210.8	212.0	213.4	216.9	219.8
Laundry and drycleaning other than coin operated (12/77 = 100)	114.6	123.6	125.2	126.3	127.1	129.3	130.6	114.2	123.2	124.7	125.7	126.6	129.0	130.6
Other apparel services (12/77 = 100)	108.6	113.0	114.0	114.7	117.0	119.6	120.7	108.9	112.3	112.9	113.3	113.7	115.1	116.9
TRANSPORTATION	195.5	221.4	222.7	224.9	227.7	233.5	239.6	196.1	222.4	223.4	225.7	228.3	234.1	240.2
Private	195.5	222.0	223.1	225.0	227.5	233.5	239.8	195.9	222.7	223.7	225.7	228.2	234.1	240.4
New cars	162.3	166.1	167.5	170.6	171.7	173.9	175.3	162.0	165.9	167.4	170.9	171.7	174.1	175.4
Used cars	193.4	202.9	199.9	198.4	198.2	197.2	195.3	193.4	202.9	199.9	198.4	198.3	197.2	195.3
Gasoline	213.0	301.0	303.8	306.9	313.9	334.6	357.6	213.4	302.3	305.2	308.3	315.6	335.9	359.0
Automobile maintenance and repair	233.9	247.1	249.1	250.8	252.6	255.1	258.2	234.3	247.5	249.4	251.1	253.4	256.2	259.2
Body work (12/77 = 100)	112.0	119.4	120.6	121.6	123.3	125.0	126.5	112.9	119.2	120.4	121.7	123.1	124.3	126.1
Automobile drive train, brake, and miscellaneous mechanical repair (12/77 = 100)	112.1	118.1	119.4	120.1	120.6	121.8	123.2	112.9	119.0	120.2	120.8	121.8	123.6	124.8
Maintenance and servicing (12/77 = 100)	110.8	116.9	117.5	118.4	119.2	120.2	121.3	110.1	116.8	117.3	118.2	119.3	120.4	121.3
Power plant repair (12/77 = 100)	110.5	116.7	117.8	118.5	119.2	120.4	122.5	111.0	117.0	118.0	118.6	119.6	120.9	123.1
Other private transportation	192.5	201.7	203.7	205.5	207.5	209.8	212.6	193.1	202.3	204.0	206.3	208.4	210.6	213.6
Other private transportation commodities	167.9	177.7	182.0	183.4	185.6	188.4	191.2	170.2	178.7	181.6	183.9	186.4	188.0	191.7
Motor oil, coolant, and other products (12/77 = 100)	106.2	114.4	115.9	117.4	118.1	120.9	123.9	106.8	114.5	115.9	118.1	119.3	122.4	124.0
Automobile parts and equipment (12/77 = 100)	108.9	114.9	117.9	118.7	120.3	121.9	123.5	110.5	115.7	117.6	119.0	120.6	121.4	123.9
Tires	150.0	156.4	160.7	161.5	163.8	165.8	168.5	152.1	158.1	161.1	163.0	165.7	166.3	170.6
Other parts and equipment (12/77 = 100)	109.6	119.1	121.8	123.0	124.4	126.6	127.3	111.4	118.6	120.0	121.5	122.4	124.0	125.0
Other private transportation services	200.9	210.1	211.4	213.4	215.3	217.6	220.4	201.1	210.6	211.9	214.3	216.3	218.7	221.5
Automobile insurance	222.2	233.5	233.8	233.9	235.3	237.1	240.2	222.2	233.5	233.7	233.9	235.2	236.8	238.7
Automobile finance charges (12/77 = 100)	112.1	117.7	120.4	124.6	127.2	129.9	132.1	111.3	117.0	119.4	124.1	126.5	129.4	131.3
Automobile rental, registration, and other fees (12/77 = 100)	105.1	107.8	107.9	108.3	108.5	109.1	109.8	105.5	108.4	108.6	108.9	109.2	109.8	110.9
State registration	143.9	144.0	144.0	144.1	144.1	144.2	145.2	143.7	143.9	143.9	144.0	144.0	144.1	145.3
Drivers' license (12/77 = 100)	104.5	104.5	104.5	104.5	104.5	104.7	104.8	104.3	104.3	104.2	104.2	104.2	104.5	104.5
Vehicle inspection (12/77 = 100)	112.0	114.6	114.6	115.6	117.5	117.5	119.0	112.8	115.5	115.5	116.5	118.3	118.3	119.7
Other vehicle related fees (12/77 = 100)	109.8	116.1	116.4	117.1	117.6	118.8	119.6	112.3	120.3	120.8	121.3	122.2	123.8	125.4
Public	190.7	205.2	209.1	216.5	223.0	226.8	229.5	191.4	204.1	207.3	214.0	218.1	221.9	223.9
Airline fare	191.3	214.1	220.6	232.1	245.5	251.1	255.4	190.8	214.2	220.7	232.4	245.8	251.0	256.2
Intercity bus fare	246.4	268.0	276.0	279.8	282.2	284.7	288.5	246.5	268.0	275.5	279.9	282.3	284.8	288.2
Intracity mass transit	186.4	190.5	191.3	195.6	196.4	198.5	199.7	186.2	190.2	191.0	195.1	195.7	196.7	197.6
Taxi fare	208.9	228.5	233.6	237.0	238.5	243.1	244.0	213.2	233.9	238.7	242.4	243.9	248.9	249.3
Intercity train fare	192.8	221.0	221.1	231.0	236.3	237.2	237.2	192.7	221.3	221.4	232.1	236.6	237.1	237.0
MEDICAL CARE	232.6	243.7	245.9	248.0	250.7	253.9	257.9	232.1	244.7	247.2	249.1	251.7	254.9	258.7
Medical care commodities	150.1	155.8	156.6	157.8	159.2	160.5	162.1	150.7	156.7	157.4	158.5	159.9	161.0	162.7
Prescription drugs	138.4	143.5	144.5	145.5	146.4	147.9	149.8	139.1	144.4	145.2	146.2	147.4	148.8	150.7
Anti-infective drugs (12/77 = 100)	109.1	113.1	113.5	113.9	114.6	115.8	117.2	110.5	114.1	114.8	115.5	116.8	118.2	119.8
Tranquilizers and sedatives (12/77 = 100)	112.2	114.9	115.8	117.1	118.4	119.9	121.3	112.1	115.0	115.6	116.9	118.3	119.7	121.0
Circulatories and diuretics (12/77 = 100)	106.1	109.3	109.7	111.0	111.4	112.4	113.4	106.9	110.0	110.6	111.6	112.3	113.0	114.2
Hormones, diabetic drugs, biologicals, and prescription and supplies (12/77 = 100)	114.9	120.9	122.5	123.2	123.8	126.0	128.7	114.7	120.8	122.2	122.6	123.1	124.8	127.8
Pain and symptom control drugs (12/77 = 100)	110.0	114.8	115.6	116.8	117.8	118.8	119.7	110.3	116.0	116.3	117.5	118.2	119.0	120.1
Supplements, cough and cold preparations, and respiratory agents (12/77 = 100)	107.4	110.9	111.3	111.9	112.1	112.6	113.7	108.4	112.2	112.6	112.8	113.7	114.2	115.2
Nonprescription drugs and medical supplies (12/77 = 100)	107.8	112.0	112.5	113.4	114.6	115.3	116.3	108.3	112.8	113.2	114.0	115.1	115.6	116.6
Eyeglasses (12/77 = 100)	105.1	109.2	110.2	110.9	110.9	111.5	112.9	105.5	109.3	110.0	110.4	110.5	111.4	112.6
Internal and respiratory over-the-counter drugs	166.2	173.0	173.7	175.4	177.9	179.1	180.4	167.3	174.7	175.2	176.6	176.5	179.0	180.8
Nonprescription medical equipment and supplies (12/77 = 100)	107.2	110.8	111.0	111.8	113.1	113.8	114.6	107.4	111.2	111.8	112.7	114.2	115.0	115.6
Medical care services	250.4	262.8	265.3	267.6	270.7	274.4	279.0	249.6	263.8	266.8	268.8	271.8	275.6	279.8
Professional services	220.7	230.3	231.6	233.0	235.9	238.9	242.9	220.9	233.1	234.9	235.9	238.3	241.7	245.5
Physicians' services	236.3	248.4	249.7	250.8	252.5	256.0	260.2	236.2	251.5	254.4	255.5	256.5	260.3	264.1
Dental services	209.4	217.2	218.5	220.7	224.5	227.4	231.5	210.9	220.7	221.2	222.7	226.1	229.5	233.4
Other professional services (12/77 = 100)	108.8	112.4	112.7	112.8	115.1	116.6	118.1	107.6	111.7	112.1	112.2	114.8	115.9	117.4
Other medical care services	286.4	302.0	306.2	309.5	312.8	317.4	322.7	284.5	301.3	305.9	309.3	313.0	317.3	322.1
Hospital and other medical services (12/77 = 100)	114.0	119.6	121.3	122.6	123.8	125.6	127.8	113.3	118.9	120.5	121.8	123.2	124.9	126.8
Hospital room	360.3	376.4	380.2	385.1	389.4	395.3	403.4	356.8	374.1	379.4	383.6	388.7	393.9	398.8
Other hospital and medical care services	113.0	118.8	120.8	122.0	122.9	124.7	126.5	112.3	118.0	119.5	120.8	122.1	123.8	125.9

23. Continued—Consumer Price Index—U.S. city average

[1967 = 100 unless otherwise specified]

General summary	All Urban Consumers							Urban Wage Earners and Clerical Workers (revised)						
	1979					1980		1979					1980	
	Feb.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Feb.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.
ENTERTAINMENT	183.2	191.1	192.0	192.8	193.4	195.3	197.8	182.4	190.2	191.4	192.0	[1]192.3	193.9	196.2
Entertainment commodities	184.0	192.0	193.1	194.0	195.2	197.6	200.4	182.6	189.9	190.7	191.3	192.4	194.2	196.9
Reading materials (12/77 = 100)	107.1	111.9	113.8	114.5	115.1	116.7	117.4	106.8	111.4	113.3	114.2	114.8	116.2	117.0
Newspapers	208.3	214.5	217.7	222.4	223.5	226.8	227.7	208.0	214.2	217.4	222.2	223.3	226.4	227.3
Magazines, periodicals, and books (12/77 = 100)	108.5	115.0	117.2	116.0	116.8	118.1	119.2	108.3	114.8	117.2	115.8	116.6	117.8	118.9
Sporting goods and equipment (12/77 = 100)	105.8	111.3	111.2	111.7	112.2	113.8	115.9	103.9	107.5	106.7	106.9	107.7	108.6	110.8
Sport vehicles (12/77 = 100)	106.2	....	111.5	....	112.9	....	117.4	103.9	....	104.6	....	105.8	....	109.1
Indoor and warm weather sport equipment (12/77 = 100)	104.0	106.1	107.5	107.8	107.5	107.6	108.3	102.2	104.7	106.0	106.1	106.3	106.4	107.8
Bicycles	155.6	165.6	167.1	167.1	167.1	170.5	174.5	154.9	164.7	166.9	167.4	167.0	170.5	174.9
Other sporting goods and equipment (12/77 = 100)	104.4	109.3	110.0	110.3	111.0	111.8	112.4	103.8	108.5	109.8	110.2	111.3	111.9	112.6
Toys, hobbies and other entertainment (12/77 = 100)	106.4	110.4	110.8	111.2	112.1	113.2	115.1	106.0	110.4	111.0	111.2	111.8	112.6	114.3
Toys, hobbies and music equipment (12/77 = 100)	107.2	110.4	110.7	110.5	111.2	112.1	114.1	105.7	109.6	110.1	109.8	109.9	110.9	112.3
Photographic supplies and equipment (12/77 = 100)	105.7	108.9	109.4	109.9	109.7	110.8	114.1	105.6	108.8	109.3	109.6	110.1	111.2	114.2
Pet supplies and expense (12/77 = 100)	105.4	111.6	112.1	113.5	115.5	116.8	117.6	106.9	112.9	113.9	114.6	116.1	116.7	117.9
Entertainment services	182.4	190.2	190.8	191.5	191.1	192.5	194.5	183.1	191.8	193.5	194.3	[1]193.0	194.4	196.0
Fees for participant sports (12/77 = 100)	107.3	113.0	113.2	113.8	113.8	114.6	116.0	107.3	113.4	114.9	115.2	[1]115.0	115.6	116.3
Admissions (12/77 = 100)	111.4	115.2	115.7	116.1	116.6	117.9	118.3	111.5	116.3	116.8	117.3	117.8	119.4	119.7
Other entertainment services (12/77 = 100)	105.8	109.4	110.0	110.0	108.6	109.1	111.4	106.3	110.9	111.4	112.0	109.0	109.3	111.8
OTHER GOODS AND SERVICES	191.9	201.7	202.3	202.9	204.0	206.3	208.1	191.9	200.6	201.4	202.0	203.0	206.0	207.7
Tobacco products	185.2	190.9	191.3	191.5	192.1	196.7	198.1	185.4	190.9	191.2	191.4	192.1	197.1	198.3
Cigarettes	187.9	193.6	193.8	194.0	194.7	199.7	200.9	188.2	193.7	193.9	194.1	194.8	200.3	201.3
Other tobacco products and smoking accessories (12/77 = 100)	107.9	112.2	113.0	112.8	113.2	113.9	115.6	107.4	111.0	112.3	112.4	112.7	113.4	114.8
Personal care	190.4	199.0	199.8	200.9	203.0	204.2	206.5	190.4	198.4	199.4	200.5	202.3	204.4	206.6
Toilet goods and personal care appliances	184.2	191.4	192.5	193.1	195.8	196.4	198.6	184.7	191.0	191.6	192.4	194.5	196.2	198.3
Products for the hair, hairpieces and wigs (12/77 = 100)	107.2	111.6	111.9	112.2	113.0	114.2	116.1	105.7	110.6	111.1	111.4	112.4	114.0	114.9
Dental and shaving products (12/77 = 100)	109.0	114.3	114.1	115.6	117.3	117.8	118.6	108.6	112.5	112.7	113.9	114.7	115.3	116.8
Cosmetics, bath and nail preparations, manicure and eye makeup implements (12/77 = 100)	105.7	110.4	110.7	111.4	113.0	112.9	114.2	106.5	110.6	110.1	110.2	112.1	112.9	114.0
Other toilet goods and small personal care appliances (12/77 = 100)	106.7	108.6	110.9	109.9	112.1	112.1	112.9	108.9	110.3	111.7	112.3	113.1	114.0	115.6
Personal care services	196.4	206.4	207.0	208.5	210.0	211.6	214.2	196.3	205.8	207.3	208.6	210.2	212.7	215.0
Beauty parlor services for women	198.3	207.7	208.3	210.3	212.1	213.3	216.1	198.9	207.4	209.1	210.2	212.0	214.2	216.6
Haircuts and other barber shop services for men (12/77 = 100)	109.2	115.5	115.9	116.1	116.8	118.1	119.3	108.4	114.7	115.4	116.3	117.1	118.8	120.0
Personal and educational expenses	207.8	223.3	224.0	224.2	224.6	226.3	228.0	208.2	223.5	224.2	224.4	224.8	226.2	227.8
School books and supplies	191.2	201.5	202.3	202.3	202.5	206.0	206.5	193.7	205.0	205.8	205.9	206.0	209.8	210.4
Personal and educational services	212.1	228.6	229.4	229.6	229.9	231.4	233.3	212.1	228.4	229.0	229.3	229.7	230.6	232.5
Tuition and other school fees	108.5	117.7	118.1	118.1	118.1	118.3	118.5	108.4	117.9	118.2	118.2	118.2	118.4	118.6
College tuition (12/77 = 100)	108.7	116.9	117.3	117.3	117.3	117.6	117.8	108.7	116.8	117.3	117.3	117.3	117.6	117.8
Elementary and high school tuition (12/77 = 100)	107.5	120.9	120.9	120.9	120.9	120.9	120.9	107.4	120.7	120.7	120.7	120.7	120.7	120.7
Personal expenses (12/77 = 100)	108.9	115.1	115.8	116.3	117.3	120.1	124.4	110.0	114.4	114.9	115.5	116.3	117.7	121.4
Special indexes:														
Gasoline, motor oil, coolant and other products	211.3	297.1	299.8	302.9	309.7	329.9	352.5	211.7	298.3	301.2	304.3	311.4	331.3	353.8
Insurance and finance	254.0	[1]283.5	288.9	296.0	302.1	310.5	316.7	253.9	293.1	228.5	295.8	301.6	[1]310.0	315.2
Utilities and public transportation	203.8	219.3	220.7	220.5	223.5	225.0	227.9	204.1	219.5	220.7	220.3	223.0	224.4	227.2
Housekeeping and home maintenance services	260.6	276.6	278.7	280.6	282.2	284.7	287.6	260.2	277.8	279.9	281.3	283.4	286.0	288.7

24. Consumer Price Index for All Urban Consumers: Cross classification of region and population size class by expenditure category and commodity and service group

[December 1977 = 100]

Category and group	Size class A (1.25 million or more)			Size class B (385,000 - 1.250 million)			Size class C (75,000 - 385,000)			Size class D (75,000 or less)		
	1979		1980	1979		1980	1979		1980	1979		1980
	Oct.	Dec.	Feb.	Oct.	Dec.	Feb.	Oct.	Dec.	Feb.	Oct.	Dec.	Feb.
	Northeast											
EXPENDITURE CATEGORY												
All items	117.3	119.0	122.1	120.2	122.2	125.6	123.0	125.7	129.1	119.2	121.8	124.2
Food and beverages	119.2	120.6	122.1	119.6	121.9	124.3	121.9	123.2	126.0	119.4	121.2	123.4
Housing	117.9	119.8	122.9	121.3	123.7	126.7	127.7	132.1	135.5	119.9	123.2	124.8
Apparel and upkeep	107.7	108.9	109.5	109.2	109.0	107.1	107.8	108.5	107.3	108.3	109.8	106.8
Transportation	121.1	123.7	129.9	125.0	127.6	135.0	124.9	127.0	133.1	124.5	127.3	133.5
Medical care	115.4	117.3	120.6	118.5	120.0	121.6	117.0	118.9	121.3	116.3	119.0	121.4
Entertainment	111.4	111.5	114.4	113.6	113.5	115.7	110.0	109.8	112.2	114.1	115.1	118.9
Other goods and services	111.7	112.7	114.4	114.1	114.3	116.5	115.6	116.3	119.2	112.5	113.1	114.8
COMMODITY AND SERVICE GROUP												
Commodities	118.6	120.5	124.1	121.8	123.7	127.5	122.8	125.1	128.5	120.0	122.5	125.6
Commodities less food and beverages	118.3	120.4	125.3	122.8	124.6	129.1	123.2	126.0	129.7	120.4	123.2	126.6
Services	115.6	117.2	119.5	117.8	119.9	122.5	123.3	126.6	129.9	117.9	120.7	122.2
	North Central											
EXPENDITURE CATEGORY												
All items	123.2	126.3	129.6	122.3	124.6	127.2	121.9	123.7	126.4	122.0	123.0	125.8
Food and beverages	121.2	123.2	124.9	119.2	120.2	122.6	121.6	123.4	124.8	122.8	124.8	126.9
Housing	128.7	133.1	136.7	125.7	129.3	131.5	124.5	125.9	127.6	124.0	123.6	125.9
Apparel and upkeep	105.3	105.6	105.2	109.9	110.9	107.1	107.4	109.0	109.0	110.0	111.9	110.4
Transportation	125.0	127.9	133.5	125.2	127.5	133.4	126.0	129.1	135.8	124.3	127.3	132.6
Medical care	115.9	119.6	123.2	118.6	119.3	122.2	117.5	119.7	124.5	119.1	121.8	126.8
Entertainment	112.6	113.9	116.9	110.7	111.0	111.5	112.7	114.4	116.2	112.7	113.8	115.9
Other goods and services	112.5	113.6	115.4	117.8	117.7	119.4	112.3	114.0	115.5	115.7	116.1	119.1
COMMODITY AND SERVICE GROUP												
Commodities	122.5	125.4	128.1	120.8	122.5	124.5	121.7	123.5	125.9	121.1	122.5	124.3
Commodities less food and beverages	123.0	126.4	129.6	121.5	123.5	125.2	121.7	123.6	126.4	120.4	121.6	123.1
Services	124.3	127.7	131.8	124.7	128.0	131.6	122.2	124.1	127.1	123.3	123.8	128.2
	South											
EXPENDITURE CATEGORY												
All items	120.7	123.1	127.1	122.4	124.6	128.0	122.1	124.3	127.9	120.6	122.5	125.9
Food and beverages	122.2	123.5	125.0	121.3	122.9	124.4	122.1	123.9	126.0	121.0	122.5	124.0
Housing	122.0	125.0	129.1	125.8	128.4	131.9	125.9	128.4	131.8	121.6	123.9	127.7
Apparel and upkeep	111.2	112.3	112.5	110.8	110.3	109.6	106.4	105.7	105.5	103.9	104.8	100.9
Transportation	124.2	127.6	135.7	124.5	127.8	134.7	123.2	126.4	133.7	124.4	126.3	133.1
Medical care	116.0	117.7	119.7	116.9	118.3	121.6	117.6	120.7	124.8	122.5	124.9	129.0
Entertainment	109.4	109.5	114.5	113.2	113.9	115.4	113.6	113.8	115.9	117.1	119.4	121.6
Other goods and services	114.4	115.8	118.5	114.0	115.1	117.7	114.2	115.5	117.5	117.3	118.3	121.5
COMMODITY AND SERVICE GROUP												
Commodities	120.5	122.6	126.7	121.2	123.1	125.9	120.7	122.7	126.4	120.2	121.9	124.7
Commodities less food and beverages	119.8	122.2	127.5	121.2	123.2	126.6	120.1	122.2	126.5	119.9	121.6	125.0
Services	121.0	123.8	127.7	124.3	126.8	131.1	124.2	126.7	130.2	121.1	123.5	127.7
	West											
EXPENDITURE CATEGORY												
All items	120.8	124.8	129.6	123.6	126.6	130.6	122.2	124.5	128.1	122.8	124.3	127.1
Food and beverages	121.2	123.4	124.2	123.1	125.8	126.9	121.1	122.9	123.8	121.5	123.7	125.7
Housing	121.2	127.0	132.9	126.2	130.2	134.6	124.8	127.8	131.0	124.8	125.4	127.1
Apparel and upkeep	107.9	110.0	113.6	111.0	111.5	112.4	104.4	104.4	104.2	114.0	114.9	114.7
Transportation	127.2	129.9	137.4	126.7	128.8	135.8	126.3	129.0	137.1	124.6	128.2	134.8
Medical care	119.8	121.9	125.6	117.8	121.3	124.8	118.4	119.9	124.6	120.7	122.7	126.2
Entertainment	109.3	111.1	113.5	115.6	115.9	118.6	113.8	114.9	117.8	117.8	119.2	123.6
Other goods and services	115.2	115.5	119.2	115.3	116.5	120.3	113.0	113.8	116.3	116.0	116.4	119.7
COMMODITY AND SERVICE GROUP												
Commodities	120.5	123.1	127.0	123.1	125.3	128.8	121.7	123.6	126.7	120.7	123.0	126.7
Commodities less food and beverage	120.2	123.0	128.1	123.1	125.1	129.6	121.9	123.8	127.8	120.4	122.7	127.2
Services	121.3	126.9	133.2	124.4	128.4	133.0	122.8	125.9	130.0	125.9	126.3	127.6

25. Consumer Price Index—U.S. city average, and selected areas

[1967 = 100 unless otherwise specified]

Area[1]	All Urban Consumers							Urban Wage Earners and Clerical Workers (revised)						
	1979					1980		1979					1980	
	Feb.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Feb.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.
U.S. city average[2]	207.1	223.4	225.4	227.5	229.9	233.2	236.4	207.1	223.7	225.6	227.6	230.0	233.3	236.5
Anchorage, Alaska (10/67 = 100)	...	213.2	...	213.7	...	218.2	...	...	210.9	...	211.8	...	215.9	...
Atlanta, Ga.	201.8	...	220.8	...	223.3	...	230.3	202.7	...	223.5	...	227.0	...	233.5
Baltimore, Md.	...	224.9	...	227.2	...	234.4	...	...	224.9	...	227.9	...	234.5	...
Boston, Mass.	...	218.1	...	222.7	...	227.3	...	...	217.9	...	222.5	...	225.9	...
Buffalo, N.Y.	203.0	...	218.7	...	221.2	...	227.9	203.1	...	218.6	...	220.7	...	227.9
Chicago, Ill.-Northwestern Ind.	202.6	221.3	221.8	225.9	228.4	230.3	232.7	202.4	220.6	221.7	225.6	227.8	229.9	232.5
Cincinnati, Ohio-Ky.-Ind.	...	229.0	...	233.4	...	239.5	...	...	230.8	...	235.6	...	241.0	...
Cleveland, Ohio	210.1	...	224.7	...	232.5	...	243.5	211.0	...	225.5	...	233.2	...	244.1
Dallas-Ft. Worth, Tex.	205.8	...	228.2	...	234.1	...	241.7	206.3	...	228.0	...	233.3	...	240.9
Denver-Boulder, Colo.	...	240.8	...	245.9	...	247.3	...	...	243.6	...	248.6	...	250.9	...
Detroit, Mich.	208.8	223.7	227.2	231.3	233.2	237.2	240.4	208.8	223.5	226.9	230.8	232.2	236.4	239.9
Honolulu, Hawaii	196.2	...	210.5	...	214.8	...	220.9	196.0	...	211.1	...	215.5	...	221.3
Houston, Tex.	224.2	...	244.2	...	248.7	...	255.9	223.1	...	241.8	...	246.0	...	251.9
Kansas City, Mo.-Kansas	204.6	...	229.9	...	233.7	...	238.7	204.2	...	227.9	...	232.4	...	236.6
Los Angeles-Long Beach, Anaheim, Calif.	201.9	220.7	221.8	224.2	228.0	232.6	237.6	202.3	223.0	224.0	225.8	229.9	235.0	240.0
Miami, Fla. (11/77 = 100)	...	117.4	...	119.4	...	123.3	...	...	118.7	...	120.5	...	124.9	...
Milwaukee, Wis.	...	226.0	...	229.8	...	236.4	...	...	228.7	...	232.5	...	240.8	...
Minneapolis-St. Paul, Minn.-Wis.	211.8	...	231.2	...	234.0	...	237.9	212.5	...	233.0	...	234.8	...	239.6
New York, N.Y.-Northeastern N.J.	205.2	218.1	219.9	221.3	222.9	226.1	228.0	204.7	217.8	219.3	220.7	222.4	225.5	227.7
Northeast, Pa. (Scranton)	...	215.4	...	220.0	...	224.4	...	...	217.1	...	221.1	...	225.8	...
Philadelphia, Pa.-N.J.	204.1	219.5	220.1	222.4	223.7	227.2	231.1	205.8	220.3	221.3	223.8	224.6	228.0	231.6
Pittsburgh, Pa.	209.2	...	226.0	...	229.2	...	235.5	208.6	...	226.1	...	229.7	...	235.9
Portland, Oreg.-Wash.	...	232.2	...	236.6	...	244.6	...	...	232.6	...	236.7	...	243.5	...
St. Louis, Mo.-Ill.	...	222.2	...	225.7	...	232.7	...	...	222.5	...	226.3	...	233.5	...
San Diego, Calif.	...	240.4	...	247.8	...	254.0	...	...	237.7	...	244.8	...	251.0	...
San Francisco-Oakland, Calif.	203.9	...	221.5	...	230.2	...	240.7	204.2	...	220.8	...	229.0	...	240.0
Seattle-Everett, Wash.	...	222.6	...	227.6	...	236.0	...	...	221.0	...	225.5	...	233.8	...
Washington, D.C.-Md.-Va.	...	222.9	...	225.4	...	231.9	...	...	224.4	...	226.7	...	233.0	...

[1] The areas listed include not only the central city but the entire portion of the Standard Metropolitan Statistical Area, as defined for the 1970 Census of Population, except that the Standard Consolidated Area is used for New York and Chicago.

[2] Average of 85 cities.

26. Producer Price Indexes, by stage of processing

[1967 = 100]

Commodity grouping	Annual average 1978	1979										1980		
		Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.[1]	Dec.	Jan.	Feb.	Mar.
FINISHED GOODS														
Finished goods	194.6	209.1	211.4	212.7	213.7	216.2	217.3	220.7	224.2	226.3	227.8	232.1	235.4	238.2
Finished consumer goods	192.6	207.9	210.2	211.6	212.7	215.6	217.5	221.7	224.7	227.1	228.8	233.2	237.3	240.6
Finished consumer foods	206.7	226.3	227.8	226.6	223.6	224.9	223.5	228.1	226.7	230.5	232.0	231.4	231.6	233.0
Crude	215.5	244.6	241.8	226.7	227.1	224.9	231.7	214.0	215.5	226.1	227.8	225.9	220.0	230.8
Processed	204.1	222.8	224.6	224.4	221.3	222.8	220.7	227.0	225.5	228.6	230.1	229.7	230.4	231.0
Other nondurable goods	195.4	209.8	213.1	217.1	221.7	227.1	233.4	[1]239.0	243.3	245.5	247.8	254.4	263.0	270.8
Durable goods	165.8	176.8	178.4	179.5	180.4	181.6	181.6	182.9	188.0	190.0	191.2	198.2	200.7	199.7
Capital Equipment	199.1	211.7	214.0	215.1	215.8	217.2	216.5	217.8	222.8	223.9	225.1	229.1	230.3	231.8
INTERMEDIATE MATERIALS														
Intermediate materials, supplies, and components	215.5	231.5	235.8	238.2	240.3	244.6	247.5	251.0	255.0	256.3	258.4	265.6	271.1	273.2
Materials and components for manufacturing	208.3	224.5	229.0	230.9	232.1	236.0	238.0	240.7	244.3	245.5	247.5	255.2	259.2	259.0
Materials for food manufacturing	202.3	219.6	222.2	222.5	222.3	226.7	225.1	228.9	225.5	227.8	230.5	225.8	245.1	239.8
Materials for nondurable manufacturing	195.8	208.7	213.7	216.7	218.1	222.5	225.3	227.6	231.4	233.4	235.1	240.6	243.3	246.6
Materials for durable manufacturing	237.2	260.0	266.0	267.2	268.9	273.3	275.2	278.8	284.7	284.6	287.5	303.5	305.9	301.1
Components for manufacturing	189.1	200.3	203.1	204.5	206.3	207.7	209.3	211.3	213.2	214.8	215.9	218.9	222.7	225.2
Materials and components for construction	224.4	241.3	244.5	245.2	245.6	247.4	249.2	252.5	254.7	254.0	253.6	257.5	261.6	265.1
Processed fuels and lubricants	296.4	312.9	323.9	336.8	349.5	364.8	384.6	[1]390.4	410.6	416.5	424.6	443.9	464.3	481.1
Manufacturing industries	270.4	275.4	280.7	287.4	293.8	304.0	311.2	317.2	322.5	325.2	332.3	340.6	352.2	357.4
Nonmanufacturing industries	320.0	348.9	365.9	385.5	404.9	425.5	458.8	483.0	500.6	510.0	518.8	549.8	579.7	608.9
Containers	212.5	229.3	231.8	234.5	234.9	235.4	237.6	237.9	242.6	243.8	246.1	250.9	250.8	253.3
Supplies	196.9	211.1	212.8	213.7	216.1	219.6	219.6	221.2	224.9	226.4	228.4	232.2	238.3	239.9
Manufacturing industries	183.6	[illegible]	199.4	201.5	202.7	204.2	208.6	209.4	212.2	213.7	215.3	220.9	222.0	223.3
Nonmanufacturing industries	204.0	218.4	219.9	220.3	223.2	227.8	225.4	227.5	231.7	233.3	235.3	238.2	247.0	248.7
Manufactured animal feeds	200.2	219.3	219.5	214.6	226.2	241.3	220.8	224.0	228.9	226.9	230.8	224.2	223.3	219.1
Other supplies	201.9	215.0	216.8	218.3	219.2	221.5	223.1	224.9	228.9	231.2	232.9	237.8	248.6	251.6
CRUDE MATERIALS														
Crude materials for further processing	240.1	276.6	279.9	282.3	283.0	287.1	281.7	288.3	289.5	290.8	296.7	296.9	308.3	303.3
Foodstuffs and feedstuffs	215.3	247.4	251.5	251.9	248.2	254.1	243.7	248.7	247.5	246.4	249.7	243.0	252.6	245.9
Nonfood materials	286.7	331.6	333.3	339.6	349.7	349.3	353.6	363.1	368.9	374.9	385.8	399.0	413.9	412.2
Nonfood materials except fuel	235.4	275.5	276.5	276.6	286.6	285.2	286.1	293.3	298.1	304.6	311.5	329.9	341.5	339.4
Manufacturing industries	240.8	283.8	284.8	284.7	295.9	294.0	294.9	302.8	307.8	314.9	322.5	342.0	354.7	352.1
Construction	185.7	201.9	203.6	204.5	205.4	207.2	208.6	209.9	212.6	214.8	216.6	225.7	228.3	229.7
Crude fuel	463.7	525.2	529.2	556.8	583.1	570.7	586.2	604.0	612.9	617.4	641.8	637.2	663.5	663.3
Manufacturing industries	481.9	555.4	560.0	583.8	601.3	610.4	620.2	651.8	662.5	667.8	697.7	691.7	724.4	723.5
Nonmanufacturing industries	459.6	512.1	515.8	538.8	544.3	560.7	583.6	577.8	585.5	589.3	609.7	606.2	627.7	627.9
SPECIAL GROUPINGS														
Finished goods excluding foods	188.9	201.7	204.2	206.3	208.5	211.4	213.2	216.2	221.3	222.8	224.3	230.1	234.3	237.4
Finished consumer goods excluding Foods	183.7	196.7	199.3	202.1	205.2	208.4	212.3	218.3	220.6	223.1	225.0	231.8	237.8	242.0
Intermediate materials, supplies, and Components, excluding intermediate materials for food manufacturing and manufactured animal feeds	216.4	232.3	236.7	238.8	241.3	245.4	249.0	252.5	256.8	258.1	260.1	268.1	273.2	275.7
Intermediate foods and feeds	201.0	218.9	220.7	219.3	223.0	231.0	223.1	226.6	226.0	226.9	230.0	224.7	237.1	232.3
Crude materials for further processing excluding crude foodstuffs and feedstuffs, plant and animal fibers, oilseeds, and leaf tobacco	316.6	370.6	372.4	379.2	389.5	391.7	396.9	408.6	417.0	424.1	437.1	453.0	468.8	466.4

[1] Data for November 1979 have been revised to reflect the availability of late reports and corrections by respondents. All data are subject to revision 4 months after original publication.

27. Producer Price Indexes, by commodity groupings

[1967 = 100 unless otherwise specified]

Code	Commodity group and subgroup	Annual average 1978	1979										1980		
			Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
	All commodities	209.3	226.7	230.0	232.0	233.5	236.9	238.3	242.0	245.6	247.2	249.4	254.7	259.8	261.5
	All commodities (1957-59 = 100)	222.1	240.5	243.7	245.7	247.7	251.4	252.8	256.7	260.6	262.3	264.6	270.2	275.6	277.5
	Farm products and processed foods and feeds	206.6	229.0	244.0	230.8	229.0	232.2	227.5	231.8	230.6	232.3	234.5	231.9	236.9	234.9
	Industrial commodities	209.4	225.4	229.0	231.6	234.0	237.5	240.6	244.2	249.0	250.6	252.8	260.3	265.4	268.2
	FARM PRODUCTS AND PROCESSED FOODS AND FEEDS														
01	Farm products	212.5	242.8	223.3	245.4	242.8	246.8	238.5	241.0	239.6	240.2	242.5	236.4	242.3	239.3
01-1	Fresh and dried fruits and vegetables	216.5	235.7	234.7	228.2	226.4	226.7	241.7	208.3	218.0	216.5	210.5	218.9	220.5	218.3
01-2	Grains	182.5	192.0	198.3	210.3	218.7	247.4	229.1	224.4	229.0	226.6	227.9	214.6	223.3	217.9
01-3	Livestock	220.1	275.8	264.0	280.7	264.0	256.0	240.2	256.4	251.7	248.3	252.5	247.8	257.2	251.8
01-4	Live poultry	199.8	217.6	209.4	216.3	182.9	183.8	171.9	173.5	162.0	195.5	194.7	195.2	184.6	180.1
01-5	Plant and animal fibers	193.4	197.8	197.8	207.6	219.5	207.6	207.9	211.3	212.9	215.4	222.0	239.0	269.5	254.9
01-6	Fluid milk	219.7	243.7	242.4	242.0	243.8	247.6	250.0	258.5	260.8	262.5	264.0	262.3	263.8	263.1
01-7	Eggs	158.6	199.9	185.5	163.8	170.7	167.6	166.8	175.4	155.9	178.7	198.4	165.6	150.4	184.2
01-8	Hay, hayseeds, and oilseeds	215.8	249.5	248.3	240.7	258.4	260.1	251.9	240.9	235.6	229.8	230.3	218.1	224.7	215.9
01-9	Other farm products	274.9	254.6	255.1	264.1	281.0	311.9	310.8	315.9	313.6	318.3	319.4	301.1	304.7	311.5
02	Processed foods and feeds	202.6	220.5	222.3	222.0	220.6	223.3	220.5	225.8	224.8	227.1	229.2	228.5	233.1	231.5
02-1	Cereal and bakery products	190.3	200.1	203.0	204.9	206.3	212.4	216.0	218.7	219.8	222.5	223.7	225.4	229.7	231.3
02-2	Meats, poultry, and fish	217.1	250.6	253.0	250.4	241.4	237.7	225.5	239.9	234.2	239.3	242.8	239.5	239.5	239.2
02-3	Dairy products	188.4	204.9	207.1	207.9	208.4	209.0	215.2	218.3	218.1	219.3	219.6	221.4	221.2	223.3
02-4	Processed fruits and vegetables	202.6	219.6	220.5	221.4	221.5	223.6	224.6	225.1	223.4	222.4	222.3	222.8	223.1	223.6
02-5	Sugar and confectionery	197.8	208.4	208.7	207.6	211.1	215.7	218.3	217.2	218.9	222.9	234.4	234.8	287.1	263.6
02-6	Beverages and beverage materials	200.0	201.2	201.5	205.3	208.5	214.1	216.5	217.9	218.9	221.2	221.9	224.1	224.7	226.0
02-7	Fats and oils	225.3	238.6	246.2	241.8	243.6	253.2	251.7	253.3	246.0	241.9	235.8	224.9	225.9	222.4
02-8	Miscellaneous processed foods	199.0	217.5	219.3	220.2	211.1	212.7	217.6	219.0	220.8	222.2	222.0	225.4	223.5	224.7
02-9	Manufactured animal feeds	197.4	215.7	215.6	210.8	220.5	234.9	216.2	219.2	224.0	222.4	225.3	219.5	219.8	216.8
	INDUSTRIAL COMMODITIES														
03	Textile products and apparel	159.8	165.2	166.4	167.2	168.4	169.3	170.5	171.3	172.0	172.8	172.8	174.9	176.5	178.9
03-1	Synthetic fibers (12/75 = 100)	109.6	113.6	115.1	117.4	118.5	119.5	120.6	123.6	124.7	124.2	124.5	126.9	127.1	129.4
03-2	Processed yarns and threads (12/75 = 100)	102.4	107.0	106.8	107.8	108.6	109.5	110.6	111.7	112.1	112.5	113.1	114.4	117.3	118.9
03-3	Gray fabrics (12/75 = 100)	118.6	123.1	124.5	124.7	125.4	128.3	128.7	128.7	129.7	130.7	132.5	132.2	131.7	133.7
03-4	Finished fabrics (12/75 = 100)	103.8	105.4	105.9	107.0	107.6	108.2	109.0	109.1	108.9	109.7	109.3	109.8	110.8	113.1
03-81	Apparel	152.4	158.3	159.8	159.8	160.2	160.3	161.4	161.6	162.2	163.1	162.3	165.3	167.3	168.3
03-82	Textile housefurnishings	178.6	187.4	188.0	188.0	189.3	189.9	190.5	193.9	196.3	196.5	197.0	199.2	200.0	201.2
04	Hides, skins, leather, and related products	200.0	253.3	258.9	269.6	268.0	261.9	257.9	251.1	253.9	248.9	248.9	255.3	251.0	246.8
04-1	Hides and skins	360.5	639.6	642.2	666.9	611.0	566.5	511.9	465.3	478.8	447.6	443.9	468.8	404.8	348.7
04-2	Leather	238.6	371.9	393.6	429.4	414.6	385.2	365.9	330.0	343.6	319.8	324.8	347.6	340.3	311.0
04-3	Footwear	183.0	209.9	212.0	216.3	221.1	221.8	225.4	226.9	227.5	227.9	227.3	228.5	228.1	231.8
04-4	Other leather and related products	177.0	195.9	200.4	209.1	212.3	212.1	210.9	210.1	209.7	208.4	208.1	213.2	214.9	217.9
05	Fuels and related products and power	322.5	350.9	361.5	377.6	393.7	411.8	432.8	454.8	468.5	476.9	488.7	507.8	533.0	553.5
05-1	Coal	430.0	445.3	447.1	450.8	452.0	452.5	454.2	452.5	454.6	455.1	457.8	458.1	458.7	460.7
05-2	Coke	411.8	428.5	430.1	430.6	430.6	430.6	430.6	430.6	431.2	431.2	431.2	430.6	430.6	430.6
05-3	Gas fuels[1]	428.7	471.0	477.4	507.2	522.3	548.4	572.4	603.4	619.9	637.0	670.5	679.6	719.8	720.3
05-4	Electric power	250.6	257.3	260.6	265.9	269.9	274.8	278.8	280.5	283.5	281.9	287.2	290.7	299.5	305.7
05-61	Crude petroleum[2]	300.1	324.2	326.2	335.7	356.4	370.6	385.7	422.1	436.7	450.4	470.8	513.6	515.1	522.8
05-7	Petroleum products, refined[3]	321.0	360.3	378.6	400.0	423.6	449.8	482.8	513.7	533.7	545.4	554.8	582.4	620.3	657.9
06	Chemicals and allied products	198.8	209.9	215.1	218.0	219.2	225.0	228.5	230.8	234.2	236.0	238.1	245.5	247.6	251.6
06-1	Industrial chemicals[4]	225.6	239.7	248.2	255.6	259.3	270.4	277.1	280.0	285.7	288.4	291.6	302.6	306.7	310.7
06-21	Prepared paint	192.3	202.3	203.3	201.3	201.3	205.3	205.3	206.0	206.7	209.4	210.7	223.1	223.3	223.3
06-22	Paint materials	212.7	227.0	231.6	236.1	239.5	246.7	247.9	252.0	253.6	256.6	255.4	258.9	262.7	266.2
06-3	Drugs and pharmaceuticals	148.1	156.6	157.5	157.7	159.0	159.2	159.6	161.0	162.8	163.0	164.4	166.5	167.7	168.9
06-4	Fats and oils, inedible	315.8	398.5	448.7	418.3	374.1	381.6	376.4	379.9	366.9	344.3	327.1	325.6	302.2	299.9
06-5	Agricultural chemicals and chemical products	198.4	206.3	209.8	210.0	209.2	211.2	215.3	219.4	224.3	229.5	232.7	238.1	242.8	256.0
06-6	Plastic resins and materials	199.8	210.9	220.6	228.5	230.1	244.5	250.1	252.0	260.0	261.4	262.7	270.0	271.1	273.9
06-7	Other chemicals and allied products	181.8	186.5	186.9	188.9	190.5	191.8	194.4	195.8	197.0	198.8	201.9	209.6	211.0	214.5
07	Rubber and plastic products	174.8	185.9	188.8	190.8	193.1	195.5	198.8	200.7	203.0	204.9	205.7	208.2	210.9	212.7
07-1	Rubber and rubber products	185.3	199.4	201.2	202.6	204.8	209.5	214.6	217.1	220.3	223.7	223.9	227.1	232.2	232.3
07-11	Crude rubber	187.2	204.8	211.6	214.2	222.0	226.1	233.0	232.2	236.5	237.2	239.4	251.9	263.1	254.9
07-12	Tires and tubes	179.2	195.0	196.1	197.3	198.9	206.2	211.6	215.0	218.3	223.1	222.7	224.7	231.2	231.2
07-13	Miscellaneous rubber products	189.6	200.3	201.3	202.6	203.5	205.4	209.4	211.9	214.7	217.1	217.4	219.1	220.4	223.4
07-2	Plastic products (6/78 = 100)	...	105.7	108.0	109.5	111.0	111.2	112.2	113.0	114.0	114.3	115.2	116.2	116.5	118.6
08	Lumber and wood products	276.0	300.5	304.9	302.8	299.8	300.1	304.7	309.7	308.8	298.9	289.8	290.0	294.8	295.7
08-1	Lumber	322.4	350.5	355.4	354.8	354.8	355.0	365.3	373.9	370.3	355.6	338.9	336.3	341.5	340.6
08-2	Millwork	235.4	257.8	266.0	261.6	258.9	252.5	249.6	250.9	255.6	252.3	250.3	254.1	258.0	264.7
08-3	Plywood	235.6	254.7	252.4	249.3	238.6	249.7	254.3	257.9	254.0	242.2	237.7	238.2	243.7	240.0
08-4	Other wood products	211.8	232.2	235.5	238.4	238.5	237.6	237.4	238.0	237.7	239.9	240.5	242.2	243.4	243.1

See footnotes at end of table.

27. Continued—Producer Price Indexes, by commodity groupings

[1967=100 unless otherwise specified]

Code	Commodity groups and subgroups	Annual average 1978	1979										1980		
			Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.[5]	Dec.	Jan.	Feb.	Mar.
	INDUSTRIAL COMMODITIES—Continued														
09	Pulp, paper, and allied products	195.6	212.3	215.0	216.2	216.6	218.3	222.2	223.0	227.5	229.5	231.0	237.4	238.9	241.6
09-1	Pulp, paper, and products, excluding building paper and board	195.6	213.2	216.0	217.2	217.8	219.6	223.6	224.3	229.0	231.1	232.6	238.1	240.5	243.1
09-11	Woodpulp	266.5	294.3	303.8	306.9	308.3	320.3	320.6	320.6	337.5	338.0	339.9	358.8	358.5	359.0
09-12	Wastepaper	191.2	203.2	206.5	206.2	207.2	207.9	206.6	206.7	206.7	220.0	221.2	222.7	223.2	224.9
09-13	Paper	206.1	223.3	226.3	227.2	227.5	228.2	229.5	230.3	238.7	241.8	243.0	245.5	247.5	250.5
09-14	Paperboard	179.6	192.9	197.9	199.2	199.8	201.7	206.4	209.6	211.3	212.8	215.4	221.8	223.4	225.9
09-15	Converted paper and paperboard products	185.6	204.1	205.8	207.0	207.6	209.0	214.4	214.6	217.3	219.0	220.3	227.5	228.7	231.3
09-2	Building paper and board	187.4	182.6	183.4	183.3	180.8	178.0	179.1	182.6	183.5	183.6	184.4	186.0	191.1	198.7
10	Metals and metal products	227.1	251.7	256.0	256.2	258.2	260.8	261.8	263.7	269.6	271.1	273.5	284.5	288.6	286.3
10-1	Iron and steel	253.6	279.9	280.2	279.5	283.2	286.8	286.1	285.5	289.2	292.0	292.7	297.3	300.2	301.6
10-13	Steel mill products	254.5	272.5	275.0	276.7	277.3	284.6	284.7	284.8	288.3	288.8	289.3	293.7	294.2	295.6
10-2	Nonferrous metals	207.8	246.6	259.6	258.2	259.7	262.3	263.1	269.3	283.1	284.1	291.2	326.1	336.5	320.9
10-3	Metal containers	243.4	264.5	270.1	268.5	267.3	267.2	268.4	268.7	279.9	280.9	280.7	283.3	283.3	287.8
10-4	Hardware	200.4	214.2	215.8	216.9	217.1	218.5	220.1	221.5	224.0	225.5	226.5	228.4	229.4	230.5
10-5	Plumbing fixtures and brass fittings	199.1	209.7	212.0	213.8	217.0	219.6	222.4	223.0	223.5	225.4	226.4	229.7	236.6	242.4
10-6	Heating equipment	174.4	183.4	183.8	185.7	185.2	186.0	188.1	191.3	192.2	193.1	195.2	197.3	199.9	202.0
10-7	Fabricated structural metal products	226.4	241.3	243.8	247.0	248.2	250.5	252.2	253.7	256.3	256.7	257.7	258.8	259.5	262.9
10-8	Miscellaneous metal products	212.0	225.2	227.0	228.5	230.1	231.8	235.6	236.7	238.5	236.6	239.9	241.5	242.5	245.1
11	Machinery and equipment	196.1	207.9	209.8	211.4	212.4	214.8	216.0	217.7	220.0	221.3	222.9	227.1	229.7	231.9
11-1	Agricultural machinery and equipment	213.1	224.8	226.4	228.3	229.4	231.2	233.3	237.4	240.0	243.4	243.2	247.6	249.1	250.4
11-2	Construction machinery and equipment	232.9	248.7	251.7	253.7	254.0	257.0	258.5	258.9	263.9	265.4	268.2	275.4	277.5	278.4
11-3	Metalworking machinery and equipment	217.0	233.0	235.3	237.6	239.1	241.4	243.5	246.4	249.6	252.2	254.6	258.7	261.3	264.1
11-4	General purpose machinery and equipment	216.6	230.4	232.6	234.0	235.1	237.1	238.3	240.2	242.8	244.2	246.1	249.6	252.0	255.7
11-6	Special industry machinery and equipment	223.0	239.1	243.4	245.1	246.1	249.8	251.0	251.2	253.8	254.9	256.2	260.7	262.9	265.6
11-7	Electrical machinery and equipment	164.9	173.8	175.0	176.5	177.6	179.9	181.2	182.5	184.3	184.9	186.5	190.5	194.2	195.9
11-9	Miscellaneous machinery	194.7	204.0	205.4	207.1	207.4	209.7	209.7	212.0	213.6	214.9	215.7	220.0	220.8	222.7
12	Furniture and household durables	160.4	168.3	168.7	169.6	170.2	170.7	171.5	172.7	175.1	176.4	177.0	182.1	183.4	184.6
12-1	Household furniture	173.5	181.8	182.7	184.8	185.3	185.8	186.2	188.5	190.1	193.0	194.3	195.4	196.5	196.9
12-2	Commercial furniture	201.5	221.2	221.7	221.9	221.8	222.7	222.7	222.7	223.3	223.3	225.1	227.1	230.1	232.8
12-3	Floor coverings	141.6	144.0	144.4	146.0	146.5	149.1	150.0	150.4	152.1	152.8	152.9	159.8	159.4	160.7
12-4	Household appliances	153.0	158.8	158.7	159.3	160.0	161.1	162.2	162.7	163.2	164.5	165.2	166.6	168.7	169.7
12-5	Home electronic equipment	90.2	92.3	92.3	92.4	92.8	90.2	90.2	90.3	90.3	90.3	88.1	88.5	88.7	88.8
12-6	Other household durable goods	203.1	217.9	218.6	219.5	220.6	223.7	226.6	231.0	245.6	248.2	252.1	283.1	284.2	287.6
13	Nonmetallic mineral products	222.8	240.8	243.4	245.6	246.9	249.5	249.9	254.6	256.2	257.4	259.2	268.0	272.6	276.1
13-11	Flat glass	172.8	183.1	183.1	183.1	184.0	184.1	184.1	184.5	184.7	185.4	186.4	190.9	190.9	191.4
13-2	Concrete ingredients	217.7	239.8	242.0	242.5	243.3	245.1	245.9	246.7	248.3	249.6	249.9	263.5	265.2	266.0
13-3	Concrete products	214.0	237.8	240.5	241.6	243.7	245.2	246.3	248.7	250.1	250.6	253.2	264.9	266.2	268.6
13-4	Structural clay products excluding refractories	197.2	212.8	214.8	215.7	216.5	220.3	222.3	223.7	221.1	221.8	226.8	229.6	231.1	231.5
13-5	Refractories	216.5	228.3	228.4	228.5	232.6	240.8	241.7	242.4	244.6	247.4	248.7	249.3	251.9	254.8
13-6	Asphalt roofing	292.0	303.1	316.4	317.9	323.0	328.4	325.9	333.0	337.5	347.4	342.9	356.5	372.3	387.6
13-7	Gypsum products	229.1	251.0	252.2	248.8	251.3	251.8	252.3	254.9	255.3	256.2	255.0	255.4	262.2	267.6
13-8	Glass containers	244.4	250.7	250.7	265.2	265.2	265.2	265.2	265.2	265.2	265.2	273.6	274.5	274.6	274.6
13-9	Other nonmetallic minerals	275.6	294.5	300.0	303.0	302.0	310.5	309.9	336.0	341.2	342.2	342.2	351.6	374.3	386.9
14	Transportation equipment (12/68 = 100)	173.5	183.8	186.8	187.2	187.5	188.4	185.9	186.6	194.2	194.8	195.1	198.3	198.1	198.8
14-1	Motor vehicles and equipment	176.0	186.1	189.4	189.8	190.1	190.8	187.8	188.6	197.1	197.4	197.6	200.3	199.9	200.8
14-4	Railroad equipment	252.8	268.9	271.7	271.6	274.7	280.6	280.9	281.6	286.3	298.2	289.0	295.0	299.3	301.3
15	Miscellaneous products	184.3	200.6	201.4	203.3	205.2	207.0	208.9	213.1	218.9	221.4	227.2	242.2	261.8	256.2
15-1	Toys, sporting goods, small arms, ammunition	163.2	171.5	173.2	174.3	174.7	176.9	177.6	179.8	181.1	181.2	183.5	190.4	193.2	194.2
15-2	Tobacco products	198.5	214.0	214.4	214.4	214.4	214.8	221.3	221.9	222.1	222.2	226.3	236.3	238.9	237.1
15-3	Notions	182.0	190.2	190.2	190.6	190.6	192.0	191.9	191.9	195.7	195.8	197.0	203.1	203.2	207.2
15-4	Photographic equipment and supplies	145.7	150.2	150.1	150.6	151.6	152.0	152.2	154.3	157.4	161.2	164.5	166.0	218.7	219.4
15-51	Mobile Homes (12/74 = 100)	126.4	133.8	135.2	137.2	137.9	138.2	139.5	140.7	142.9	144.0	143.6	144.2	146.0	146.6
15-9	Other miscellaneous products	210.6	245.5	246.1	250.6	255.8	261.4	261.4	272.5	288.3	293.3	307.9	349.7	375.3	352.3

[1] Prices for natural gas are lagged 1 month.

[2] Includes only domestic production.

[3] Most prices for refined petroleum products are lagged 1 month.

[4] Some prices for industrial chemicals are lagged 1 month.

[5] Data for November 1979 have been revised to reflect the availability of late reports and corrections by respondents. All data are subject to revision 4 months after original publication.

28. Producer Price Indexes, for special commodity groupings

[1967 = 100 unless otherwise specified]

Commodity grouping	Annual average 1978	1979										1980		
		Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.[1]	Dec.	Jan.	Feb.	Mar.
All commodities — less farm products	208.4	224.7	228.0	230.1	232.0	235.4	237.5	241.4	245.3	247.0	249.2	255.4	260.5	262.6
All foods	206.4	225.9	227.7	226.4	223.8	225.4	224.7	228.5	226.9	230.0	232.1	231.1	235.7	234.7
Processed foods	206.7	225.6	227.8	227.5	224.7	226.4	224.8	230.8	228.9	231.8	234.1	233.3	238.5	236.8
Industrial commodities less fuels	197.2	211.9	214.7	216.0	217.0	219.0	220.3	222.0	225.9	226.9	228.1	234.3	237.5	238.4
Selected textile mill products (Dec. 1975 = 100)	108.8	111.6	112.3	112.8	113.5	114.0	115.1	115.8	116.4	117.0	117.0	118.8	119.4	121.1
Hosiery	106.3	110.5	112.5	112.5	112.7	114.1	113.0	112.7	113.3	114.6	115.3	119.5	119.6	119.9
Underwear and nightwear	158.9	167.1	167.3	167.7	168.3	168.5	170.8	170.8	171.2	171.6	172.9	175.7	177.8	181.8
Chemicals and allied products, including synthetic rubber and manmade fibers and yarns	190.5	200.0	204.1	207.6	209.5	215.0	218.6	220.9	224.3	226.3	228.6	235.8	238.2	242.1
Pharmaceutical preparations	140.6	149.4	150.0	150.1	151.7	151.7	152.0	153.6	155.6	155.4	156.9	159.2	160.4	161.7
Lumber and wood products, excluding millwork and other wood products	298.3	323.7	326.4	325.1	321.7	325.3	333.9	341.0	337.3	323.3	310.3	308.6	314.0	312.2
Special metals and metal products	209.6	228.2	232.7	232.4	233.7	235.5	234.9	236.4	243.4	244.5	245.9	253.5	255.7	254.8
Fabricated metal products	216.2	230.6	232.9	234.6	235.7	237.4	239.8	241.1	244.0	244.6	245.6	247.3	248.3	251.3
Copper and copper products	155.6	197.9	212.1	199.0	193.0	191.9	197.1	200.5	212.2	213.8	216.1	227.2	258.2	240.9
Machinery and motive products	190.4	201.7	204.1	205.3	206.0	207.7	207.2	208.5	213.4	214.3	215.4	219.3	220.6	222.2
Machinery and equipment, except electrical	214.3	227.7	230.0	231.8	232.6	235.1	236.2	238.2	240.8	242.5	244.1	248.4	250.4	252.9
Agricultural machinery, including tractors	216.3	229.6	230.8	232.1	233.8	235.8	238.4	243.6	246.3	250.8	250.0	255.2	256.0	257.7
Metalworking machinery	228.8	248.9	251.2	254.3	256.8	260.1	261.7	265.6	269.5	272.7	276.2	282.1	284.8	288.1
Numerically controlled machine tools (Dec. 1971 = 100)	179.1	192.6	132.7	195.7	195.8	202.2	204.2	206.5	208.5	208.8	211.3	213.2	215.6	216.8
Total tractors	228.7	243.1	245.4	247.7	248.2	251.2	253.8	256.0	261.2	262.5	264.9	271.6	273.5	274.3
Agricultural machinery and equipment less parts	212.7	225.5	226.7	228.1	229.5	231.4	233.7	238.4	241.0	244.9	244.6	249.3	250.4	252.1
Farm and garden tractors less parts	216.1	226.7	228.5	230.5	231.8	233.9	237.6	244.1	247.6	250.5	250.4	255.3	256.7	258.8
Agricultural machinery excluding tractors less parts	216.7	232.1	233.0	233.6	235.7	237.6	239.2	243.5	245.4	251.3	250.0	255.4	255.6	257.0
Industrial valves	232.3	249.5	252.4	255.0	255.8	257.0	258.2	260.1	261.9	263.1	265.2	270.1	272.2	276.1
Industrial fittings	232.7	252.0	255.5	259.3	260.4	260.8	262.3	264.3	272.6	276.8	276.8	276.8	280.4	282.8
Abrasive grinding wheels	208.1	220.3	220.3	221.6	222.8	222.8	224.6	224.6	239.0	239.0	239.0	239.0	244.0	244.0
Construction materials	228.3	246.9	250.0	250.3	250.3	252.3	254.3	256.6	258.5	256.7	255.3	259.1	262.2	264.6

[1] Data for November 1979 have been revised to reflect the availability of late reports and corrections by respondents. All data are subject to revision 4 months after original publication.

29. Producer Price Indexes, by durability of product

[1967 = 100]

Commodity grouping	Annual average 1978	1979										1980		
		Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.[1]	Dec.	Jan.	Feb.	Mar.
Total durable goods	204.9	221.0	223.9	224.7	225.8	227.6	228.0	230.1	234.6	235.3	236.6	243.4	246.4	246.6
Total nondurable goods	211.9	230.4	234.1	236.9	238.8	243.7	245.8	251.1	253.7	256.2	259.2	263.0	270.0	273.1
Total manufactures	204.2	219.7	223.1	225.0	226.5	229.8	231.7	235.2	239.0	240.6	242.3	248.2	252.7	254.8
Durable	204.7	219.8	222.7	223.8	224.6	226.6	227.2	229.4	234.0	234.6	235.8	242.2	245.0	245.2
Nondurable	203.0	219.0	222.8	225.6	227.8	232.5	235.9	241.0	244.0	246.6	248.8	253.8	260.7	264.7
Total raw or slightly processed goods	234.6	263.3	266.1	268.2	269.7	274.3	272.1	276.9	278.7	281.0	286.4	287.5	295.9	295.6
Durable	209.6	273.6	272.5	262.9	272.8	265.4	259.8	255.7	259.2	265.8	267.8	282.7	305.2	302.5
Nondurable	235.6	261.6	264.7	267.6	268.5	274.0	272.0	277.5	279.2	281.2	286.8	286.9	294.2	294.0

[1] Data for November 1979 have been revised to reflect the availability of late reports and corrections by respondents. All data are subject to revision 4 months after original publication.

30. Producer Price Indexes for the output of selected SIC industries

[1967 = 100 unless otherwise specified]

1972 SIC code	Industry Description	Annual average 1978	1979										1980		
			Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
	MINING														
1011	Iron ores (12/75 = 100)	121.9	127.3	131.9	131.9	136.0	136.0	138.8	138.1	140.2	140.2	142.0	142.0	147.3	147.3
1092	Mercury ores (12/75 = 100)	126.6	178.3	202.1	237.5	277.0	270.8	245.8	252.1	275.0	252.1	300.0	308.3	335.4	330.0
1211	Bituminous coal and lignite	430.2	445.7	447.5	451.3	452.5	453.1	454.8	452.9	455.1	455.5	458.1	458.0	458.7	460.7
1311	Crude petroleum and natural gas	358.2	403.8	407.6	427.2	444.1	457.5	476.0	508.4	522.1	533.9	553.3	583.2	597.4	600.6
1442	Construction sand and gravel	194.6	210.9	214.1	216.0	217.0	219.3	220.1	221.0	224.0	224.7	225.7	238.0	242.1	243.6
1455	Kaolin and ball clay (6/76 = 100)	111.8	125.4	125.4	125.4	125.5	125.5	125.5	125.5	126.7	124.2	119.7	128.5	128.5	123.4
	MANUFACTURING														
2011	Meat packing plants	216.7	256.6	265.0	259.2	249.1	243.8	229.3	247.2	238.9	241.5	243.9	240.7	240.1	238.9
2013	Sausages and other prepared meats	215.2	235.6	224.4	227.7	217.1	214.7	203.4	211.7	211.9	213.4	219.9	211.5	207.4	209.1
2016	Poultry dressing plants	192.5	206.1	199.7	203.5	177.8	178.4	169.6	171.2	163.1	188.3	188.5	186.1	178.2	173.5
2021	Creamery butter	205.2	216.1	224.7	225.3	225.3	227.5	237.9	240.6	240.1	241.7	243.1	241.9	242.8	243.4

See footnotes at end of table.

30. Continued—Producer Price Indexes for the output of selected SIC industries

[1967 = 100 unless otherwise specified]

1972 SIC code	Industry description	Annual average 1978	1979										1980		
			Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
	MANUFACTURING — Continued														
2022	Cheese natural and processed (12/72 = 100)	169.6	182.5	186.8	185.2	185.6	186.3	195.4	200.8	196.8	193.6	192.6	197.1	194.6	197.4
2024	Ice cream and frozen desserts (12/72 = 100)	154.8	166.7	167.3	171.0	171.5	171.5	175.0	176.1	177.5	179.9	180.2	180.9	181.5	185.0
2033	Canned fruits and vegetables	193.2	205.2	206.2	207.2	207.5	209.9	210.5	212.0	212.9	212.2	212.0	213.5	213.5	214.8
2034	Dehydrated food products (12/73 = 100)	131.3	180.9	181.7	182.1	181.0	182.0	180.7	170.0	158.2	156.2	157.3	157.6	159.0	156.4
2041	Flour mills (12/71 = 100)	147.0	157.5	158.1	166.7	174.6	190.9	176.9	183.5	184.2	184.4	184.9	181.7	183.6	182.6
2044	Rice milling	207.6	171.0	206.8	206.8	206.8	206.8	218.7	223.5	227.3	231.8	218.1	217.5	233.0	258.0
2048	Prepared foods, n.e.c. (12/75 = 100)	107.3	118.3	117.5	115.2	118.9	128.1	119.4	120.9	123.6	124.3	125.3	122.3	122.9	121.8
2061	Raw cane sugar	190.7	195.7	197.5	195.6	207.0	209.0	216.8	216.7	224.3	223.3	248.4	260.5	374.9	276.0
2063	Beet sugar	186.5	198.6	199.3	199.7	199.7	202.0	199.4	200.0	204.7	210.6	223.4	223.5	290.6	303.1
2067	Chewing gum	218.0	242.5	242.6	242.2	242.2	242.9	242.9	242.9	242.9	262.3	262.2	262.3	262.3	281.9
2074	Cottonseed oil mills	183.1	202.8	196.5	192.5	210.4	224.5	214.1	217.9	214.9	204.7	205.6	182.2	184.3	170.4
2075	Soybean oil mills	225.6	242.0	244.7	237.7	251.1	262.8	250.0	248.6	244.7	242.4	241.8	230.2	226.2	219.3
2077	Animal and marine fats and oils	287.9	362.6	393.1	363.8	335.3	352.0	321.4	333.8	333.7	315.2	300.7	296.0	292.6	297.3
2083	Malt	181.5	190.8	190.8	190.8	201.4	201.4	201.4	214.9	214.9	226.2	226.2	244.1	244.1	244.1
2085	Distilled liquor, except brandy (12/75 = 100)	106.7	109.4	109.4	113.6	113.6	113.6	115.7	117.1	117.1	118.1	118.1	118.6	118.7	118.7
2091	Canned and cured seafoods (12/73 = 100)	136.4	138.5	139.2	140.9	142.1	148.5	148.2	154.0	154.3	155.6	159.8	160.9	164.0	165.7
2092	Fresh or frozen packaged fish	303.8	359.4	375.8	382.4	397.6	403.7	391.5	389.2	400.1	391.4	389.3	390.7	386.6	392.6
2095	Roasted coffee (12/72 = 100)	262.3	221.6	220.5	231.7	244.2	271.0	279.2	279.2	280.0	287.5	287.5	281.3	273.9	274.0
2098	Macaroni and spaghetti	176.9	184.7	184.7	186.6	186.6	203.5	210.4	210.4	210.4	221.5	227.7	227.7	227.7	227.7
2111	Cigarettes	204.6	221.3	221.4	221.4	221.4	221.5	228.9	229.1	229.2	229.2	234.3	245.8	245.9	245.9
2121	Cigars	141.4	145.0	145.4	145.4	145.3	149.8	150.1	150.1	149.8	150.4	147.2	147.9	151.6	151.8
2131	Chewing and smoking tobacco	222.0	240.9	245.9	245.9	245.9	246.4	246.4	255.8	260.4	260.8	260.8	260.9	265.1	267.3
2211	Weaving mills, cotton (12/72 = 100)	181.1	190.4	191.8	192.7	194.3	196.1	196.5	198.7	201.1	201.6	200.8	203.1	206.5	209.1
2221	Weaving mills, synthetic (12/77 = 100)	109.0	112.4	113.3	113.6	114.1	116.2	116.3	116.2	116.8	117.3	117.3	117.6	117.8	119.6
2251	Women's hosiery, except socks (12/75 = 100)	91.5	94.4	97.3	97.3	97.6	99.6	98.1	97.5	98.2	100.3	100.2	103.6	103.6	103.7
2254	Knit underwear mills	164.1	172.6	172.8	173.1	173.3	172.9	174.0	174.0	174.3	174.6	178.2	182.9	184.5	186.2
2257	Circular knit fabric mills (6/76 = 100)	98.5	93.9	93.2	94.1	95.8	96.1	96.4	96.2	96.9	98.4	98.4	98.8	100.0	103.1
2261	Finishing plants, cotton (6/76 = 100)	111.0	118.2	119.0	120.8	120.9	122.5	123.2	124.0	126.1	126.3	123.4	124.9	129.5	131.7
2262	Finishing plants, synthetics, silk (6/76 = 100)	101.4	105.2	105.9	106.3	107.0	107.5	108.2	108.3	109.3	109.7	109.2	109.8	109.3	110.3
2271	Woven carpets and rugs (12/75 = 100)	114.7	116.0	116.0	116.7	117.1	(1)	(1)	(1)	(1)	...	...	...	...	...
2272	Tufted carpets and rugs	125.3	126.5	127.0	127.7	128.1	127.6	128.6	129.0	129.8	130.1	130.1	135.6	135.2	137.5
2281	Yarn mills, except wool (12/71 = 100)	167.4	172.3	173.1	174.5	175.7	177.5	177.4	179.4	181.2	183.0	184.6	188.3	197.4	199.3
2282	Throwing and winding mills (6/76 = 100)	99.2	106.0	104.4	106.3	107.5	108.5	109.7	111.2	110.4	109.6	109.2	109.3	108.8	111.3
2284	Thread mills (6/76 = 100)	114.6	120.3	120.4	120.4	120.4	120.5	128.1	128.1	128.4	128.4	128.5	128.7	129.2	129.3
2298	Cordage and twine (12/77 = 100)	99.3	98.6	101.7	102.8	105.4	105.4	113.5	115.1	114.9	114.9	115.0	115.0	117.2	118.5
2311	Men's and boys' suits and coats	194.3	199.9	203.9	204.2	204.5	205.8	206.5	206.5	206.6	206.8	206.6	207.5	209.6	209.7
2321	Men's and boys' shirts and nightwear	180.8	191.6	191.8	192.4	193.5	194.7	195.9	196.0	196.1	196.6	194.5	198.8	196.6	197.3
2322	Men's and boys' underwear	180.6	188.7	188.7	188.7	188.7	188.7	190.0	190.0	190.0	190.0	194.0	200.0	202.2	204.0
2323	Men's and boys' neckwear (12/75 = 100)	102.3	103.4	103.4	103.4	103.4	103.4	110.9	110.9	110.9	110.9	110.9	112.4	112.4	112.4
2327	Men's and boys' separate trousers	152.7	157.8	162.3	162.3	162.5	162.5	162.7	162.7	162.9	163.4	163.4	164.2	174.3	174.4
2328	Men's and boys' work clothing	195.2	200.0	206.5	206.5	209.0	208.9	210.7	210.9	213.4	219.1	219.4	225.3	234.1	235.4
2331	Women's and misses' blouses and waists (6/78 = 100)	...	99.2	99.1	100.3	100.5	102.6	102.7	102.8	103.0	105.9	106.8	107.0	107.2	107.2
2335	Women's and misses' dresses (12/77 = 100)	100.7	106.6	106.6	105.9	105.9	106.4	108.3	108.3	108.7	108.8	108.8	112.9	113.9	113.9
2341	Women's and children's underwear (12/72 = 100)	132.1	142.3	142.6	143.3	143.3	144.2	145.3	145.3	146.7	147.4	147.7	149.4	150.1	152.4
2342	Brassieres and allied garments (12/75 = 100)	111.7	116.0	116.1	116.2	117.5	117.5	117.8	117.8	117.8	117.8	118.8	119.7	123.0	124.9
2361	Children's dresses and blouses (12/77 = 100)	(1)	105.5	106.7	106.7	102.1	102.4	102.4	103.7	105.7	105.7	105.6	106.1	105.3	106.0
2381	Fabric dress and work gloves	214.4	232.2	241.5	243.9	243.9	245.4	245.4	245.4	245.4	246.9	246.9	257.7	261.7	264.8
2394	Canvas and related products (12/77 = 100)	99.6	105.9	105.9	105.9	106.9	108.4	111.0	111.4	112.3	112.1	120.1	122.1	122.8	123.4
2396	Automotive and apparel trimmings (12/77 = 100)	106.3	107.1	107.1	107.1	114.3	114.3	114.3	114.3	114.3	114.3	114.3	114.3	114.3	122.3
2421	Sawmills and planing mills (12/71 = 100)	228.9	249.5	252.5	251.6	250.9	251.3	259.1	265.6	262.2	250.2	237.5	234.8	239.6	239.1
2436	Softwood veneer and plywood (12/75 = 100)	150.1	160.1	157.3	151.1	140.7	148.1	153.4	156.0	153.1	142.9	138.7	138.5	143.9	139.8
2439	Structural wood members, n.e.c. (12/75 = 100)	136.2	148.3	150.1	150.1	150.0	150.0	149.9	150.8	158.2	158.2	158.2	158.2	158.2	158.3
2448	Wood pallets and skids (12/75 = 100)	149.4	163.8	166.8	166.7	167.0	166.9	166.8	167.9	167.9	171.0	170.5	169.8	167.0	166.3
2451	Mobile homes (12/74 = 100)	126.5	133.8	135.3	137.3	138.0	138.2	139.6	140.7	143.0	144.0	143.6	144.2	146.1	146.7
2492	Particleboard (12/75 = 100)	159.7	142.7	143.8	141.6	137.4	134.3	134.7	138.5	139.5	136.8	134.1	136.5	149.0	158.9
2511	Wood household furniture (12/71 = 100)	152.4	160.9	162.7	164.6	164.0	164.5	164.6	168.0	169.3	172.3	173.6	175.7	177.4	177.6
2512	Upholstered household furniture (12/71 = 100)	143.1	147.6	147.4	149.2	149.4	150.0	150.2	151.6	151.8	153.8	155.8	155.9	156.6	156.6
2515	Mattresses and bedsprings	156.3	162.9	163.1	163.2	164.1	164.5	165.8	165.8	168.9	172.3	172.1	169.7	169.7	169.7
2521	Wood office furniture	194.4	213.1	214.2	214.3	214.2	216.8	216.8	216.8	217.6	217.6	221.9	226.2	233.7	233.8
2611	Pulp mills (12/73 = 100)	178.5	189.9	192.5	195.2	196.6	205.4	205.7	205.8	213.5	213.9	215.6	227.2	227.0	227.4
2621	Paper mills, except building (12/74 = 100)	115.7	126.0	128.5	129.3	129.5	130.2	131.0	131.4	135.1	136.5	137.0	139.2	140.0	142.7
2631	Paperboard mills (12/74 = 100)	106.4	114.4	117.1	118.1	118.5	119.7	121.9	123.4	125.4	126.3	127.7	131.4	132.3	134.1
2647	Sanitary paper products	251.4	269.2	270.8	271.7	271.9	276.4	285.9	285.4	286.3	286.4	289.1	294.0	303.8	311.6
2654	Sanitary food containers	170.8	179.5	184.1	189.1	189.1	189.6	189.6	191.8	195.8	198.2	199.9	202.6	202.6	207.3
2655	Fiber cans, drums, and similar products (12/75 = 100)	123.0	130.8	130.9	132.2	134.0	136.6	136.6	136.6	138.5	138.5	140.9	143.2	143.2	143.3
2812	Alkalies and chlorine (12/73 = 100)	198.8	201.8	203.7	204.9	206.3	209.5	212.2	213.1	214.1	216.7	217.1	220.3	224.9	227.1
2821	Plastics materials and resins (6/76 = 100)	103.8	100.2	113.8	117.7	118.6	124.9	127.8	128.9	132.9	133.8	134.3	138.2	139.3	140.6
2822	Synthetic rubber	180.5	192.7	196.5	200.9	206.6	214.2	223.4	223.8	225.7	228.0	229.4	240.0	243.2	243.8
2824	Organic fiber, noncellulosic	107.6	111.5	113.1	115.9	117.4	118.6	119.8	123.5	123.6	123.2	123.5	124.3	124.8	127.1
2873	Nitrogenous fertilizers (12/75 = 100)	96.6	98.0	101.5	101.9	101.4	102.8	104.1	106.1	108.0	111.7	113.6	114.5	119.4	122.2
2874	Phosphatic fertilizers	166.0	179.1	185.2	186.1	184.2	188.9	199.4	204.3	213.2	221.6	223.4	230.0	233.9	235.7
2875	Fertilizers, mixing only	181.9	192.8	197.3	197.8	197.8	198.1	205.6	211.1	218.3	227.0	227.1	233.8	240.8	243.1
2892	Explosives	217.3	226.9	227.9	239.0	239.3	240.1	240.7	250.3	250.8	251.7	252.7	253.9	255.5	260.5
2911	Petroleum refining (6/76 = 100)	119.6	132.8	138.8	146.6	155.1	165.5	176.6	186.9	190.4	201.0	204.8	213.6	228.7	242.2
2951	Paving mixtures and blocks (12/75 = 100)	117.1	125.9	128.5	130.1	131.2	134.4	134.9	141.6	145.6	145.6	145.7	150.0	157.3	167.8
2952	Asphalt felts and coatings (12/75) = 100)	128.2	132.8	138.6	139.3	141.6	143.6	142.7	145.8	147.6	152.2	150.4	156.1	162.4	169.5
3011	Tires and inner tubes (12/73 = 100)	154.0	167.1	168.0	169.2	170.6	176.8	181.2	184.2	186.9	191.2	191.0	192.7	198.2	198.3

30. Continued—Producer Price indexes for the output of selected SIC industries

[1967 = 100 unless otherwise specified]

1972 SIC code	Industry description	Annual average 1979	1979										1980		
			Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.[2]	Dec.	Jan.	Feb.	Mar.
3021	Rubber and plastic footwear (12/71 = 100)	158.7	169.0	169.0	169.5	169.6	171.0	173.4	173.4	173.5	173.5	173.4	173.7	173.8	173.8
3031	Reclaimed rubber (12/73 = 100)	154.3	162.1	164.5	167.6	169.1	169.2	169.2	177.7	178.8	179.2	177.4	177.6	177.9	182.7
3079	Miscellaneous plastic products (6/78 = 100)	...	105.4	107.5	109.0	110.7	111.4	112.3	113.1	114.3	114.6	115.6	116.6	116.8	118.7
3111	Leather tanning and finishing (12/77 = 100)	119.1	173.8	182.9	201.3	195.8	181.8	172.9	155.2	161.9	150.8	153.5	164.3	160.8	146.7
3142	House slippers (12/75 = 100)	122.5	136.3	136.3	138.5	142.0	135.0	135.0	135.0	135.8	135.9	137.0	144.8	146.7	146.7
3143	Men's footwear, except athletic (12/75 = 100)	127.1	145.6	147.6	152.8	155.4	155.4	158.2	160.1	160.4	160.3	159.2	159.3	157.9	158.4
3144	Women's footwear, except athletic	164.1	189.2	190.3	192.2	195.4	198.7	201.5	201.6	202.3	204.0	204.0	205.7	206.4	213.5
3171	Women's handbags and purses (12/75 = 100)	111.4	123.0	123.0	131.7	131.8	131.8	131.8	131.8	131.8	131.8	131.8	131.9	131.9	132.1
3211	Flat glass (12/71 = 100)	142.7	150.8	150.8	150.8	151.8	151.9	151.9	152.3	152.6	153.3	153.9	157.4	157.4	157.9
3221	Glass containers	244.3	250.7	250.7	265.2	265.2	265.2	265.2	265.2	265.2	265.2	273.6	274.5	274.5	274.5
3241	Cement, hydraulic	251.2	280.3	283.1	283.2	283.7	285.4	285.4	285.4	285.4	285.5	283.6	302.8	303.2	303.2
3251	Brick and structural clay tile	230.8	252.8	256.7	258.3	259.7	261.0	263.3	265.9	261.3	261.3	262.7	268.3	270.4	271.9
3253	Ceramic wall and floor tile (12/75 = 100)	107.7	113.0	113.0	113.0	113.0	120.2	120.2	120.2	120.2	120.2	130.3	130.4	130.4	130.4
3255	Clay refractories	221.4	234.1	234.4	234.5	236.9	246.5	246.7	247.1	251.0	252.9	255.4	256.5	260.9	265.3
3259	Structural clay products, n.e.c.	176.3	186.7	186.8	186.8	187.8	188.2	192.1	192.1	192.8	192.3	196.9	196.7	196.6	196.7
3261	Vitreous plumbing fixtures	189.7	198.9	201.6	204.6	206.4	210.1	212.4	213.1	214.5	215.7	217.3	219.2	224.6	226.7
3262	Vitreous china food utensils	268.8	290.6	290.6	290.6	290.6	297.5	297.5	298.0	298.0	305.4	307.9	307.9	307.9	308.2
3263	Fine earthenware food utensils	228.1	237.1	237.1	237.1	236.4	238.8	238.8	246.0	246.0	248.4	290.3	290.3	290.3	294.0
3269	Pottery products, n.e.c. (12/75 = 100)	122.2	129.2	129.2	129.2	129.0	131.0	131.0	133.3	133.3	135.5	148.8	148.8	148.8	150.0
3271	Concrete block and brick	202.0	227.0	230.8	232.6	232.7	232.7	235.7	237.8	240.0	240.0	240.1	249.5	250.6	252.3
3273	Ready-mixed concrete	217.6	241.7	244.5	245.2	247.5	249.6	250.5	252.4	254.0	254.6	257.0	270.1	271.9	274.9
3274	Lime (12/75 = 100)	129.5	137.5	139.9	139.8	140.1	141.8	142.9	144.2	144.6	144.3	144.7	149.6	153.7	155.5
3275	Gypsum products	229.5	251.5	252.7	249.4	251.9	252.3	252.8	255.4	255.9	256.8	255.6	255.9	262.8	268.1
3291	Abrasive products (12/71 = 100)	172.3	182.4	184.0	185.1	185.8	187.7	188.6	190.4	195.1	195.3	197.1	199.2	202.2	203.9
3297	Nonclay refractories (12/74 = 100)	133.6	140.4	140.5	140.5	143.9	148.1	149.1	149.7	150.1	152.3	152.4	152.6	153.3	154.2
3312	Blast furnaces and steel mills	262.3	281.1	283.5	285.3	285.8	292.8	293.0	293.2	296.4	297.1	297.6	302.3	302.9	304.1
3313	Electrometallurgical products (12/75 = 100)	94.8	104.0	106.8	111.7	112.3	116.5	116.5	116.0	116.2	117.5	117.6	117.8	117.8	118.0
3316	Cold finishing of steel shapes	241.0	258.4	259.1	259.8	261.3	270.6	270.8	270.9	271.7	273.4	273.9	274.2	277.2	277.2
3317	Steel pipes and tubes	255.2	265.8	265.0	264.5	264.5	271.9	271.3	271.3	272.7	273.1	273.0	280.9	281.2	283.6
3321	Gray iron foundries (12/68 = 100)	233.5	249.4	253.9	253.3	254.5	253.9	253.8	254.8	267.1	269.6	268.3	272.3	275.4	275.7
3333	Primary zinc	223.2	260.9	274.2	274.5	275.2	281.4	265.5	264.2	265.2	257.8	265.7	266.1	272.4	279.6
3334	Primary aluminum	217.4	232.4	235.8	237.4	238.5	244.9	247.4	248.2	256.0	263.2	266.6	267.0	267.0	267.8
3351	Copper rolling and drawing	170.2	211.0	220.1	215.6	211.7	211.2	213.6	216.7	226.3	222.6	225.1	231.1	253.2	238.7
3353	Aluminum sheet plate and foil (12/75 = 100)	137.6	146.5	148.0	148.7	148.8	149.6	149.8	150.0	150.7	151.3	151.9	153.4	153.5	155.5
3354	Aluminum extruded products (12/75 = 100)	134.3	142.5	146.1	147.5	147.6	150.3	151.9	151.9	155.2	157.4	157.8	158.8	158.9	160.8
3355	Aluminum rolling, drawing, n.e.c. (12/75 = 100)	119.7	127.5	129.6	131.5	131.6	132.7	133.1	133.5	136.9	139.9	140.3	140.5	140.8	141.2
3411	Metal cans	238.5	260.9	264.4	263.8	262.2	262.2	262.9	263.5	273.8	274.6	273.9	276.6	276.6	279.5
3425	Hand saws and saw blades (12/72 = 100)	147.9	157.9	159.6	161.9	162.5	162.8	166.3	166.4	167.1	169.5	169.6	173.0	173.6	175.4
3431	Metal sanitary ware	209.1	219.2	220.8	222.2	224.1	226.4	228.9	229.2	230.1	231.7	232.9	237.3	242.1	243.1
3465	Automotive stampings (12/75 = 100)	118.8	125.7	126.2	127.0	127.1	127.8	130.9	131.6	132.4	132.4	132.7	132.8	132.8	133.0
3482	Small arms ammunition (12/75 = 100)	119.5	125.9	128.3	130.4	131.4	134.0	134.0	134.0	133.2	133.6	149.2	147.9	147.9	147.3
3493	Steel springs, except wire	204.6	216.7	218.1	218.7	220.5	221.6	222.1	222.8	223.7	224.1	225.4	226.0	226.5	228.4
3494	Valves and pipe fittings (12/71 = 100)	185.5	199.0	201.4	203.6	204.2	205.3	206.2	207.5	210.4	212.5	213.9	216.5	218.8	221.3
3498	Fabricated pipe and fittings	265.5	276.8	284.9	288.2	290.7	294.8	294.8	294.9	297.3	297.4	297.4	301.7	301.8	303.5
3519	Internal combustion engines, n.e.c.	220.1	234.0	237.1	239.0	239.2	242.3	245.7	251.8	254.2	254.9	253.7	259.2	260.5	264.2
3531	Construction machinery (12/76 = 100)	114.0	121.6	123.0	123.9	124.0	125.6	126.3	126.5	128.9	129.4	130.7	134.2	135.3	135.8
3532	Mining machinery (12/72 = 100)	209.5	224.2	228.0	228.4	226.4	231.2	231.5	232.7	233.1	235.4	235.8	243.1	244.2	244.8
3533	Oilfield machinery and equipment	246.2	281.8	283.5	288.4	290.0	292.0	293.3	296.8	300.5	302.8	308.0	314.0	315.9	319.0
3534	Elevators and moving stairways	204.2	213.4	213.8	213.6	214.2	215.4	214.6	219.1	219.4	220.6	220.9	223.9	225.4	228.8
3542	Machine tools, metal forming types (12/71 = 100)	213.6	234.1	237.9	238.8	240.6	244.6	245.1	247.9	249.8	253.7	256.7	266.0	259.2	271.2
3546	Power driven hand tools (12/76 = 100)	111.1	116.9	117.7	117.8	118.7	119.2	120.2	120.4	122.0	122.8	124.2	126.2	126.5	127.3
3552	Textile machinery (12/69 = 100)	179.9	190.4	191.6	191.7	192.6	195.0	197.5	198.2	199.3	200.6	200.6	202.7	205.2	207.0
3553	Woodworking machinery (12/72 = 100)	168.1	179.2	181.0	183.2	184.5	185.9	187.7	190.0	192.6	192.7	193.3	201.7	202.0	205.5
3576	Scales and balances, excluding laboratory	179.7	191.1	191.3	192.8	193.7	194.8	195.4	195.4	195.7	195.5	197.7	200.9	201.9	204.1
3592	Carburetors, pistons, rings, valves (6/76 = 100)	128.2	136.9	137.6	138.6	138.7	139.2	139.6	140.7	142.8	145.1	144.6	147.3	147.6	148.5
3612	Transformers	158.3	167.0	168.5	168.0	168.5	167.9	167.6	168.4	171.2	170.4	171.7	173.0	176.1	177.4
3623	Welding apparatus, electric (12/72 = 100)	178.1	186.6	187.3	191.5	191.9	193.5	194.1	195.1	196.9	198.6	199.6	200.6	202.6	205.3
3631	Household cooking equipment (12/75 = 100)	114.8	120.2	120.3	120.7	120.9	122.0	123.4	124.3	124.4	125.9	126.1	128.6	129.1	129.3
3632	Household refrigerators, freezers (6/76 = 100)	109.6	112.7	111.8	111.9	112.6	113.6	114.3	115.1	115.1	115.7	115.9	116.6	118.0	118.2
3633	Household laundry equipment (12/73 = 100)	141.0	146.9	146.9	147.0	147.2	148.8	149.9	150.6	150.9	152.3	154.7	155.2	156.5	158.2
3635	Household vacuum cleaners	135.5	140.4	140.4	141.2	141.5	141.6	141.7	141.9	144.5	144.7	145.8	146.2	149.6	149.9
3636	Sewing machines (12/75 = 100)	111.2	119.8	121.1	121.1	121.1	121.8	122.2	122.2	122.6	122.6	122.0	122.0	128.6	128.6
3641	Electric lamps	214.7	227.1	229.8	229.8	229.7	240.8	244.3	242.7	244.8	238.7	240.5	248.3	252.2	251.8
3644	Noncurrent-carrying wiring devices (12/72 = 100)	185.8	198.0	200.4	202.6	203.0	203.3	207.7	209.1	210.5	211.9	217.3	215.2	217.5	217.5
3646	Commercial lighting fixtures (12/75 = 100)	112.7	121.2	124.3	126.8	127.4	127.9	127.9	130.5	131.4	131.6	132.3	133.9	134.8	136.6
3648	Lighting equipment, n.e.c. (12/75 = 100)	114.6	122.3	123.5	124.0	124.6	127.6	128.2	128.5	129.6	129.8	130.5	133.0	133.2	134.5
3671	Electron tubes receiving type	200.9	211.0	211.2	211.3	226.4	226.5	226.6	227.2	227.2	227.4	227.6	229.1	229.4	229.5
3674	Semiconductors and related devices	85.3	84.4	84.7	84.7	84.7	84.2	84.3	84.7	85.1	85.6	86.0	86.6	88.0	88.9
3675	Electronic capacitors (12/75 = 100)	111.5	115.9	119.8	120.1	122.1	126.7	129.3	134.1	133.9	135.8	137.9	147.7	149.1	149.0
3676	Electronic resistors (12/75 = 100)	118.3	123.1	123.2	123.2	123.2	124.0	124.6	125.2	126.6	126.7	127.3	127.4	128.8	131.8
3678	Electronic connectors (12/75 = 100)	118.9	125.6	125.8	126.6	126.9	133.4	134.1	137.6	138.9	140.7	141.0	143.6	144.9	145.1
3692	Primary batteries, dry and wet	162.0	164.8	167.9	172.1	172.7	172.8	172.8	172.8	173.1	173.1	174.1	174.2	176.5	176.6
3711	Motor vehicles and car bodies (12/75 = 100)	115.9	122.3	124.5	124.6	124.8	125.1	122.1	122.5	130.2	130.1	130.0	132.5	131.4	131.6
3942	Dolls (12/75 = 100)	103.2	108.6	109.3	109.3	109.3	111.8	112.5	112.6	112.9	112.9	113.0	121.2	123.7	123.9
3944	Games, toys, and children's vehicles	172.3	179.2	179.6	182.3	183.1	183.5	184.4	185.1	186.2	186.3	186.6	195.5	202.0	202.0
3955	Carbon paper and inked ribbons (12/75 = 100)	105.1	115.5	119.6	120.2	116.7	117.1	118.3	118.7	123.1	125.2	125.6	126.5	128.1	128.3
3995	Burial caskets (6/76 = 100)	113.0	120.9	121.0	121.7	121.7	123.3	123.8	124.8	123.1	124.8	124.8	128.3	128.3	128.3
3996	Hard surface floor coverings (12/75 = 100)	116.3	120.7	120.7	123.7	124.5	128.3	128.3	128.3	131.0	134.1	134.1	138.6	138.7	138.7

[1] Not available.

[2] Data for November 1979 have been revised to reflect the availability of late reports and corrections by respondents. All data are subject to revision 4 months after original publication.

PRODUCTIVITY DATA

Productivity data are compiled by the Bureau of Labor Statistics from establishment data and from estimates of compensation and output supplied by the U.S. Department of Commerce and the Federal Reserve Board.

Definitions

Output is the constant dollar gross domestic product produced in a given period. Indexes of **output per hour of labor input,** or labor productivity, measure the value of goods and services produced per hour of labor. **Compensation per hour** includes wages and salaries of employees plus employers' contributions for social insurance and private benefit plans. The data also include an estimate of wages, salaries, and supplementary payments for the self-employed, except for nonfinancial corporations, in which there are no self-employed. **Real compensation per hour** is compensation per hour adjusted by the Consumer Price Index for All Urban Consumers.

Unit labor cost measures the labor compensation cost required to produce one unit of output and is derived by dividing compensation by output. **Unit nonlabor payments** include profits, depreciation, interest, and indirect taxes per unit of output. They are computed by subtracting compensation of all persons from the current dollar gross domestic product and dividing by output. In these tables, **Unit nonlabor costs** contain all the components of unit nonlabor payments except unit profits. **Unit profits** include corporate profits and inventory valuation adjustments per unit of output.

The **implicit price deflator** is derived by dividing the current dollar estimate of gross product by the constant dollar estimate, making the deflator, in effect, a price index for gross product of the sector reported.

The use of the term "man-hours" to identify the labor component of productivity and costs, in tables 31 through 34, has been discontinued. **Hours of all persons** is now used to describe the labor input of payroll workers, self-employed persons, and unpaid family workers. **Output per all-employee hour** is now used to describe labor productivity in nonfinancial corporations where there are no self-employed.

Notes on the data

In the private business sector and the nonfarm business sector, the basis for the output measure employed in the computation of output per hour is Gross Domestic Product rather than Gross National Product. Computation of hours includes estimates of nonfarm and farm proprietor hours.

Output data are supplied by the Bureau of Economic Analysis, U.S. Department of Commerce, and the Federal Reserve Board. Quarterly manufacturing output indexes are adjusted by the Bureau of Labor Statistics to annual estimates of output (gross product originating) from the Bureau of Economic Analysis. Compensation and hours data are from the Bureau of Economic Analysis and the Bureau of Labor Statistics.

Beginning with the September 1976 issue of the *Review*, tables 31–34 were revised to reflect changeover to the new series—private business sector and nonfarm business sector—which differ from the previously published total private economy and nonfarm sector in that output imputed for owner-occupied dwellings and the household and institutions sectors, as well as the statistical discrepancy, are omitted. For a detailed explanation, see J. R. Norsworthy and L. J. Fulco, "New sector definitions for productivity series," *Monthly Labor Review*, October 1976, pages 40–42.

31. Indexes of productivity and related data, selected years, 1950–79

[1967 = 100]

Item	1950	1955	1960	1965	1970	1972	1973	1974	1975	1976	1977	1978	1979
Private business sector:													
Output per hour of all persons	61.0	70.3	78.7	95.0	104.2	111.4	113.6	110.1	112.4	116.4	118.6	119.2	118.1
Compensation per hour	42.4	55.8	71.9	88.7	123.1	139.7	151.2	164.9	181.3	197.2	213.0	231.2	252.8
Real compensation per hour	58.9	69.6	81.1	93.8	105.8	111.5	113.6	111.7	112.5	115.6	117.3	118.3	116.3
Unit labor cost	69.6	79.4	91.3	93.3	118.2	125.4	133.1	149.8	161.3	169.4	179.6	194.0	214.0
Unit nonlabor payments	73.2	80.5	85.5	95.9	105.8	119.0	124.9	130.4	150.4	158.0	165.6	174.3	184.6
Implicit price deflator	70.8	79.8	89.3	94.2	113.9	123.2	130.3	143.1	157.5	165.5	174.8	187.2	203.8
Nonfarm business sector:													
Output per hour of all persons	66.9	74.3	80.9	95.9	103.0	110.1	112.0	108.5	110.5	114.4	116.2	116.8	115.5
Compensation per hour	45.4	58.7	74.2	89.4	121.7	138.4	149.2	162.8	178.9	193.8	209.3	227.3	247.6
Real compensation per hour	63.0	73.2	83.7	94.6	104.6	110.4	112.1	110.2	111.0	113.7	115.3	116.3	113.9
Unit labor cost	67.9	79.1	91.7	93.2	118.1	125.7	133.2	150.0	161.8	169.4	180.1	194.5	214.3
Unit nonlabor payments	71.5	80.1	84.5	95.8	106.0	117.5	117.8	124.7	146.0	156.0	163.9	169.9	178.8
Implicit price deflator	69.1	79.4	89.2	94.1	114.0	122.9	127.9	141.4	156.4	164.8	174.5	186.1	202.2
Nonfinancial corporations:													
Output per hour of all employees	([1])	([1])	80.2	96.8	103.5	110.5	112.8	108.5	111.9	115.5	116.8	117.9	117.5
Compensation per hour	([1])	([1])	75.7	90.0	121.5	136.7	147.5	161.4	177.4	192.2	207.6	224.8	244.7
Real compensation per hour	([1])	([1])	85.4	95.3	104.4	109.1	110.8	109.3	110.1	112.7	114.4	115.0	112.6
Unit labor cost	([1])	([1])	94.3	93.0	117.4	123.7	130.7	148.8	158.6	166.4	177.7	190.6	208.3
Unit nonlabor payments	([1])	([1])	90.8	100.1	103.5	114.8	116.8	124.8	148.1	156.8	164.4	170.6	179.8
Implicit price deflator	([1])	([1])	93.1	95.5	112.5	120.5	125.8	140.2	154.9	163.0	173.0	183.5	198.2
Manufacturing:													
Output per hour of all persons	65.0	74.1	78.9	98.3	104.5	115.7	118.8	112.6	118.2	123.4	127.2	128.0	130.2
Compensation per hour	45.1	60.5	77.1	91.0	121.8	136.6	148.4	161.1	180.2	195.1	212.0	229.5	250.5
Real compensation per hour	62.5	75.4	87.0	96.3	104.7	109.0	110.0	109.1	111.8	114.5	116.8	117.5	115.2
Unit labor cost	69.4	81.6	97.7	92.6	116.5	118.1	123.2	143.1	152.4	158.2	166.6	179.4	192.4
Unit nonlabor payments	82.4	88.6	92.4	103.3	96.2	107.4	106.4	105.6	128.4	139.6	147.4	152.4	([1])
Implicit price deflator	73.3	83.8	96.1	95.9	110.3	114.8	118.0	131.6	145.1	152.5	160.7	171.1	([1])

[1] Not available.

32. Annual percent change in productivity and related data, 1969–79

Item	Year											Annual rate of change	
	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1960-79	1969-79
Private business sector:													
Output per hour of all persons	0.2	0.7	3.3	3.5	1.9	−3.0	2.1	3.5	1.9	0.5	−0.9	2.6	2.2
Compensation per hour	6.6	7.1	6.7	6.3	8.2	9.1	9.9	8.8	8.0	8.5	9.3	5.8	6.8
Real compensation per hour	1.4	1.1	2.4	2.9	1.9	−1.7	.7	2.8	1.5	0.8	−1.7	2.6	2.1
Unit labor cost	6.6	6.4	3.3	2.8	6.2	12.5	7.7	5.0	6.0	8.0	10.3	3.2	4.5
Unit nonlabor payments	1.0	1.2	6.8	5.2	5.0	4.4	15.3	5.1	4.8	5.3	5.9	2.8	4.0
Implicit price deflator	4.7	4.7	4.4	3.6	5.8	9.8	10.1	5.0	5.6	7.1	8.9	3.1	4.3
Nonfarm business sector:													
Output per hour of all persons	−.3	.1	3.1	3.7	1.7	−3.1	1.9	3.5	1.6	.5	−1.1	2.2	2.0
Compensation per hour	6.3	6.7	6.7	6.5	7.8	9.1	9.9	8.3	8.0	8.6	8.9	5.5	6.5
Real compensation per hour	.9	.7	2.3	3.1	1.5	−1.7	.7	2.4	1.4	.9	−2.1	2.3	1.9
Unit labor cost	6.7	6.5	3.5	2.8	6.0	12.7	7.9	4.7	6.3	8.0	10.2	3.2	4.5
Unit nonlabor payments	.4	1.6	6.7	3.8	.3	5.9	17.1	6.9	5.0	3.7	5.2	2.8	3.9
Implicit price deflator	4.5	4.9	4.5	3.1	4.1	10.5	10.6	5.4	5.9	6.6	8.6	3.1	4.3
Nonfinancial corporations:													
Output per hour of all employees	.3	−.1	3.4	3.3	2.1	−3.8	3.1	3.2	1.1	1.0	−.4	([1])	2.0
Compensation per hour	6.7	6.7	6.2	5.9	7.9	9.4	10.0	8.3	8.0	8.3	8.9	([1])	6.3
Real compensation per hour	1.2	.7	1.9	2.5	1.6	−1.4	.7	2.4	1.5	.6	−2.1	([1])	1.7
Unit labor cost	6.3	6.8	2.7	2.5	5.7	13.8	6.6	4.9	6.8	7.3	9.3	([1])	4.2
Unit nonlabor payments	0	.5	7.3	3.3	1.8	6.8	18.7	5.8	4.9	3.8	5.4	([1])	3.4
Implicit price deflator	4.1	4.6	4.2	2.8	4.4	11.5	10.5	5.2	6.1	6.1	8.0	([1])	3.9
Manufacturing:													
Output per hour of all persons	1.1	−.3	5.3	5.1	2.7	−5.2	4.9	4.4	3.1	.6	1.8	2.6	2.6
Compensation per hour	6.4	6.9	6.3	5.5	7.2	10.1	11.8	8.3	8.6	8.3	9.2	5.4	6.3
Real compensation per hour	1.0	.9	2.0	2.1	.9	−.8	2.4	2.4	2.0	.6	−1.9	2.2	1.6
Unit labor cost	5.2	7.2	.9	.4	4.3	16.1	6.6	3.8	5.3	7.7	[1]7.3	2.7	3.6
Unit nonlabor payments	−4.4	−3.2	9.2	2.3	−1.0	−.7	21.6	8.8	5.5	3.4	([1])	1.8	2.3
Implicit price deflator	2.3	4.2	3.1	1.0	2.8	11.5	10.2	5.1	5.4	6.5	([1])	2.5	3.3

[1] Not available.

33. Indexes of productivity, hourly compensation, unit costs, and prices, seasonally adjusted

[1967 = 100]

Item	Annual average		Quarterly indexes										
			1977			1978				1979			
	1978	1979	II	III	IV	I	II	III	IV	I	II	III	IV
Private business sector:													
Output per hour of all persons	119.2	118.1	117.9	119.4	118.8	118.4	119.0	119.7	119.8	118.9	118.2	117.8	117.6
Compensation per hour	231.2	252.8	210.8	215.3	218.5	224.2	228.5	233.6	238.4	244.8	250.3	255.6	260.1
Real compensation per hour	118.3	116.3	116.7	117.6	117.9	118.7	118.1	118.2	118.0	118.0	116.9	115.8	114.2
Unit labor cost	194.0	214.0	178.8	180.2	183.8	189.4	192.1	195.2	199.0	205.9	211.7	217.0	221.1
Unit nonlabor payments	174.3	184.6	164.7	167.9	168.6	164.8	173.9	177.0	181.3	180.8	183.7	185.6	189.0
Implicit price deflator	187.2	203.8	173.9	176.0	178.6	180.9	185.8	188.9	192.9	197.2	202.0	206.1	210.0
Nonfarm business sector:													
Output per hour of all persons	116.8	115.5	115.8	116.7	116.3	116.0	116.5	117.3	117.6	116.6	115.4	115.0	115.1
Compensation per hour	227.3	247.6	207.3	211.2	214.8	220.6	224.6	229.4	234.3	240.2	[1]244.8	249.9	255.4
Real compensation per hour	116.3	113.9	114.7	115.4	115.9	116.8	116.1	116.1	116.0	115.8	114.3	113.2	112.2
Unit labor cost	194.5	214.3	179.0	180.9	184.7	190.2	192.7	195.6	199.3	206.0	212.1	217.3	221.8
Unit nonlabor payments	169.9	178.8	163.2	167.1	166.0	161.1	169.2	173.0	176.1	174.3	177.6	180.5	183.3
Implicit price deflator	186.1	202.2	173.6	176.2	178.3	180.2	184.7	187.8	191.4	195.1	200.3	204.7	208.6
Nonfinancial corporations:													
Output per hour of all employees	117.9	117.5	116.5	117.4	116.7	116.7	117.8	118.4	118.8	118.1	117.3	117.2	([1])
Compensation per hour	224.8	244.7	205.7	209.5	212.8	218.5	222.3	226.9	231.3	237.4	242.1	247.1	([1])
Real compensation per hour	115.0	112.6	113.8	114.5	114.8	115.7	114.9	114.8	114.5	114.5	113.1	112.0	([1])
Total unit costs	193.3	210.3	180.5	182.4	186.3	190.8	191.6	194.0	196.8	202.3	208.0	213.2	([1])
Unit labor cost	190.6	208.3	176.6	178.4	182.3	187.3	188.7	191.5	194.8	201.0	206.4	210.8	([1])
Unit nonlabor costs	201.8	216.6	192.4	194.8	198.7	201.5	200.8	201.6	203.1	206.5	213.2	220.5	([1])
Unit profits	127.2	128.4	123.3	130.9	122.2	107.1	129.2	132.7	138.7	130.3	129.2	127.5	([1])
Implicit price deflator	183.5	198.2	172.0	174.7	176.8	178.3	182.3	184.9	188.2	191.6	196.3	200.4	([1])
Manufacturing:													
Output per hour for all persons	128.0	130.2	127.3	128.4	127.8	125.7	127.2	129.2	129.8	129.0	130.0	131.1	130.6
Compensation per hour	229.5	250.5	209.7	214.1	217.5	223.2	226.6	231.4	236.5	242.4	248.2	253.0	258.2
Real compensation per hour	117.5	115.2	118.1	117.0	117.4	118.1	117.1	117.0	117.1	116.9	115.9	114.6	113.4
Unit labor cost	179.4	192.4	164.7	166.7	170.2	177.5	178.1	179.1	182.2	187.9	190.9	193.0	197.6

[1] Not available.

34. Percent change from preceding quarter and year in productivity, hourly compensation, unit costs, and prices, seasonally adjusted at annual rate

[1967 = 100]

Item	Quarterly percent change at annual rate						Percent change from same quarter a year ago					
	II 1978 to III 1978	III 1978 to IV 1978	IV 1978 to I 1979	I 1979 to II 1979	II 1979 to III 1979	III 1979 to IV 1979	III 1977 to III 1978	IV 1977 to IV 1978	I 1978 to I 1979	II 1978 to II 1979	III 1978 to III 1979	IV 1978 to IV 1979
Private business sector:												
Output per hour of all persons	2.4	0.3	−3.0	−2.2	−1.3	−0.6	0.2	0.8	0.4	−0.6	−1.6	−1.8
Compensation per hour	9.2	8.5	11.1	9.3	8.8	7.2	8.5	8.1	9.2	9.5	9.4	9.1
Real compensation per hour	.3	−.7	.1	−3.8	−3.6	−5.4	0.4	.1	−.6	−1.0	−2.0	−3.2
Unit labor cost	6.6	8.1	14.6	11.8	10.3	7.8	8.3	8.3	8.7	10.2	11.2	11.1
Unit nonlabor payments	7.4	9.9	−1.0	6.5	4.1	7.7	5.4	7.5	9.7	5.6	4.8	4.3
Implicit price deflator	6.9	8.7	9.3	10.1	8.3	7.8	7.4	8.0	9.0	8.7	9.1	8.9
Nonfarm business sector:												
Output per hour of all persons	2.7	.8	−3.2	−4.1	−1.4	.5	5	1.1	′.5	−1.0	−2.0	−2.0
Compensation per hour	8.8	8.8	10.4	7.9	8.5	9.2	8.7	8.1	8.9	9.0	8.9	9.0
Real compensation per hour	.0	−.4	−.6	−5.0	−3.9	3.6	.6	.1	−.8	−1.5	−2.5	−3.3
Unit labor cost	6.0	8.0	14.0	12.5	10.1	8.6	8.1	7.9	8.3	10.1	11.1	′11.3
Unit nonlabor payments	9.4	7.3	−4.0	7.8	6.6	6.4	3.5	6.1	8.2	5.0	4.3	4.1
Implicit price deflator	7.0	7.8	8.1	11.0	9.0	7.9	6.6	7.3	8.3	8.5	9.0	9.0
Nonfinancial corporations:												
Output per hour of all employees	2.0	1.1	−2.1	−2.8	−0.2	(¹)	0.8	1.8	1.3	−.5	−1.0	(¹)
Compensation per hour	8.4	8.1	11.0	8.0	8.6	(¹)	8.3	8.7	8.7	8.9	8.9	(¹)
Real compensation per hour	−.4	−1.0	.0	−4.9	−3.8	(¹)	.2	−.3	−1.0	−1.6	−2.5	(¹)
Total unit costs	5.1	5.9	11.7	11.8	10.2	(¹)	6.4	5.6	6.1	8.6	9.9	(¹)
Unit labor costs	6.2	6.9	13.4	11.2	8.8	(¹)	7.4	6.8	7.3	9.4	10.1	(¹)
Unit nonlabor costs	1.7	2.9	6.8	13.5	14.6	(¹)	3.5	2.2	2.5	6.2	9.4	(¹)
Unit profits	11.4	19.5	−22.1	−3.4	−5.3	(¹)	1.4	13.6	21.7	0	−3.9	(¹)
Implicit price deflator	5.7	7.3	7.6	10.2	8.6	(¹)	5.8	6.4	7.5	7.7	8.4	(¹)
Manufacturing:												
Output per hour of all persons	6.3	2.0	−2.4	2.9	3.5	−1.3	.6	1.6	2.6	2.2	1.5	0.6
Compensation per hour	8.7	9.3	10.3	9.8	8.1	8.4	8.1	8.7	8.6	9.5	9.4	9.2
Real compensation per hour	−.1	0	−.6	−3.4	−4.3	4.3	0	−.3	−1.1	−1.0	−2.1	−3.1
Unit labor cost	2.2	7.1	13.0	6.7	4.4	9.9	7.4	7.1	5.9	7.2	7.8	8.5

---

[1] Not available.

LABOR-MANAGEMENT DATA

MAJOR COLLECTIVE BARGAINING DATA are obtained from contracts on file at the Bureau of Labor Statistics, direct contact with the parties, and from secondary sources. Additional detail is published in *Current Wage Developments*, a monthly periodical of the Bureau. Data on work stoppages are based on confidential responses to questionnaires mailed by the Bureau of Labor Statistics to parties involved in work stoppages. Stoppages initially come to the attention of the Bureau from reports of Federal and State mediation agencies, newspapers, and union and industry publications.

Definitions

Data on wage changes apply to private nonfarm industry agreements covering 1,000 workers or more. Data on wage and benefit changes *combined* apply only to those agreements covering 5,000 workers or more. **First-year wage settlements** refer to pay changes going into effect within the first 12 months after the effective date of the agreement. **Changes over the life of the agreement** refer to total agreed upon settlements (exclusive of potential cost-of-living escalator adjustments) expressed at an average annual rate. **Wage-rate changes** are expressed as a percent of straight-time hourly earnings, while **wage and benefit changes** are expressed as a percent of total compensation.

Effective wage-rate adjustments going into effect in major bargaining units measure changes actually placed into effect during the reference period, whether the result of a newly negotiated increase, a deferred increase negotiated in an earlier year, or as a result of a cost-of-living escalator adjustment. Average adjustments are affected by workers receiving no adjustment, as well as by those receiving increases or decreases.

Work stoppages include all known strikes or lockouts involving six workers or more and lasting a full shift or longer. Data cover all workers idle one shift or more in establishments directly involved in a stoppage. They do not measure the indirect or secondary effect on other establishments whose employees are idle owing to material or service shortages.

35. Wage and benefit settlements in major collective bargaining units, 1975 to date
[In percent]

Sector and measure	Annual average					Quarterly average						
	1975	1976	1977	1978	1979 p	1978			1979			
						II	III	IV	I	II	III	IV
Wage and benefit settlements, all industries:												
First-year settlements	11.4	8.5	9.6	8.3	8.9	6.8	7.2	6.1	2.8	10.5	9.0	8.5
Annual rate over life of contract	8.1	6.6	6.2	6.3	6.6	6.0	5.9	5.2	5.3	7.8	6.1	6.0
Wage rate settlements, all industries:												
First-year settlements	10.2	8.4	7.8	7.6	7.4	6.9	7.5	7.4	5.7	8.9	6.8	6.3
Annual rate over life of contract	7.8	6.4	5.8	6.4	6.0	6.2	6.4	5.9	6.6	7.2	5.1	5.3
Manufacturing:												
First-year settlements	9.8	8.9	8.4	8.3	7.0	7.1	8.4	9.5	8.7	9.7	6.3	5.6
Annual rate over life of contract	8.0	6.0	5.5	6.6	5.4	5.8	7.2	7.4	7.7	8.1	4.7	4.2
Nonmanufacturing (excluding construction):												
First-year settlements	11.9	8.6	8.0	8.0	7.5	7.7	7.4	6.4	3.2	8.5	9.4	7.8
Annual rate over life of contract	8.0	7.2	5.9	6.5	5.9	6.9	5.9	5.1	5.6	5.8	6.5	7.4
Construction:												
First-year settlements	8.0	6.1	6.3	6.5	8.9	6.4	7.0	8.4	9.7	8.7	9.7	7.5
Annual rate over life of contract	7.5	6.2	6.3	6.2	8.4	6.0	7.2	7.1	8.2	8.3	8.5	7.6

36. Effective wage adjustments going into effect in major collective bargaining units, 1975 to date
[In percent]

Sector and measure	Average annual changes					Average quarterly changes								
	1975	1976	1977	1978	1979	1977	1978				1979			
						IV	I	II	III	IV	I	II	III	IV
Total effective wage rate adjustment, all industries	8.7	8.1	8.0	8.2	8.8	1.1	1.3	2.6	2.7	1.4	1.4	2.8	3.3	1.6
Change resulting from—														
Current settlement	2.8	3.2	3.0	2.0	2.8	.5	.5	.6	.5	.4	.2	1.1	1.0	.5
Prior settlement	3.7	3.2	3.2	3.7	3.0	.3	.6	1.4	1.2	.5	.6	1.0	1.0	.4
Escalator provision	2.2	1.6	1.7	2.4	3.0	.3	.3	.6	1.0	.5	.6	.5	1.2	.7
Manufacturing	8.5	8.5	8.4	8.6	9.2	1.4	1.4	2.2	2.9	1.9	1.5	2.3	3.2	2.4
Nonmanufacturing	8.9	7.7	7.6	7.9	8.5	.8	1.3	2.9	2.5	1.1	1.4	2.8	3.4	1.0

NOTE: Because of rounding and compounding, the sums of individual items may not equal totals.

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37. Work stoppages, 1947 to date

Month and year	Number of stoppages		Workers involved		Days idle	
	Beginning in month or year	In effect during month	Beginning in month or year (thousands)	In effect during month (thousands)	Number (thousands)	Percent of estimated working time
1947	3,693	...	2,170	...	34,600	.30
1948	3,419	...	1,960	...	34,100	.28
1949	3,606	...	3,030	...	50,500	44
1950	4,843	...	2,410	...	38,800	.33
1951	4,737	...	2,220	...	22,900	.18
1952	5,117	...	3,540	...	59,100	48
1953	5,091	...	2,400	...	28,300	22
1954	3,468	...	1,530	...	22,600	.18
1955	4,320	...	2,650	...	28,200	.22
1956	3,825	...	1,900	...	33,100	.24
1957	3,673	...	1,390	...	16,500	.12
1958	3,694	...	2,060	...	23,900	.18
1959	3,708	...	1,880	...	69,000	.50
1960	3,333	...	1,320	...	19,100	.14
1961	3,367	...	1,450	...	16,300	.11
1962	3,614	...	1,230	...	18,600	.13
1963	3,362	...	941	...	16,100	.11
1964	3,655	...	1,640	...	22,900	.15
1965	3,963	...	1,550	...	23,300	.15
1966	4,405	...	1,960	...	25,400	.15
1967	4,595	...	2,870	...	42,100	.25
1968	5,045	...	2,649	...	49,018	.28
1969	5,700	...	2,481	...	42,869	.24
1970	5,716	...	3,305		66,414	.37
1971	5,138	...	3,280	...	47,589	.26
1972	5,010	...	1,714	...	27,066	.15
1973	5,353	...	2,251	...	27,948	.14
1974	6,074	...	2,778	...	47,991	.24
1975	5,031	...	1,746	...	31,237	.16
1976	5,648	...	2,420	...	37,859	.19
1977	5,506	...	2,040	...	35,822	.17
1978: September	453	854	448	551	4,446	.25
October	370	721	117	216	2,352	.13
November	268	569	64	136	1,691	09
December	157	408	53	143	1,377	.08
1979: January	262	...	68	...	1,925	.10
February	299	...	75	...	1,670	.10
March	391	...	112	...	1,871	.10
April	512	...	426	...	5,126	.27
May	556	...	132	...	3,682	.19
June	536	...	137	...	2,989	.16
July	471	...	168	...	3,001	.16
August	463	...	119	...	3,152	.15
September	464	...	135	...	2,319	.13
October	443	...	230	...	2,966	.15
November	257	...	91	...	2,720	.15
December	134	...	42	...	1,976	.11
1980: January[p]	352	441	207	292	3,142	.16
February[p]	354	590	114	332	3,025	.17
March[p]	396	631	123	310	2,705	.14

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MONTHLY LABOR REVIEW

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Labor Month In Review

INDEXATION. The Consumer Price Index is widely used today for indexation; that is, to adjust payments to price changes. When indexation formulas devised by users bring unexpected results, the users sometimes blame the CPI. Commissioner of Labor Statistics Janet L. Norwood discussed this problem at a May 9 meeting of the Eastern Economic Association in Montreal, Canada. Excerpts:

CPI uses. The use of the CPI in escalation has become so popular in recent years, that a very large part of the population now has at least some of its income affected by the index. CPI escalation ranges from child support payments to welfare eligibility, from collective bargaining contracts to rental agreements, from pensions to social security payments, and from food stamps to school lunch programs. The CPI is also used to adjust presidential campaign funding and in several States for indexation of income tax brackets. Indeed, the tendency to add a CPI escalator to legislation has become so widespread that it is almost impossible for the Bureau of Labor Statistics to keep an up-to-date list of the uses of the CPI in indexation.

In general, the purpose of most escalator clauses has been to help those receiving payments maintain a base-period living standard by assuring that they recover the purchasing power which might be lost through price increases. The intent, therefore, is to permit people to purchase at today's prices the bundle of goods and services they purchased in the base period, thereby leaving them as well off as they were then.

BLS compiles and publishes two CPI's. The CPI-W represents the experience of urban wage earner and clerical families and covers approximately 40 percent of the total population. The CPI-U, a broader index which covers about 80 percent of the population, includes, in addition to the wage earners and clerical workers, such groups as salaried workers, the unemployed, the retired and the self-employed. Each index is published each month with a total—or All Items—Index and a large number of individual components as well as a series of special groupings. Both the CPI-U and the CPI-W are used in indexation.

Unexpected results. Use of the CPI to index payments sometimes produces results that were not anticipated at the time the escalation arrangements were made. As a result, situations arise from the *use* of the CPI as an escalator that result frequently in criticisms of the index itself. Those who, because of indexation, are required to make additional payments are often unprepared to do so, and they complain that the index is too high. Those who receive income that is indexed look at their own price experience, find that it is different from the average represented in the index, and insist that the index is too low. Finally, members of the Congress, suddenly faced with the need for increased outlays of government funds because they have provided for CPI escalation in many laws, begin to worry about the additional appropriations required for escalation and frequently transfer that concern into a criticism of the statistical series itself.

Causes for concern. In many of these cases, criticism of the CPI arises not because there are different views on the way inflation should be measured, but rather because those who have adopted an indexation policy based upon the use of the CPI do not like the results that it brings. Still others worry that, in a period of rising inflation, CPI escalation can, in fact, fuel the very inflation for which the indexing arrangements were designed to compensate, and that the CPI itself can become an engine of inflation. Difficulties faced by these groups are valid causes for concern; they also explain, I believe, some of the reasons for the recent public discussion and criticism of the CPI. While constructive criticism of price measurement techniques is both useful and sensible in a democratic society, we must be careful to separate complaints which quite properly deal with the techniques and concepts of price measurement from those which are based primarily upon the unexpected or unplanned results that arise from the use of the CPI in particular escalation formulas.

Information needed. Users of the index must become better informed about the benefits—and the dangers—of indexation so that they can make intelligent policy decisions before adopting it. They also need to have a better understanding of what the CPI is and how it measures price change. Measurement concepts and techniques appropriate for one purpose may not in fact be the best available for some other use. Interaction of producer, user, and policymaker is essential to the effective and timely development of statistical series that are relevant to the demands that are placed upon them. □

Employment gains of women by industry, 1968–78

In a decade, employment of women increased most rapidly in the service-producing sector where they already were concentrated; however, women are beginning to move into traditionally male-dominated jobs in the mining and construction industries

Howard Davis

Women filled more than half of the 18.5 million nonagricultural jobs created between 1968 and 1978. Although most of these jobs were in the rapidly expanding service sector, which traditionally employs a large share of women, female workers also made significant gains in several nontraditional industries—coal mining, construction, local and interurban transportation, and engineering and architectural services.

The proportion of women working or actively seeking work increased from 41.6 percent in 1968 to 50.1 percent in 1978. In contrast, the participation rate for men declined from 81.2 percent to 78.4 percent, in large part, because of reduced labor force participation among older men (age 45 and over). In fact, the civilian male labor force rose only 9 million during 1968–78, while total employment in nonagricultural industries increased by 18.5 million. Payroll data from the Bureau of Labor Statistics' establishment survey provide details of the flow of women into various industries. Establishment data do not yield information on earnings by sex and by industry;[1] however, the data do shed some light on the reason that earnings of women continue to lag behind those of men. As will be shown, those industries which have absorbed a large influx of women have been those with traditionally low hourly earnings.

Growth patterns, by sector

Although the proportion of women on nonagricultural payrolls increased from 35.9 percent in 1968 to 40.8 percent in 1978, almost all of the change occurred in the service-producing sector. (See table 1.) The proportion of women in the goods-producing sector edged off slightly. The 4.9-percentage points difference can be decomposed into a 5.6-point increase in female employment in the service-producing sector and a 0.7-point drop in the goods-producing sector.

One approach to use when tracing employment patterns of women is to separate the total change into that attributable to general employment growth or decline in the industry (constant-share) and that attributable to a change in the share of employment. The constant-share is calculated by multiplying the 1968 share of employment in each industry (or industry division) by the 1978 employment in that industry. In this manner, the number of women that would have been employed in an industry in 1978 can be determined, assuming their share of industry employment has not changed. The difference between the constant-share and the actual 1978 employment indicates how much female employment in 1978 has increased or decreased its share in an industry since 1968.

Allowing for the change in the distribution of employment between the goods- and service-producing sectors, but holding the proportion of female employment constant at 1968 levels, 32.3 million women, rather than 35.5 million, would have been employed in nonagricultural jobs in 1978. The increase then would have been 7.9 million women, rather than 10.9 million. (See table 2.)

About 73 percent of the 10.9-million increase in female workers can be ascribed to a constant-share increase and 27 percent to an increase in their employment share. Increased employment share accounted for 77.3 percent of the total female employment growth

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in the goods-producing sector and 21.9 percent in the service-producing sector. An industry can have a significant increase in its proportion of female employment yet, if the constant-share growth is comparatively high, the increased proportion may not represent a large part of the total employment change. For example, the employment increase of women in the goods-producing sector attributable to an increase in share was 77.3 percent (compared with 21.9 percent in the service sector), but accounted for only 26.8 percent of the increase in all nonagricultural industries. Conversely, if the constant-share growth is negligible or negative, the increased proportion of employment may comprise a large part of the total difference in female employment.[2]

Constant-share growth differed markedly in the goods-producing and the service-producing sectors. Employment in the goods-producing sector expanded at a modest 0.8-percent annual rate; the service-producing sector had a 3.2-percent annual growth rate. The constant-share employment of women increased by 41 percent in the service-producing sector, compared to less than 4 percent in the goods-producing sector. Thus,

Table 1. Total and female employees on nonagricultural payrolls, 1968–78

[Numbers in thousands]

Component	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978
Total	67,897	70,384	70,880	71,214	73,675	76,790	78,265	76,945	97,382	82,423	86,446
Women	24,395	25,595	26,132	26,466	27,541	28,988	30,124	30,178	31,570	33,239	35,253
Percent	35.9	36.3	36.9	37.3	39.6	37.8	38.5	39.2	39.8	40.3	40.8
Total goods-producing	23,737	24,361	23,578	22,935	23,668	24,893	24,794	22,600	23,352	24,347	25,598
Women	5,680	5,878	5,671	5,465	5,729	6,149	6,160	5,568	5,948	6,249	6,642
Percent	23.9	24.1	24.1	23.8	24.2	24.7	24.8	24.6	25.5	25.7	25.9
Total service-producing	44,160	46,023	47,302	48,278	50,007	51,897	53,471	54,345	56,030	58,080	60,382
Women	18,705	19,719	20,504	21,103	21,955	22,876	23,964	24,610	25,622	26,991	28,417
Percent	42.3	42.8	43.3	43.7	43.9	44.1	44.8	45.3	45.7	46.5	47.1
Private	32,321	33,828	34,748	35,396	36,673	38,165	39,301	39,659	41,159	43,001	44,904
Women	13,726	14,564	15,096	15,499	16,054	16,829	17,694	18,156	19,236	20,097	21,264
Percent	42.5	43.1	43.4	43.8	43.8	44.1	45.0	45.8	46.7	46.7	47.4
Government	11,868	12,195	12,554	12,880	13,334	13,732	14,170	14,686	14,872	15,079	15,476
Women	4,979	5,155	5,408	5,604	5,901	6,047	6,270	6,454	6,386	6,894	7,153
Percent	42.0	42.3	43.1	43.5	44.3	44.0	44.2	43.9	42.9	45.7	46.2
Mining	606	619	623	609	628	642	697	752	779	813	851
Women	36	37	37	37	40	43	49	55	60	65	76
Percent	5.9	6.0	5.9	6.1	6.4	6.7	7.0	7.3	7.7	7.9	8.9
Construction	3,350	3,575	3,588	3,704	3,889	4,097	4,020	3,525	3,576	3,851	4,271
Women	164	174	186	199	219	241	262	252	281	304	335
Percent	4.9	4.9	5.2	5.4	5.6	5.9	6.5	7.3	7.9	7.9	7.8
Durable goods	11,626	11,895	11,206	10,636	11,049	11,891	11,925	10,688	11,077	11,597	12,246
Women	2,338	2,446	2,284	2,128	2,285	2,573	2,624	2,276	2,449	2,651	2,894
Percent	20.1	20.6	20.4	20.0	20.7	21.6	22.0	21.3	22.1	22.9	23.6
Nondurable goods	8,155	8,272	8,158	7,987	8,102	8,262	8,152	7,635	7,920	8,086	8,230
Women	3,152	3,221	3,165	3,101	3,185	3,292	3,225	2,981	3,158	3,229	3,337
Percent	38.7	38.9	38.8	38.8	39.3	39.8	39.5	39.0	39.9	39.9	40.5
Transportation and public utilities	4,318	4,442	4,515	4,476	4,541	4,656	4,725	4,542	4,582	4,713	4,927
Women	860	911	957	955	953	987	1,018	996	1,010	1,051	1,132
Percent	19.9	20.5	21.2	21.3	21.3	21.0	21.2	21.5	21.9	22.3	23.0
Wholesale trade	3,779	3,907	3,993	4,001	4,113	4,277	4,433	4,415	4,546	4,706	4,957
Women	852	898	918	911	933	989	1,043	1,046	1,092	1,145	1,232
Percent	22.5	23.0	23.0	22.8	22.7	23.0	23.5	23.7	24.0	24.3	24.9
Retail trade	10,320	10,798	11,047	11,351	11,836	12,329	12,554	12,645	13,209	13,808	14,542
Women	4,674	4,942	5,089	5,217	5,417	5,692	5,935	6,005	6,308	6,619	7,027
Percent	45.3	45.8	46.1	46.0	45.8	46.2	47.3	47.5	47.8	47.9	48.3
Finance, insurance, and real estate	3,337	3,512	3,645	3,772	3,908	4,046	4,148	4,165	4,271	4,467	4,727
Women	1,709	1,819	1,907	1,979	2,032	2,138	2,245	2,287	2,371	2,511	2,711
Percent	51.2	51.8	52.3	52.5	52.0	52.8	54.1	54.9	55.5	56.2	57.4
Services	10,567	11,169	11,548	11,797	12,276	12,857	13,441	13,892	14,551	15,303	16,220
Women	5,632	5,994	6,224	6,438	6,718	7,023	7,454	7,822	8,256	8,771	9,356
Percent	53.3	53.7	53.9	54.6	54.7	54.6	55.5	56.3	56.7	57.3	57.7
Federal government	2,737	2,758	2,731	2,696	2,684	2,663	2,724	2,748	2,733	2,727	2,753
Women	710	723	723	715	747	780	798	805	808	856	869
Percent	25.9	26.2	26.5	26.5	27.8	29.3	29.3	29.3	29.6	31.4	31.6
State government	2,442	2,553	2,664	2,747	2,859	2,823	3,039	3,179	3,273	3,363	3,414
Women	1,013	1,087	1,126	1,118	1,102	1,216	1,287	1,373	1,448	1,510	1,516
Percent	41.5	42.6	43.9	44.4	45.6	42.9	42.3	43.2	44.3	44.9	44.4
Local government	6,660	6,904	7,158	7,437	7,790	8,146	8,407	8,758	8,865	8,989	9,309
Women	3,256	3,343	3,517	3,669	3,849	4,014	4,185	4,276	4,330	4,526	4,767
Percent	48.9	48.4	49.1	49.3	49.4	49.3	49.8	48.8	48.8	50.4	51.2

women experienced significant employment gains in the service-producing sector from both constant-share growth and proportional increases. Over the decade, the relative gains in female employment (the total change in female employment divided by the number of women employed in 1968 in a given industry) were positively associated with the rate of growth in all industries, except in mining and construction where female employment is still trivial.

About two-thirds of the increased employment share in the service-producing sector was concentrated in three divisions—in services, in finance, insurance, and real estate, and in retail trade. In 1968, these three divisions employed 67 percent of all women in the service-producing sector and each had female employment ratios ranging from 48 to nearly 58 percent. Also, these divisions recorded the three strongest annual rates of growth. Consequently, relative gains in female employment were substantial in each division; the three divisions combined accounted for 71 percent of the increased female employment in the service-producing sector. Thus, women made the largest numerical gains, as well as proportionate gains in industry divisions in which they already constituted a significant share of employment.

The increase in the proportions of female employment in the service-producing sector has had an important consequence on the overall earnings of women. Average weekly earnings in the service-producing sector are about two-thirds of those in the goods-producing sector primarily because of the comparatively low-paying divisions in the service sector—trade, finance, insurance and real estate, and services. Therefore, the faster growth of female employment in these divisions tends to depress the average weekly earnings of all women in nonagricultural jobs.

The data indicate that increases in the share of employment are closely associated with the levels of weekly earnings. For example, construction, with the second highest level of weekly earnings, experienced the highest increase in employment shares, while retail trade, with the lowest weekly earnings, scored the next to the lowest gain.

. . . And by industry division

Women have made significant gains in their share of employment in mining and construction industries, although female employment in each division is under 10 percent.[3] Increased employment shares accounted for 65 percent of the total female employment gains in mining and 74 percent in construction. Women made small numerical gains, but significant proportionate gains, in professional and technical occupations in mining.[4] Also, increased employment shares represented a large portion of total female employment gains in both durable and nondurable goods manufacturing, (where strong employment gains were made in professional, technical, and sales occupations). Women had strong gains in the Federal Government and in transportation and public utilities, where the gains were concentrated among professional, technical, managerial, sales, and operational occupations. They also made considerable strides into finance, insurance, and real estate, where more of them now are in management and sales positions. Retail trade, services, and State and local government recorded the lowest gains in employment shares (20 percent or

Table 2. Analysis of change in female workers on nonagricultural payrolls, by industry sector and division, 1968–78

[Numbers in thousands]

Component	Total		Percent of total employment		Percent of total employment in each component		Change in employment			Proportion of difference attributable to increase in employment shares[1]	Annual rate of growth
	1968	1978	1968	1978	1968	1978	Actual	Holding 1968 female share of employment constant	Difference		
Female workers	24,395	35,253	100.0	100.0	35.9	40.8	10,856	7,949	2,907	.2678	2.4
Total goods-producing	5,690	6,642	35.0	29.6	24.0	25.9	952	216	736	.7731	.8
Total service-producing	18,705	28,417	65.0	70.4	42.4	47.1	9,904	7,733	2,171	.2192	3.2
Private service-producing	13,727	21,264	47.6	52.4	42.5	47.4	7,731	6,029	1,702	.2201	3.3
Government	4,979	7,153	17.4	18.4	42.1	46.2	2,173	1,704	69	.2164	2.7
Mining	36	76	.9	1.0	5.9	8.9	40	14	26	.6500	3.6
Construction	164	335	4.9	4.9	4.9	7.8	171	45	126	.7368	2.5
Durable goods	2,338	2,894	17.1	14.2	20.1	23.6	55	124	432	.7770	.5
Nondurable goods	3,152	3,337	12.0	9.4	38.7	40.5	185	33	152	.8216	0
Transportation and public utilities	860	1,132	6.4	5.7	19.9	23.0	272	121	151	.5551	1.3
Wholesale trade	852	1,232	5.6	5.7	22.6	24.9	380	269	111	.2921	2.8
Retail trade	4,674	7,027	15.2	16.8	45.3	48.3	2,353	1,914	439	.1866	3.5
Finance, insurance, and real estate	1,709	2,711	4.9	5.5	51.2	57.4	1,002	712	290	.2894	3.5
Services	5,632	9,356	15.6	18.8	53.3	57.7	3,724	3,013	711	.1909	4.3
Federal government	710	869	4.0	3.2	25.9	31.6	159	4	155	.9748	.1
State government	1,013	1,516	3.6	3.9	41.5	44.4	503	404	99	.1968	3.4
Local government	3,256	4,767	9.8	10.9	48.9	51.2	1,511	1,296	215	.1423	3.4

[1] Difference divided by actual change in employment of women.

NOTE: Due to rounding, data may differ from those shown elsewhere in this article.

less). Nearly all (97 percent) of the change in female employment in the Federal government was from increased employment shares, compared with 20 and 14 percent in State and local governments. However, employment growth of women was below average in the Federal government, but was slightly above average in the State and local government divisions.

From 1968 to 1978, women made significant strides in both durable and nondurable manufacturing, with increased employment shares representing 78 percent and 82 percent, respectively, of the total increase in female employment. Employment in durable goods grew at an annual rate of slightly under 0.5 percent, while female employment expanded 2.2 percent a year. Total employment in nondurable goods was essentially unchanged over the decade; thus, virtually all the growth was in female employment.

Women attained significant employment share gains in the manufacturing of furniture and fixtures and of instruments and related products, with the latter posting a particularly strong gain in total employment. The major durable goods employer of women, electric and electronic equipment, turned in an exceedingly sluggish performance over the 1968–78 period and, while women did increase their share, the increase was among the lowest of the durable manufactures. Non-electrical machinery had an above-average employment growth as well as an above-average female proportionate gains.

Five nondurables industries have posted employment declines since 1968. Three of them (textiles, apparel, and food products) were major employers of women, accounting for 61 percent of all the women employed in nondurables. However, women increased their share of employment in each of these industries, and in food products, the number of women actually increased. Printing and publishing displayed above-average employment performance; women increased their share at a rate nearly 4 times above that for all nondurable manufacturing. Women also achieved important gains in both the chemicals and the rubber and plastic products industries.

Women have more than doubled their employment over the decade in two transportation industries—local and interurban passenger transit and transportation services. Furthermore, they constituted a significant proportion of total employment in transportation services (45 percent in 1978). Increasingly, they have been accepted as bus drivers, especially in local transportation systems.

Employment in transportation service increased by 70 percent over the decade, with the share of women growing from 34 percent in 1968 to nearly 45 percent in 1978, as this industry responded to expanding travel needs. Women may be especially attracted to transportation service jobs because of the availability of employee discount fares and part-time employment opportunities.

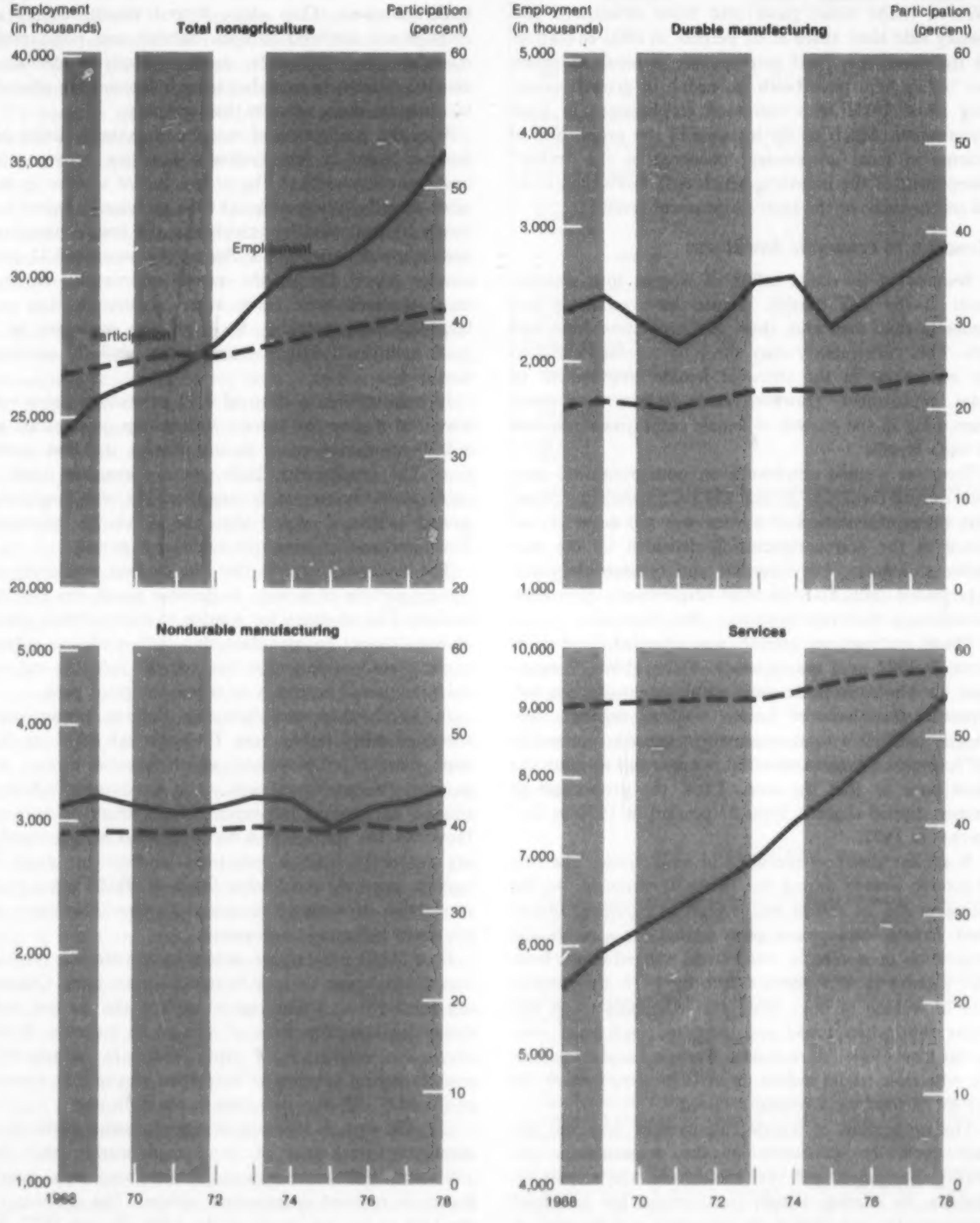
Employment of both men and women have expanded in the communication industry, yet the proportion of women dropped from 50 percent in 1968 to slightly under 46 percent in 1978. This decline reflects increased use of automatic telephone exchange equipment, which reduced the need for operators. Three retail sales industries, eating and drinking places, food stores, and furniture and home furnishings stores, experienced substantially above-average expansion in total employment. In food stores, female employment outpaced total employment, and the increase in their proportions was double that for all retail sales industries. Although total employment for automotive dealers and services posted a smaller than average gain, women made above-average proportionate gains in that component—their numbers grew at a rate nearly 3 times that of all retail sales employment.

About 34 percent of all women in retail trade are employed in eating and drinking places. This component grew at an annual rate of 6.3 percent, compared to the 3.5-percent rate for all retail trade. Women shared equally in this growth; thus, their employment share was little changed. The rapid growth of eating and drinking places undoubtedly reflects the proliferation of fast-food eating places related to increased family income and shifting life styles.

In the finance, insurance, and real estate division, women attained a greater than industrywide employment share into banking, credit agencies, insurance agencies, brokerages, and service industry. In each of these components, women represented more than 60 percent of total employment. Employment in real estate grew about the same as that in the industry as a whole; but women's share of total employment, at 36 percent, remained virtually unchanged over the 1968–78 period. Although total employment declined in the security, commodity brokerages, and services industry over the decade, female employment increased slightly.

Within the service division, women increased their share of employment above the industry's average in hotel, motel, and tourist places; business services; miscellaneous repair services; and in engineering and architectural services. Total employment gains were above average in business services and in engineering and architectural services. Nearly 42 percent of all women in the service sector are employed in the health services component. This component posted slightly better than a 6-percent annual rate of increase over the decade and, in 1978, 81 percent of its employees were women. The number of female employees rose dramatically, although the employment share was virtually unchanged. The proportion of women in legal services (71 percent) hardly changed between 1968 and 1978 although employ-

Chart 1. Number and proportion of women employed in nonagricultural industries, 1968-78 annual averages



ment in this component grew at an annual rate of 7.5 percent.

Employment in State education displayed a slightly stronger gain than that in total State government. Women made some gains into State education, but, merely held their share at 62 percent in local education. In the meantime, total employment in local education has barely kept pace (with an easing of growth occurring since 1975) with increased employment in local government. Much of the increase in the proportion of women in local government occurred in the "other" component of the industry, which rose more than overall employment at the local government level.

Reaction to economic downturns

Because of the large influx of women into employment in the past decade, women have relatively less seniority than men and, thus, less protection from layoffs. This vulnerability may show up as disproportionate reductions in the share of female employment to total employment. However, such declines may result from a lag in the growth of female employment, as well as from layoffs.

Data on women employees on nonagricultural payrolls during the 1969–70 and 1973–75 recessions reveal that the representation of women was not adversely affected in the nonmanufacturing divisions by the economic slowdown. Only durable and nondurable goods experienced reductions in total employment of women as well as in their representation. (See chart 1.)

Trade employment growth was retarded from 1970 through 1971 as a consequence of the 1969–70 recession. In wholesale trade, total employment did not fall; however, the share of female workers declined very slightly and when total employment growth resumed in 1972, female representation did not increase at quite the same pace as that for men. Thus, the proportion of women dipped slightly, from 23 percent in 1970 to 22.7 percent in 1972.

A similar situation prevailed in retail trade. The rate of growth slowed during the 1969–70 recession. As the recession ran its course and overall employment quickened, female employment gains trailed. As a result, the proportion of women in retail trade nudged down from 46.1 percent to 45.8 percent. But, by 1973, the proportion of women in both retail and wholesale trade was above the former peaks and increased each year, even during the 1973–75 recession. Female employment in the wholesale trades inched up in 1975, even though the industry's total employment declined.

The proportion of female employment does not appear cyclically vulnerable in the construction, the finance, insurance, and real estate, and the service industries. In mining, female employment has increased continuously and began to increase significantly in 1974 (although the number of women in mining is still negligible).

As previously mentioned, only in manufacturing was the share of women employees adversely affected during both recessions. Their share dipped simultaneously as employment declined in both durable and nondurable manufacturing. Generally, during periods of declining activity, women in manufacturing industries are affected by cutbacks more severely than are men.

Was the proportion of women in manufacturing industries more or less cyclically sensitive between the business contractions? The proportion of women in durable manufacturing dropped 0.56 percentage points between its peak and trough during the first contraction and dropped even further during the second, 0.72 percentage points. During the second contraction, employment declines were more severe, although they rebounded more quickly—the high was recovered in 2 years, compared with 3 years in the 1969–70 contraction.

In nondurables, a drop of 0.80 percentage point was sustained during the second contraction, in contrast to a 0.10-percentage point decline during the first recession. The prerecession high was not regained until 3 years after the second contraction, but was nearly regained within 2 years after the 1969–70 recession. Thus, in manufacturing, the evidence is mixed.

The evidence suggests that the cyclical sensitivity of the proportion of women in durable goods has not increased. The tendency for women to increase their share of employment in manufacturing will moderate subsequent overall employment drops in the industry and reduce the period necessary to regain the prior peak.

In nondurable manufacturing, female employment remained fairly stable from 1969 through 1977, as did their share of employment, which hovered around 40 percent. Except for tobacco, each nondurable industry showed an upward movement in the share of women. However, the impact of a compositional change resulting especially from a long-term employment drop in textiles, apparel, and leather (each of which has a high proportion of women) restrained an overall increase in the share of female employment.

Five of 10 nondurable industries manifested cyclical sensitivity during the two business contractions. Opposing employment trends again masked the general tendency for the proportion of women to increase. However, the sensitivity of their share in nondurable manufacturing appears to have been perceptibly greater in the 1973–75 recession than in the prior one.

Overall, women working in manufacturing incurred a disproportionate drop of employment during both the 1969 and 1973 contractions. These drops were manifested in reduced employment shares. The declines of the high to the low levels of the 1969–70 and 1973–75 recessions were 0.05 percentage point and 0.4 percentage point. The decline in manufacturing was more severe in the latter recession, as was the share of female workers.

During the 1973–75 recession, employment in durable goods responded in a significantly different manner from that in nondurable goods. Neither total employment nor the proportion of female workers peaked until 1974 (despite declining output). In contrast, in nondurable manufacturing, the employment and share of female workers peaks coincided with the cyclical peak of 1973.

The apparent tendency for disproportionate declines of female employment to be related to seriousness of employment cutbacks may be specious. This relationship prevailed during both contractions in the electric and electronic equipment industry, which employs the largest number of women of all durable goods industries. In contrast, fabricated metal products had large employment cutbacks during both recession periods, yet the proportion of female workers was not so acutely affected in the second contraction as in the first.

Nevertheless, caution should be used in ascribing too much significance to changes in female employment emanating from cylical changes. Changes at the aggregate level may reflect alteration in the proportion of women and the composition of the component industries. For example, a significant part of the large drop in the share of female workers in electric and electronic equipment during 1974–75 was due to an appreciable decline of employment (resulting from the introduction of integrated circuit technology) in electronic components and accessories, which accounts for about 21 percent of total employment in the industry. The nearly 4-percentage point drop in the share of women workers in the production of electronic components and accessories was not the result of a disproportionate decline of female employees, but rather of production workers, a group comprised almost entirely of women.

The extent of the impact of unequal reductions in the proportion of female employment can be shown, taking into account "disproportionate layoffs." In 1971, the year in which the share of female employment troughed in durable and nondurable manufacturing, 68,000 fewer women were out of work than if their share had equalled the overall share. (See table 3.) Their unemployment rate, adjusted for this, would have been about 6.7 percent, rather than the recorded 6.9 percent. In 1975, 98,000 fewer women would have been unemployed and the adjusted unemployment rate would have been 9.0 percent, rather than the 9.3-percent posted for that year. The obverse of a lessening in female unemployment would have been a corresponding increase in male unemployment with a consequent slight increase in the male unemployment rate.

Table 3. Employment of women in manufacturing industries during the 1969–71 and 1973–75 recessions

[Numbers in thousands]

Characteristic	Durable	Nondurable	All industries
1969–71			
Female share of employment:			
1969	20.5	38.9	...
1971	20.0	38.8	...
Female employment in 1971:			
Actual	2,128	3,101	...
Holding 1969 share constant	2,187	3,110	...
Female unemployment in 1971:			
Actual number	...	...	2,217
Adjusted number[1]	...	...	2,149
Actual rate	...	...	6.9
Adjusted rate	...	...	6.7
1973–75			
Female share of employment:			
1973	21.6	39.8	...
1975	21.2	39.0	...
Female employment:			
Actual number	2,276	2,981	...
Holding 1973 share constant	3,313	3,042	...
Female unemployment in 1975:			
Actual number	...	...	3,445
Adjusted number[1]	...	...	3,347
Actual rate	...	...	9.3
Adjusted rate	...	...	9.0

[1] Actual number of unemployed minus the amount attributable to "disproportionate layoffs" (the difference between actual and constant-share employment).

If one considers the effect of the proportions of female employment among the many components of a major industry group and the rates of employment growth among these various components, the total number of women affected may not even be as large as the above estimate. Thus, based on evidence from payroll employment data derived from a survey of establishments, the share of female employees is not significantly disproportionately affected when business activity declines. ☐

FOOTNOTES

[1] Detailed information on earnings of women by industry and occupation can be obtained from the Current Population Survey—a monthly survey of households conducted by the Bureau of the Census for the Bureau of Labor Statistics.

[2] Depending on base employment levels, equal changes in the proportion of female workers may produce differing indications regarding the changing importance of women in various industries.

[3] Data on occupations are from the Current Population Survey, a monthly survey of households conducted by the Bureau of the Census for the Bureau of Labor Statistics.

[4] The Associated General Contractors of America informed the Department of Labor that it would be unable to meet the 1979 Federal affirmative action goal for hiring women on construction jobs. The construction industry was required to fill 3.1 percent of its jobs with women by May 1979 and 6.5 percent by May 1981. An estimated 1.2-percent of the 4 million workers in the construction trade are women. See *The Washington Star*, Feb. 27, 1979, p. A-4, and *Monthly Labor Review*, May 1979, pp. 57–58.

Evaluating the 1975 projections of occupational employment

BLS' industry-occupation matrix projections proved better than those of alternative methods, even though staffing patterns were error prone; new Federal-State employment data should improve projection accuracy

MAX L. CAREY

Accurate occupational projections are highly prized by educational policymakers and by those planning careers: a clear vision of the future is the best tool for making such important decisions. But the pitfalls of attempting to chart unknown events are legendary. An early 20th century forecaster of occupational growth, for example, concluded that nearly all U.S. women would eventually be employed by the telephone company, based on its growth rate and the occupational structure of its work force. Few occupational projections have been as inaccurate. Even fewer have been completely correct. The vast majority lie somewhere in between, and their value must depend on some measure of the degree of error.

This article examines differences between BLS' projected 1975 occupational employment and actual employment.[1] It does not address the standard to be used in judging whether a projection is "good." The degree of error that produces a decision different from that made with a perfectly accurate projection might separate "good" from "poor" projections. But because of the uncertainty of other variables in the decisionmaking process, estimates of such a turning point would be conjecture. Nevertheless, decisionmakers can benefit by an assessment of the accuracy of the projected numbers, including an analysis of the projection method to identify sources of error.

In 1967, the Division of Occupational Outlook completed a matrix that described the relationship of employment in 162 occupations and 124 industries during 1960 and projected these relationships to 1975.[2] The primary data sources for occupational employment were the 1950 and 1960 censuses and, for industry employment, annual estimates from the BLS establishment surveys beginning from 1947. A revision of the 1975 matrix was completed in 1969, based mostly on additional industry data. Although the revision was not published, it was used as a resource for the occupational outlook program, and provides an opportunity for evaluating projections with more historical data. Due to a major change in the occupational employment classification system beginning with the 1970 census, only 76 of the 162 detailed occupations were sufficiently comparable for evaluation.

Evaluation of projection methodology disclosed weakness in the estimation of industry-occupation employment ratios. The adequacy of decennial census data as a basis for projecting changes in industry-occupation patterns has always been regarded with some suspicion by BLS analysts, and concern about these data was a major factor in the decision to launch a cooperative Federal-State program in 1970 for surveying occupational employment. The current analysis has found that the census-based ratio estimates were a far greater source of error in the occupational projections than the estimates of industry employment levels. In fact, a simulated matrix based on actual 1975 industry employment levels and the estimated ratios produced

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occupational totals that were no more accurate, on average, than the projections, suggesting that the ratios were so poor that they would have even negated the effect of perfect industry projections.

The unforeseen economic downturn of the mid-1970's reduced the accuracy of the occupational projections, although the damage was not as great as initially supposed. The projections presumed an unemployment rate of 3 percent in 1975. But the target year turned out to be the trough of the recession, and the actual unemployment rate was 8.5 percent. Consequently, employment in occupations that are sensitive to economic cycles, such as craft and operative occupations, generally was overprojected. Employment in these two groups had been growing, and almost reached projected levels by 1974, but turned down as economic conditions worsened in 1975. Underprojections did occur in 3 of the 9 major occupational groups despite the recession, and these errors might have been somewhat higher if economic conditions in 1975 had been as favorable as assumed.

The difference between projected and actual employment for the major occupational groups ranged from a 6.7-percent underestimate of clerical workers to a 9.1-percent overestimate of operatives. The average of the absolute percentage differences was 6.1 percent. The projections for detailed occupations had a much larger error, averaging 20.8 percent off 1975 employment levels. Differences between projected and actual employment tended to increase as the size of the occupation diminished. The availability of more reliable historical data for larger occupations could be expected to improve projection accuracy. The greater accuracy of projections for the occupational groups, however, also reflects the compensating effect of aggregation, because most group totals were obtained by summing projections for detailed occupations. In addition to being weak for small occupations, the projections were relatively inaccurate for occupations that declined in employment or grew very rapidly.

Several projection methods that would have been simpler and less costly than the matrix were explored. Among these, the most successful was linear extrapolation of employment trends in each occupation. These extrapolations averaged an absolute 26.2 percent off actual 1975 employment in the 76 detailed occupations compared to the 20.8 percent error for the matrix projections.

Projection methods and assumptions

The basic approach used to estimate future occupational employment requirements was to project total employment by industry, project occupational staffing patterns (ratios) by industry, and then multiply the industry totals by the ratios to obtain occupational estimates. The results were then summed across industries to obtain occupational totals.[3]

Projections of the occupational structure of each industry were based on examination of historical statistics and the analysis of the factors that influence occupational structure changes, such as new technology and changes in the product mix of industry. Employment requirements for many occupations, however, were projected independent of their relationships to industry employment. The projection of school teachers, for example, was based on an analysis of trends in pupil-teacher ratios and the projected school-age population. This technique was preferred in cases where such reliable predictive relationships could be established.

The 1975 projections were premised on certain assumptions about the size of the labor force, Armed Forces strength, the rate of unemployment, and other selected assumptions. Full employment was assumed in the target year, and defined as a civilian labor force with a 3-percent unemployment rate. This figure was selected based on the almost steady decline in the unemployment rate through the 1960's and the emphasis placed on federally assisted programs to further reduce unemployment. A total labor force of 92.6 million was projected for 1975, and it was assumed that 2.7 million persons would be in the Armed Forces, yielding a civilian labor force of 89.9 million.[4] With the assumed unemployment rate, the result was projections of 87.2 million employed and 2.7 million unemployed workers in 1975. The 87.2 million employment number was used as a control total for the occupational projections.

The economic recession of the mid-1970's negated the assumption of a full-employment economy in the target year. The unemployment rate in 1975 was almost triple the assumed 3-percent rate. Reflecting the impact of the recession, the projection of total civilian employment was 2.9 percent higher than the actual level of 84.8 million in 1975, as shown in the following tabulation:

	Employment (thousands)		
Labor force groups	*Projected*	*Actual*	*Percent difference*
Total	92,600	94,793	−2.3
Armed Forces	2,700	2,180	23.9
Civilian labor force	89,900	92,613	−2.9
Employment	87,200	84,783	2.9
Unemployment	2,700	7,830	−65.6

The overstatement of 1975 employment would have been even greater if the civilian labor force had been more accurately projected. Primarily because the number of women entering the labor force was greater than anticipated, the total labor force exceeded the projected level by about 2 million.[5] In addition Armed Forces strength was about 1 million lower than assumed. The net result was a civilian labor force of 92.6 million instead of the projected 89.9 million. If the total labor force had been projected correctly, the unemployment assumption would have resulted in a 5.9-percent overstatement of target year civilian employment, rather than the 2.9-percent error that actually occurred.

The economic downturn of the mid-1970's caused distortions in occupational employment that were of greater magnitude than the relatively small difference between projected and actual total employment. Because individual unemployment rates for each occupation were not specified in the assumptions, the effect of the recession on the accuracy of a projection for any given occupation is difficult to measure. Unemployment data for major occupational groups, however, indicate that the economic downturn generally had a greater effect on blue-collar occupations than other categories.

Base and target years

Ambiguity regarding the base and target years or the projection span complicated the evaluation. Although 1960 was the published starting point, some data for more recent years were available before the projections were completed. And, although targeted for 1975, the projections were intended to be indicators of long-term trends rather than precise estimates for 1975.

The matrix was developed with a 1960 base and a 1975 target year; it did not have estimates for any intervening year. The only comprehensive source of data on industry-occupation employment patterns available at the time the matrix was being developed was the 1960 census, and this continued to be the most comprehensive source until results from the 1970 census became available. Published estimates of total wage and salary employment by industry from the establishment survey and total employment by occupational group from the Current Population Survey (CPS), however, were available annually through 1965 at the time the matrix was being prepared. In addition, unpublished CPS estimates of employment in detailed occupations were available.[6] Clearly, the post-1960 industry employment trends were used in projecting industry employment levels. The trends for occupational groups also were considered at least as guidelines, even though the projections for most groups were the sums of detailed occupational projections rather than being independently developed. The use of unpublished CPS data on detailed occupations was not well documented in the description of projection methodology, but the CPS trends for many detailed occupations reportedly were disregarded because of their uncertain reliability.

The fact that some post-1960 data were used tends to bias measures of projection accuracy that relate to the entire 1960–75 span because greater accuracy might be expected as the projection period was shortened. To avoid this problem, an evaluation must focus on differences between projected and actual employment *levels*, rather than differences between actual and projected employment *changes*. The difference in levels is the same regardless of the base year.

The lack of a satisfactory basis for fairly judging the projected changes in occupational employment is unfortunate. Comparisons of levels alone generally have a conservative bias: projections for occupations which have relatively little employment change tend to get better marks than those which have the most change, as demonstrated in the following example. If employment in occupation A was projected to rise from 100,000 to 200,000 over a decade, but actually rose to 150,000, then 50 percent of the change was projected, and the error in level is −25 percent. If employment in occupation B was projected to rise from 100,000 to 120,000 in the same period, but actually reached only 105,000, then 25 percent of the change was projected, but the error in the level is only −12.5 percent. In terms of the proportion of actual change that was projected, A is better, but in terms of the difference between levels, B is better. Both kinds of accuracy are important. The accuracy of level is particularly important in estimating future occupational requirements, however, because projected levels are used in calculating replacement needs due to retirements and deaths.

Another problem concerns the target year. The projections were intended to be indicators of secular or long-range trends rather than estimates of employment at a future point, because it is understood that such estimates easily can be upset by unforeseen cyclical activity. Thus, it might have been wiser to describe the projections as levels that might occur in the mid-1970's or in the 1974–76 period. The projections would have been more accurate statements, with little inconvenience to users.

As previously indicated, the recession of the mid-1970's was at its worst in 1975, and the effect on occupational employment levels was not uniform. Ideally, an evaluation would judge the projections by occupational employment levels that would have existed had the recession not occurred, but this was not a practical approach. As an alternative, the 1975 projections for the major occupational groups also were compared with actual employment in both 1974 and 1976, when economic conditions were somewhat better.

Occupational groups

The direction of employment change between 1960 and 1975 was correctly anticipated for all of the nine major occupational groups, although employment in five was overprojected. Projection errors ranged from an approximate 1.2-million overstatement of employment in the operative group to a 600,000 understatement of clerical employment. The average absolute error for all groups was 535,000. Relative differences ranged from a 10.2-percent overprojection of farmworkers in 1975 to a 7.4-percent underestimate of nonfarm laborers. The average of the absolute percentage errors for all groups was 6.1 percent.

The difference between projected and actual 1960–75 employment change in each occupational group varied considerably. The anticipated increase in the number of professional workers was only 5 percent greater than the actual growth. In contrast, the projected gain in laborer employment was 85 percent lower than the actual increase. On average, about two-thirds of the employment change that occurred in each occupational group between 1960 and 1975 was projected.[7]

Estimates for white-collar groups generally were closer to the mark than those for blue-collar groups—reflecting the distortions in occupational patterns resulting from the 1973–75 recession. Because such distortions probably were greater in 1975, when the recession was at its worst, projections also were compared with actual employment in adjoining years. (See table 1.) Estimates of the error for the nine occupational groups averaged an absolute 4.8 percent off 1974 levels and 6.0 percent off 1976 levels, compared to the 6.1-percent average absolute error for the target year.

Professional, technical, and kindred workers. As projected, this major occupational group led in comparative rates of growth. Employment reached 12.7 million in 1975, an increase of 77 percent from the 1960 level, compared with an anticipated 73-percent increase. Thus, the projected number of professional and technical workers was only 2.2 percent lower than the actual number in 1975, the smallest error among the occupational groups. The actual number, however, probably would have been slightly higher if economic conditions in 1975 had been favorable, as assumed.

Managerial workers. Employment grew more slowly than anticipated in this group, increasing 21 percent between 1960 and 1975, compared with projected 28-percent growth. The number of managerial workers was expected to be 5.3 percent higher than the reported 8.9 million in 1975. The projected 9.4 million, however, was almost attained in 1976 when employment reached 9.3 million.

Salesworkers. Employment in this group was overestimated by 2.6 percent, a smaller than average error. The number of salesworkers increased from 4.2 million in 1960 to nearly 5.5 million in 1975, almost reaching the projected 5.6 million.

Clerical workers. The projected number of clerical workers, the largest of the occupational groups, was 4 percent lower than the actual number in 1975. Employment reached 15.1 million in 1975, a gain of 58 percent over the 1960 level, compared with a projected 52-percent increase. The difference between projected and actual employment for this group probably would have been greater had the recession not occurred.

Craftworkers. The number of skilled blue-collar workers was overestimated by 6.4 percent. Employment was almost 11 million in 1975, about 25 percent higher than the 1960 level, instead of the anticipated 33-percent gain. The error was significantly affected by the recession. A large proportion of craft workers are employed in construction and manufacturing industries, which are more sensitive to economic fluctuations than most other industries. Craft employment, however, had risen to about 11.5 million in 1974, almost reaching the 11.7-million projected level before decreasing as the economy worsened in 1975.

Operatives. Employment in the largest blue-collar group was overestimated by 9.1 percent, the second highest error among the occupational groups. Instead of rising from 11.4 million in 1960 to 14 million in 1975 as projected, employment peaked at 13.9 million in 1974, then dropped to 12.9 million in 1975—again reflecting the impact of the recession. Operative employment was concentrated in manufacturing industries, where unemployment rates averaged more than 11 percent in 1975.

Laborers. The 3.8-million employment projection for this group was 7.4 percent too low; and because laborers are employed primarily in manufacturing and construction, the underestimate would have been even larger if economic conditions had been more favorable. The number of laborers increased more rapidly than anticipated, peaking at 4.4 million in 1974, before dropping to about 4.1 million in 1975.

Service workers. The projection for this fast growing occupational group was too high. Employment was expected to increase from 8.3 million to 12.5 million between 1960 and 1975, a gain of 50 percent. The actual gain was 40 percent. Service industry employment, which finally reached the 1975 projected level in 1978, would have been projected more accurately but for the recession.

Farmworkers. The employment of farmworkers was overstated by 10.2 percent, the highest error among the occupational groups. Although a decline in farmworkers was projected, the extent of decline was underestimated. A 38-percent decrease in the 5.2-million 1960 employment level was projected, but a 44-percent decrease occurred. The recession probably was not a significant factor in the projection error for farmworkers.

Specific occupations

The evaluation of employment projections for detailed occupations was limited by data constraints. The

Table 1. Comparison of 1975 occupational group employment projections and actual employment in 1974, 1975, and 1976

[Thousands of workers]

Occupational group	Employment					Percent difference between projected and actual			Percent change 1960–75	
	Actual 1960	Projected 1975	Actual 1974	Actual 1975	Actual 1976	1974	1975	1976	Projected	Actual
Total	65,777	87,200	85,935	84,783	87,485	1.5	2.9	−0.3	32.6	28.9
Professional and technical workers	7,208	12,462	12,338	12,748	13,329	1.0	−2.2	−6.5	72.9	76.9
Managers and administrators	7,337	9,361	8,941	8,891	9,315	4.7	5.3	.5	27.6	21.2
Salesworkers	4,209	5,600	5,417	5,460	5,497	3.4	2.6	1.9	33.0	29.7
Clerical workers	9,557	14,520	15,043	15,128	15,558	−3.5	−4.0	−6.7	51.9	58.3
Craft and kindred workers	8,751	11,674	11,477	10,972	11,278	1.7	6.4	3.5	33.4	25.4
Operatives	11,381	14,025	13,919	12,856	13,356	.8	9.1	5.0	23.2	13.0
Nonfarm laborers	3,778	3,830	4,300	4,134	4,325	−12.6	−7.4	−11.4	1.4	9.4
Service workers	8,346	12,493	11,373	11,657	12,005	9.8	7.2	4.1	49.7	39.7
Farmworkers	5,211	3,235	3,048	2,936	2,822	6.1	10.2	14.6	−37.9	−43.7

NOTE: Details may not add to totals because of rounding. Percent differences are based on unrounded numbers.

primary source of occupational employment data for the occupational matrix was the 1960 census, but the Census Bureau revised its system for classifying employment data by occupation for the 1970 census. Beginning in late 1971, the revised system was adopted for the Current Population Survey (CPS), the primary source of occupational employment data between decennial censuses. Primarily as a result of this classification change, projections for only 76 of the 162 occupations in the matrix were comparable with 1975 employment data estimated from the CPS. Comparability also was affected by survey differences. The CPS data have a larger sampling error than the 1960 census data that were used in developing the base year matrix. Sampling errors for small occupations represented sizeable proportions of the estimated actual employment. For example, the standard error for the smallest occupation with a CPS data source, asbestos and insulation workers, was about one-fifth of the 1975 estimated employment level of 29,500. The projection of 29,300 workers in this occupation could have been anywhere between about 23,400 and 35,200 without exceeding the sampling error (1 standard error of the estimate) for the estimate of actual employment. Although this example is extreme, it demonstrates the need for caution in comparing estimates of actual employment with projections. (For a more detailed explanation of this technical factor, see the appendix.)

Differences between projected and actual employment in the 76 detailed occupations ranged from −43 percent for personnel and labor relations workers to +136 percent for plasterers. (See table 2.) The absolute percentage errors for all 76 occupations averaged 20.8 percent. Two-thirds of the occupations, however, had errors lower than the average.

One way to judge projections is to compare them with the results obtained from simple alternative methods. The occupational projections were better descriptions of the future than extrapolations of trends in total employment for each occupation. Extensions of 1960–67 annual employment data by simple linear regression over time, which would have been an inexpensive and easy method of projecting, averaged an absolute 26.2 percent off 1975 actual levels compared with the 20.8-percent average absolute error for the projections. For about one-half of the occupations, however, the simple extrapolations of employment trends were more accurate than the projections.[8] Attempts to fit curves to the employment trends produced less accurate results than the linear extrapolations. Estimates also were developed with the projected civilian labor force used as the independent variable, but the results were relatively poor, being more accurate than the projections for less than two-fifths of the occupations.

Projection accuracy was related to the size of employment in an occupation. When weighted by employment in each occupation, the average absolute error drops from 20.8 percent to 14 percent, indicating that the largest occupations generally had the more accurate projections. Relatively accurate projections for the following four categories, each with more than 1 million workers in 1975, contributed substantially to the improved results: elementary school teachers; attendants, hospital and other institutions; waiters and waitresses; and stenographers, typists, and secretaries. The following tabulation shows how projection accuracy improved for occupations with more workers:

Number of workers in occupation	*Number of occupations*	*Average absolute percent error in projection*
Total	76	20.8
Less than 50,000	19	32.4
50,000 to 99,999	14	20.3
100,000 to 299,999	17	15.5
300,000 to 599,999	14	19.8
600,000 and more	12	11.2

Sampling errors for census estimates diminish relatively as employment size increases, so the historical data for large occupations would be expected to provide

Table 2. Comparison of projected and actual 1975 employment in selected detailed occupations

[Thousands of workers]

Occupation	Employment			Difference between projected and actual		Percent change	
	Actual 1960	Projected 1975	Actual 1975	Level	Percent	Projected	Actual
Compositors and typesetters	182.5	155.0	154.0	1.0	0.6	−15.1	−15.6
Asbestos and insulation workers	19.6	29.3	29.5	−.2	−.7	49.5	50.5
Crane, derrick, and hoist operators	124.0	172.0	169.0	3.0	1.8	38.7	36.3
Nurses, professional	495.6	860.0	835.0	25.0	3.0	73.5	68.5
Waiters and waitresses	808.9	1,225.0	1,183.0	42.0	3.6	51.4	46.2
Pharmacists	113.8	126.0	120.1	5.9	4.9	10.7	5.5
Bartenders	163.7	233.0	247.0	−14.0	−5.7	42.3	50.9
Clergy	200.0	240.0	255.3	−15.3	−6.0	20.0	27.7
Dietitians and nutritionists	27.1	36.6	39.2	−2.6	−6.6	35.1	44.6
Optometrists	17.0	20.0	18.7	1.3	7.0	17.6	10.0
Elementary school teachers	977.9	1,233.0	1,332.0	−99.0	−7.4	26.1	36.2
Meat cutters and butchers, except meat packing	189.9	222.7	207.0	15.7	7.6	17.3	9.0
Attendants, hospital and other institutions	450.0	1,083.0	1,001.0	82.0	8.2	140.7	122.4
Airplane pilots and navigators	28.5	55.0	60.0	−5.0	−8.3	93.0	110.5
Veterinarians	18.6	26.0	24.0	2.0	8.3	39.8	29.0
Cabinetmakers	66.0	75.0	81.9	−6.9	−8.4	13.6	24.1
Cement and concrete finishers	46.0	75.0	82.0	−7.0	−8.5	63.0	78.3
Carpenters	832.0	900.0	988.0	−88.0	−8.9	8.2	18.8
Furnace tenders, smelters, and pourers	52.1	56.4	62.0	−5.6	−9.0	8.3	19.0
Machinists and related occupations	495.3	504.0	461.0	43.0	9.3	1.8	−6.9
Police and detectives	287.0	518.0	473.0	45.0	9.5	80.5	64.8
Molders, metal	54.2	56.0	51.0	5.0	9.8	3.3	−5.9
Plumbers and pipefitters	303.0	425.0	386.0	39.0	10.1	40.3	27.4
Electrical engineers	174.7	319.8	290.0	29.8	10.3	83.1	66.0
Stenographers, typists, and secretaries	2,383.0	3,900.0	4,370.0	−470.0	−10.8	63.7	83.4
Millwrights	69.0	87.8	79.0	8.8	11.1	27.2	14.5
Postmasters and assistants	39.2	34.2	30.5	3.7	12.1	−12.8	−22.2
Welders and flame cutters	355.0	575.0	654.0	−79.0	−12.1	62.0	84.2
Mail carriers, post office	205.5	290.0	258.5	31.5	12.2	41.1	25.8
Jewelers and watchmakers	37.0	39.0	44.7	−5.7	−12.8	5.4	20.8
Railroad conductors	43.3	44.4	39.3	5.1	13.0	2.5	−9.2
Firefighters	148.9	250.0	221.0	29.0	13.1	67.9	48.4
Radio and television repairers	103.3	140.4	124.0	16.4	13.2	35.9	20.0
Delivery and route drivers, taxicab drivers, and chauffeurs	597.5	845.0	744.0	101.0	13.6	41.4	24.5
Food counter and fountain workers	150.4	320.0	372.0	52.0	−14.0	112.8	147.3
Cooks, except private household	530.0	860.0	1,001.0	−141.0	−14.1	62.3	88.9
Roofers and slaters	50.0	68.5	80.0	−11.5	−14.4	37.0	60.0
Shipping and receiving clerks	325.0	365.0	428.0	−63.0	−14.7	12.3	31.7
Airplane mechanics	111.6	138.7	120.0	18.7	15.6	24.3	7.5
Electricians	359.0	450.0	534.0	−84.0	−15.7	25.3	48.7
Guards	330.0	415.0	492.0	77.0	15.7	25.8	49.1
Sailors and deckhands	32.3	27.1	32.5	5.4	16.6	−16.1	.8
Railroad brake and switch operators	103.2	110.7	94.8	15.9	16.8	7.3	−8.1
Dentists	86.7	124.7	106.7	18.0	16.9	43.8	23.1
Accountants and auditors	429.3	660.0	797.8	−137.8	−17.3	53.7	85.8
Cashiers	478.3	973.0	1,180.0	−207.0	−17.5	103.4	146.7
Blue-collar workers, supervisors	1,137.0	1,650.0	1,393.0	257.0	18.4	45.1	22.5
Lawyers and judges	225.0	320.0	392.0	−72.0	−18.4	42.2	74.2
Chemical engineers	39.6	61.7	52.0	9.7	18.7	55.8	31.3
Physicians, medical and osteopathic	234.0	390.1	328.1	62.0	18.9	66.7	40.2
Drafters	233.0	375.0	311.9	63.1	20.2	60.9	33.9
Editors and reporters	100.0	128.0	160.8	−32.8	−20.4	28.0	60.8
Postal clerks	242.7	340.0	281.5	58.5	20.8	40.0	16.0
Bank tellers	127.0	263.0	350.0	−87.0	−24.9	107.1	175.6
Boilermakers	24.1	27.4	36.9	−9.5	−25.7	13.7	53.1
Heat treaters, and annealers	20.4	21.5	17.0	4.5	26.5	5.4	−16.7
Mechanical engineers	153.5	254.6	200.0	54.6	27.3	65.9	30.3
Locomotive engineers	46.5	50.0	38.9	11.1	28.5	7.5	−16.3
Surveyors	44.0	82.0	63.0	19.0	30.2	86.4	43.2
Weavers, textile	61.0	40.5	31.0	9.5	30.6	−33.6	−49.2
Telephone operators	355.2	452.0	344.0	108.0	31.4	27.3	−3.2
Photographers	51.0	57.0	83.3	−26.3	−31.6	11.8	63.3
Printing press operators	75.4	99.7	146.0	−46.3	−31.7	32.2	93.6
Social and welfare workers	105.0	218.0	320.6	−102.6	−32.0	107.6	205.3
Aeronautical engineers	45.8	68.0	51.6	17.0	32.9	49.8	12.7
Inspectors, log and lumber	19.5	24.7	18.5	6.2	33.5	26.7	−5.1
Psychologists	17.0	40.0	61.0	−21.0	−34.4	135.3	258.8
Power station operators	20.9	24.2	17.7	6.5	36.7	15.8	−15.3
Locomotive engineers' helpers	41.6	6.6	10.5	−3.9	−37.1	−84.1	−74.8
Personnel and labor relations workers	100.0	191.0	333.1	−142.1	−42.7	91.0	233.1
Photoengravers and lithographers	24.2	55.0	37.5	17.5	46.7	127.3	55.0
Civil engineers	146.0	248.2	160.0	88.2	55.1	70.0	9.6
Credit managers	50.1	89.1	57.0	32.1	56.3	77.8	13.8
Patternmakers, metal and wood	40.4	49.0	30.0	19.0	63.3	21.3	−25.7
Knitters, loopers, and toppers	44.0	43.5	25.0	18.5	74.0	−1.1	−43.2
Plasterers	50.0	61.0	25.8	35.2	136.4	22.0	−48.4

NOTE: Employment levels are expressed in rounded numbers, but percentage differences are based on unrounded numbers.

more reliable trends. The greater accuracy of projections for occupational groups, however, also reflects the compensating effect of aggregation, as most group totals were obtained by summing projections for detailed occupations. Within a group, overestimates for some detailed occupations tended to be offset by underestimates for others.

The direction of employment change between 1960 and 1975 was correctly anticipated for 64 of the 76 detailed occupations. Again, results were best in the larger fields of employment. The occupations for which the direction of change was identified had average employment of about 245,000 in 1960; those with projections in the wrong direction had an average of less than 107,000 employees. Moreover, only 4 of the 51 occupations with more than 50,000 workers in 1960 had projections that were in the wrong direction, while 8 of the 25 smaller fields had that mistake. Some of the differences, however, between projected increases and actual declines, or vice versa, were relatively small.

The poor performance in estimating future employment requirements for small occupations raises questions about whether BLS should be attempting to develop projections for occupations that lack reliable employment data because of sampling error or other problems. In an effort to provide users with estimates for a larger number of fields, possibly more harm than good is being done.

Employment grew in 60 of the detailed occupations between 1960 and 1975, and declined in the remaining 16. Increases were estimated more accurately than decreases. Projections for growing occupations averaged an absolute 17 percent off actual employment, while those for occupations with losses averaged 35 percent off. Projections of growth were closely divided between underestimates and overestimates of reported employment gains. Almost all employment declines were underestimated.

The direction of employment change was correctly anticipated for all but one of the growing occupations. The number of sailors and deckhands increased by about 1 percent instead of declining by 16 percent as projected. The standard error for the estimate of 1975 employment in this occupation was much greater than 1 percent, however, so a decrease actually may have occurred. In fact, a decrease seems likely because total employment in the water transportation industry decreased in the 1960's and early 1970's.

Occupations at either end of the employment growth spectrum generally had less accurate projections than those in the middle. As the following tabulation shows, occupations with the most rapid growth had the largest projection errors, and the slowest growth occupations had somewhat larger errors than those with moderate growth.

Percent growth in employment, 1960–75	*Number of occupations*	*Average absolute percent error in projection*
Average of all growth rates, 58.1 percent	60	17.0
Less than 20	12	20.5
20 to 39	16	13.1
40 to 59	11	16.6
60 to 89	12	14.2
90 or more	9	23.7

Target year employment usually was underestimated in the fastest growing occupations and overestimated in those with the slowest growth. Projections were lower than actual levels in 14 of the 15 fastest growing occupations, and higher than actual in 12 of the 15 with the slowest increases.

Decreases were not anticipated in 11 of the 16 occupations that declined in employment. Projections for four of these occupations were within the range of sampling error (1.6 standard errors of the estimate) for estimates of actual 1975 employment, but this limit was exceeded for plasterers, patternmakers, telephone operators, power station operators, machinists, and railroad engineers and brake and switch operators. The projections correctly identified postmaster, weaver, knitter, and locomotive engineer's helper as occupations which would decline in employment, although the rate of decrease was underestimated for three of these four.

Revised projections

A revision of the 1960–75 matrix improved the accuracy of the occupational projections somewhat. The revision was based on 2 years of additional information which had become available after the initial matrix was completed. The basic economic assumptions, such as the size of the labor force and the unemployment rate, remained the same, but projections of industry employment levels were revised in line with more recent data.[9] The industry-occupation ratios, however, continued to be based primarily on the 1950 and 1960 censuses. For about two-thirds of the industries, the revised employment projections were either as accurate or more accurate than the initial projections.[10] The effect of the revision on the accuracy of ratios could not be determined because industry-occupation employment patterns for 1975 have never been developed.

The average absolute 6.1-percent error for the nine occupational groups in the initial projection was reduced to 3.7 percent with the revision. The most significant improvement was a reduction in the overstatement of farmworkers from 10.2 percent to less than 1 percent. Errors in estimates for professional, managerial, and laborer groups also were reduced. The revised projections, however, were less accurate for the sales, craft, and operative groups.

The revision improved the accuracy of projections for half of the 76 detailed occupations included in the evaluation, and reduced the accuracy for the remaining half. The degree of error was lowered. The 76 occupational projections in the original matrix averaged an absolute 20.8 percent off actual 1975 employment levels; the revision reduced this to 19.4 percent, and several of the worst estimates were improved. The largest error, a 136-percent overestimate of the number of plasterers employed in 1975, was reduced to 53 percent. Large projection errors for civil engineers and for photoengravers and lithographers also were reduced substantially. Occupations with significantly less accurate projections as a result of the revision included weavers, machinists, airplane pilots and navigators, and airplane mechanics. Most of the changes reflected adjustments both in industry employment levels and staffing patterns. Changes in the airplane pilot and mechanic projections, however, were primarily a result of a revision in the air transportation industry projection, while the change in the plasterer estimate was almost entirely a result of an adjustment to the construction industry's occupational profile.

Considerable differences appeared when the original and revised projections were ranked according to accuracy. Only two occupations were among the 10 with the most accurate projection in each version. Even among each top 20, there were only 10 occupations in common. However, 14 occupations were common to the bottom 20 for each version. Because errors for the best projections fell within a much more narrow range than those for the worst projections, the order at the top of the scale was more sensitive to the revision.

Although several major changes were made and rankings were upset, the new estimates for most occupations were fairly close to the original projections. The revised figures averaged an absolute 11.4-percent change from the initial estimates, and the differences for almost three-fourths of the detailed occupations were smaller than the average. In addition, similar patterns were observed in both sets of projections. The largest occupations usually had the most accurate projections, and employment increases were estimated much more accurately than declines. In both the original and revised estimates, errors for occupations that declined in employment averaged about twice as high as those for occupations with employment growth. Both declines and rapid increases in employment generally were underestimated.

The relatively small difference between the initial and revised projections suggest that it may not be worthwhile to revise matrices unless additional years of data on both industry employment and industry-occupation ratios are available.

Matrix errors

A major objective of this evaluation was to isolate the effects of errors in the matrix elements that determine occupational employment in the target year—projected employment by industry, and projected occupational staffing patterns for each industry (industry-occupation ratios). Ideally, the error caused by each of these factors would be determined by developing simulated matrices that combine actual data for one factor with projected data for another. Unfortunately, because actual ratios for 1975 were not available, the effect of projected industry employment totals could not be isolated, and therefore an analysis of both factors and their interaction was not possible. However, a simulated matrix based on actual industry employment totals and projected ratios was developed, and the resultant set of occupational projections was compared to actual occupational totals to determine the effect of the projected ratios alone.

The revised matrix was used for the simulation because the computer system that processed the initial version was incompatible with later systems. Resources did not permit development of 1975 industry totals for this exercise. As an alternative, data for the simulation were obtained from a set of 1974 industry employment totals which had previously been developed as a base for the 1985 matrix projections. However, the use of actual data from 1974, rather than from 1975, should give a more valid measure of ratio errors because recession-induced distortions in industry occupational relationships were probably less pronounced in 1974.

Contrary to what might be expected, the simulated projections turned out to be less accurate than the projections. Revised 1975 projections for the detailed occupations averaged an absolute 16.2 percent off actual 1974 employment levels. When actual industry employment levels were substituted for projected levels in the matrix, and the ratios remained as projected, the average absolute error for the occupational projections increased slightly to 16.3 percent. This comparison indicates that the ratios, rather than industry levels, were the primary source of error in the projected occupational totals. That is, because perfect industry employment projections would not have improved the accuracy of the occupational projections, the fault must have been mostly with the ratios.

The problem with projected ratios was more pervasive than the small difference in the two average errors might suggest. The simulations were worse than the projections for 49 of the 76 occupations in the study, but resulted in substantial improvements for many of the remaining 27, thus bringing the average error for the simulations more in line with that of the projections. (See table 3.) Among the estimates benefiting

Table 3. Comparison of projections and simulations of 1975 employment and 1974 actual employment in selected detailed occupations

[Thousands of workers]

Occupation	Employment			Difference between projected and actual		Difference between simulated and actual	
	Projected 1975[r]	Simulated 1975	Actual 1974	Level	Percent	Level	Percent
Food counter and fountain workers	349.1	363.2	351.0	−1.9	−0.5	12.2	3.5
Police and detectives	508.7	452.1	514.0	−5.3	−1.0	−61.9	−12.0
Asbestos and insulation workers	30.4	29.5	30.0	.4	1.3	−.5	−1.7
Elementary school teachers	1,317.4	1,211.3	1,299.8	17.6	1.4	−88.5	−6.8
Electrical engineers	261.8	262.9	267.0	−5.2	−1.8	−24.1	−8.4
Molders, metal	60.0	60.2	58.9	1.1	1.9	1.3	2.2
Railroad conductors	40.9	41.7	40.0	.9	2.3	1.7	4.3
Dietitians and nutritionists	33.8	34.7	33.0	.8	2.4	1.7	5.2
Compositors and typesetters[1]	170.7	160.7	166.0	4.7	2.8	−5.3	−3.2
Optometrists	18.9	21.5	18.3	.6	3.3	3.2	17.5
Firefighters	226.8	199.3	219.0	7.8	3.6	−19.7	−9.0
Meat cutters and butchers, except meat packing	194.6	205.8	202.0	−7.4	−3.7	3.8	1.9
Waiters and waitresses	1,137.4	1,269.5	1,181.9	−44.5	−3.8	87.6	7.4
Nurses, professional	825.7	872.5	790.0	35.7	4.5	82.5	10.4
Welders and flame cutters	612.9	598.9	646.0	−33.1	−5.1	−47.1	−7.3
Locomotive engineers	44.3	45.3	42.0	2.3	5.5	3.3	7.9
Plumbers and pipefitters[1]	424.5	415.2	402.3	22.2	5.5	12.9	3.2
Electricians	524.0	510.9	558.3	−34.3	−6.1	−47.4	−8.5
Heat treaters, annealers[1]	23.7	22.8	22.3	1.4	6.3	.5	2.2
Radio and television repairers	143.3	155.6	134.0	9.3	6.9	21.6	16.1
Millwrights	88.2	85.5	95.0	−6.8	−7.2	−9.5	−10.0
Stenographers, typists, and secretaries	4,015.8	3,940.1	4,330.0	−314.2	−7.3	−389.9	−9.0
Sailors and deckhands	30.5	28.7	33.0	−2.5	−7.6	−4.3	−13.0
Physicians, medical and osteopathic	340.3	378.3	315.0	25.3	8.0	63.3	20.1
Railroad brake and switch operators[1]	89.2	91.1	97.0	−7.8	−8.0	−5.9	−6.1
Carpenters	991.8	969.6	1,084.2	−92.4	−8.5	−114.6	−10.6
Mail carriers, post office[1]	290.6	250.8	267.0	23.6	8.8	−16.2	−6.1
Delivery and route drivers, taxicab drivers, and chauffeurs	696.4	659.8	766.9	−70.5	−9.2	−107.1	−14.0
Cement and concrete finishers	80.9	79.1	90.0	−9.1	−10.1	−10.9	−12.1
Clergy	218.2	190.9	245.0	−26.8	−10.9	−54.1	−22.1
Blue-collar workers, supervisors[1]	1,615.8	1,576.6	1,457.1	158.7	10.9	119.5	8.2
Photographers	71.3	63.9	80.0	−8.7	−10.9	−16.1	−20.1
Cabinetmakers[1]	73.4	75.1	82.5	−9.1	−11.0	−7.4	−9.0
Chemical engineers[1]	55.6	53.4	50.0	5.6	11.2	3.4	6.8
Dentists	111.2	125.7	100.0	11.2	11.2	25.7	25.7
Crane, derrick, and hoist operators	163.8	161.4	184.7	−20.9	−11.3	−23.3	−12.6
Lawyers and judges[1]	316.3	320.2	359.9	−43.6	−12.1	−39.7	−11.0
Cooks, except private household	834.8	892.5	954.9	−120.1	−12.6	−62.4	−6.5
Shipping and receiving clerks	406.3	400.4	465.0	−58.7	−12.6	−64.6	−13.9
Cashiers[1]	970.0	1,023.5	1,110.9	−140.9	−12.7	−87.4	−7.9
Airplane pilots and navigators[1]	78.0	71.9	69.0	9.0	13.0	2.9	4.2
Surveyors	63.3	59.7	73.0	−9.7	−13.3	−13.3	−18.2
Pharmacists[1]	137.5	134.7	120.0	17.5	14.6	14.7	12.3
Guards	402.2	375.9	473.0	−70.8	−15.0	−97.1	−20.5
Inspectors, log and lumber	21.6	22.4	18.7	2.9	15.5	3.7	19.8
Photoengravers and lithographers[1]	41.7	38.9	36.0	5.7	15.8	2.9	8.1
Postmasters and assistants	35.9	31.0	31.0	4.9	15.8	.0	.0
Telephone operators[1]	454.1	449.0	390.0	64.1	16.4	59.0	15.1
Psychologists	44.0	42.4	53.0	−9.0	−17.0	−10.6	−20.0
Postal clerks[1]	346.7	299.3	293.0	53.7	18.3	6.3	2.2
Bank tellers	270.4	335.9	335.9	−65.5	−19.5	−42.4	−12.6
Furnace tenders, smelters, and pourers	62.6	61.6	78.8	−16.2	−20.6	−17.2	−21.8
Roofers and slaters	71.3	70.2	90.0	−18.7	−20.8	−19.8	−22.0
Veterinarians	29.0	30.4	24.0	5.0	20.8	6.4	26.7
Accountants and auditors[1]	630.8	674.8	810.0	−179.2	−22.1	−135.2	−16.7
Attendents, hospital and other institutions	1,125.7	1,184.1	915.6	210.1	22.9	268.5	29.3
Bartenders[1]	179.2	203.7	233.0	−53.8	−23.1	−29.3	−12.6
Editors and reporters	118.9	112.4	156.0	−37.1	−23.8	−43.6	−27.9
Credit managers	82.0	86.1	66.0	16.0	24.2	20.1	30.5
Patternmakers, metal and wood[1]	50.6	47.1	40.7	9.9	24.3	6.4	15.7
Jewelers and watchmakers[1]	34.1	36.5	45.3	−11.2	−24.7	−8.8	−19.4
Drafters[1]	386.2	362.5	298.0	88.2	29.6	64.5	21.6
Civil engineers[1]	217.5	206.6	167.0	50.5	30.2	39.6	23.7
Airplane mechanics[1]	169.4	146.4	130.0	39.4	30.3	16.4	12.6
Social and welfare workers	210.5	194.2	305.3	−94.8	−31.1	−111.1	−36.4
Weavers, textile	55.4	58.3	41.6	13.8	33.2	16.7	40.1
Mechanical engineers[1]	247.2	231.1	183.0	64.2	35.1	48.1	26.3
Personnel and labor relation workers	211.7	205.4	325.0	−113.3	−34.9	−119.6	−36.8
Power station operators	24.1	24.5	17.8	6.3	35.4	6.7	37.6
Boilermakers	25.6	24.8	40.0	−14.4	−36.0	−15.2	−38.0
Printing press operators	89.9	84.2	142.0	−52.1	−36.7	−57.8	−40.7
Knitters, loopers, and toppers	47.2	49.8	33.5	13.7	40.9	16.3	48.7
Machinists and related occupations[1]	636.2	607.1	450.4	185.8	41.3	156.7	34.8
Locomotive engineers' helpers	15.9	16.2	11.0	4.9	44.5	5.2	47.3
Aeronautical engineers[1]	74.2	57.1	51.2	23.0	44.9	5.9	11.5
Plasterers	39.5	38.7	26.6	12.9	48.5	12.1	45.5

[1] The accuracy of the occupational projection was reduced as a result of reinforcing errors in the projections of industry-occupation ratios and industry employment levels.

NOTE: Projections of 1975 employment used here are based on the 1969 revision. Employment levels are expressed in rounded numbers, but percentage differences are based on unrounded numbers.

most from the actual industry employment data were those for airplane pilots and navigators, aerospace engineers, and postal clerks, reflecting the fact that the industries where these fields are concentrated—air transportation, aircraft manufacturing, and post office—had some of the least accurate projections of industry employment levels.

When weighted by employment, the average absolute error for the simulated projections dropped from 16.3 percent to 12.6 percent, an indication that the ratio estimates were better for the larger fields of employment. The error for occupations with fewer than 50,000 employees in 1974 was almost twice that of those with a half million or more workers. Weak ratio estimates for small fields of employment may be related to problems with historical data on industry-occupation patterns. Survey errors were relatively large for census estimates of total employment in small occupations, and the problem may be compounded when these totals are disaggregated among the industries. A large number of occupations are so widely dispersed that only a fraction of 1 percent is found in many industries.

The failure to anticipate the impact of technological change and other factors that affect occupational needs also contributed to ratio errors. In estimating ratios for knitters, for example, it was assumed that increases in the demand for knit goods would more than offset the employment effect of laborsaving technology. Although total employment in the knitting industry grew even more than projected, employment in this occupation declined as a result of larger capacity, higher speed machinery and other technological developments. Misassessments of the effect of technological developments also contributed to overprojected demand for plasterers, weavers, telephone operators, and several railroad occupations. In most cases, the laborsaving technology had been identified, but its future impact was difficult to project because data were either insufficient or nonexistent.

Compensating errors in the estimates of industry employment levels and ratios improved the accuracy of projections for 49 of the 76 occupations.[11] For example, total employment in the health services industry (excluding hospitals), where almost all optometrists were expected to be employed, was underprojected by about 12 percent, yet employment in this occupation was overprojected by about 4 percent. From this evidence, it can be concluded that an overstated ratio for optometrists almost offset the effect of an industry projection that was too low. The most accurate projections generally were products of this kind of counterbalancing. Compensating errors however, were not entirely the result of chance. In some cases, occupational projections that were developed independently conflicted with industry employment projections and, in adjusting these projections for consistency, ratios sometimes were distorted.

Errors caused by the two factors were reinforced for about one-third of the occupations, many of which had the least accurate projections. Occupations with reinforcing errors are identified by footnote in table 3; those not noted have compensating errors, with the exception of postmasters, which had no error at all because the ratio projection for this occupation was perfect.

New projections

Although the occupational projections were off the mark for many reasons, including the economic downturn in 1975, the evaluation has established that the ratio estimates were the largest source of error. These estimates were based on scanty data for trends in the occupational structure of industries. Although the projections were made in the late 1960's, the only comprehensive sources of historical data on ratios were the 1950 and 1960 decennial censuses. A long recognized need for current, detailed data on industry staffing patterns prompted the initiation of the cooperative Federal-State program, Occupational Employment Statistics (OES), in 1970. Data on employment by industry is now collected in 3-year cycles for more than 2,000 occupations through the OES survey. Through March 1979, 46 States and the District of Columbia were cooperating in the program, and BLS plans to complete the development of an OES-based 1980–90 national matrix in 1981.[12]

The recession in 1975 adversely affected the projections for many of the blue-collar occupations concentrated in construction and manufacturing industries. Alternative projections could address the problem of cyclical fluctuations. Rather than preparing projections based on one set of assumptions about the economy in the target year, alternative projections could be developed with different assumptions about the unemployment rate, the GNP, and other variables. BLS took a step in that direction in 1976 by developing 1985 industry-occupation matrices based on different sets of assumptions or scenarios about the economic policies that the Federal government might follow to sustain a recovery from the 1973–75 recession.[13] To assess the extent that occupational employment might be affected, industry employment projections based on each scenario were translated into occupational projections by applying them to fixed matrix ratios. Occupational projections based on two versions of what the economy might look like in 1990 are in preparation. As a refinement to the method used for 1985 estimates, matrix ratio patterns will be projected for each version of the 1990 economy rather than using the same pattern for both. One of the limitations of the scenario approach, however, is that the effect of each assumption cannot be isolated. Nevertheless, sensitivity analysis can isolate the effects of specific alternative assumptions.

Continuing analysis of the accuracy of projections is an important activity in improving their reliability. Evaluation of previous employment projections will become a regular part of the occupational outlook program. Actual employment data soon will be available for comparison with the 1980 occupational projections. □

APPENDIX: Technical factors

Resource constraints precluded construction of a 1975 matrix for the purpose of evaluating the occupational employment projections. Consequently, 1975 employment levels had to be estimated from (1) base year matrices for 1974 and 1976, which had already been developed by the Bureau in preparing and revising 1985 projections, and (2) from Current Population Survey (CPS) data, the primary source of occupational data for matrices between decennial censuses. The evaluation also was handicapped by a loss in the continuity of comparable employment data as a consequence of a revision in the occupational classification system used by the Census Bureau. In addition, relatively large sampling errors for CPS estimates of actual 1975 employment were a problem for some occupations.

Much of the occupational data from the 1960 Census, which was the principal data base for the projected 1975 matrix, is not comparable with CPS data collected after 1971. The 1960 Census system for classifying employment by occupation and industry was revised for

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FOOTNOTES

[1] Evaluations of earlier occupational projections are described in Sol Swerdloff, "How good were manpower projections for the 1960's," *Monthly Labor Review*, November 1969, pp. 17–22.

[2] The Bureau's occupational projections for 1975 were first published in *Occupational Employment Patterns for 1960 and 1975*, Bulletin 1599, Bureau of Labor Statistics, December 1968. The projections also were presented in a corollary report, *Tomorrow's Manpower Needs*, Volume IV, Bulletin 1606, Bureau of Labor Statistics, February 1969. The projections evaluated in this article were obtained from the latter publication. There are minor differences in estimates presented in the two publications.

[3] For a detailed discussion of the methodology used in developing industry employment projections, see *Tomorrow's Manpower Needs*. pp. 5–8. The industry employment projections represented the collaborative efforts of several research staffs in the Bureau, including those working on technological change and productivity, economic growth, and occupational outlook. The general structure of employment by industry, however, was developed through an economic growth model which used an input-output approach.

[4] See Sophia (Cooper) Travis and Denis F. Johnston, "Labor force projections for 1970–80," *Monthly Labor Review*, February 1965, pp. 129–40.

[5] Evaluations of labor force projections for 1975 are described in Paul M. Ryscavage, "BLS labor force projections: a review of methods and results," *Monthly Labor Review*, April 1979, pp. 15–22.

[6] In more recent times, the CPS data and industry employment estimates were used to construct base matrices for years between decennial censuses. For example, the Bureau developed a 1974 base year matrix for its 1985 occupational projections, then a 1976 base for a revision of these projections. The detailed occupational totals in these matrices are a refinement of the CPS estimates.

[7] If 1965 is regarded as the starting point for the projections, the performance is not as good. The percentage of employment projected for the occupational groups averages about 52 percent if the change is measured from 1965 to 1975, compared to about 68 percent if change is measured from 1960 to 1975. The better performance when the span is greater is in part due to the projections being credited for some of the employment changes that already had occurred. As pointed out in the explanation of the problem with identifying the base year, data on occupational group employment were already available through 1965 at the time the projections were being prepared, and measures of accuracy that center on the amount of change projected will reflect this bias. The recession also was a factor, however, in that some of the employment gains that took place after 1965 were erased by the economic downturn in the mid-1970's. Employment in the operative group in fact was lower in 1975 than in 1965, although it had grown through the late 1960's and early 1970's. If this occupation is excluded from the average, the difference for the two time spans is reduced substantially. Excluding operatives, the projections accounted for an average of about 73 percent of the employment change in occupational groups during the 1960–75 period, and an average of about 71 percent of the change during the 1965–75 period.

[8] Extrapolations were based on 1960 Census data and 1962–67 CPS data (1961 data were not available). Comparable CPS employment series were not available for 4 of the 76 occupations in the study. Thus, extrapolations were developed for only 72 occupations. Extrapolation for 2 occupations resulted in negative employment in 1975; these negative numbers were arbitrarily adjusted to positive employment levels of 100 workers. Although the matrix projections used data only through 1965, data were available through 1967 by the time the matrix was submitted for publication. Because of the amount of time required to prepared the matrix, it was difficult to incorporate changes that reflected the latest data. Simple extrapolations, on the other hand, can be prepared in a very short time, making it easier to take advantage of the latest data.

[9] BLS later developed three alternative sets of industry employment projections for 1975 as a part of a contract with the U.S. Arms Control and Disarmament Agency to study the economic impact of a withdrawal from Vietnam. For a description of these projections, see *Projections of the Post-Vietnam Economy*, Bulletin 1733, Bureau of Labor Statistics, 1972. For an evaluation of the basic alternative set of industry employment projections, see Paul T. Christy and Karen J. Horowitz, "An Evaluation of BLS Projections of 1975 Production and Employment," *Monthly Labor Review*, August 1979, pp. 8–10.

[10] The measure of improvement in the accuracy of industry employment projections was based on estimates of total employment obtained from a 1974 base year matrix because a 1975 base year matrix was not available.

[11] The presence of compensating errors for an occupation was difficult to determine with certainty because the lack of data on actual ratios for the target year prevented isolating the effect of errors in industry projections alone. As a rule, however, errors in the industry and ratio projections are compensating for an occupation if (1) the sign of the projection error (table 5, fourth column) is different than the sign of the result of subtracting the simulation error (table 5, seventh column) from the projection error, or (2) the signs of the projection and simulation errors in these two columns are the same, but the projection error has a lower absolute level.

[12] For a description of the OES program, see *Occupational Employment Statistics Handbook*, Bureau of Labor Statistics, April 1979.

[13] See Max L. Carey, "Revised occupational projections to 1985," *Monthly Labor Review*, November 1976, pp. 10–21.

the 1970 Census, and beginning in late 1971, the revised system was adopted for the CPS. Interrelationships between the two systems were quantified in the Census publication, *Technical Paper 26, 1970 Occupation and Industry Classification Systems in Terms of Their 1960 Occupation and Industry Elements.* According to the information in this report, all nine occupational groups had 96 percent or better comparability between the two classification systems. Specifically, if the 1960 labor force data were retabulated, 95 percent or more of the labor force reported in a particular occupational group under the 1960 classification system would remain in the same group under the 1970 system, and these workers would represent 95 percent or more of the total for that group. At a more detailed occupational level, the comparability gap was wider. Of the 297 occupations in the 1960 classification system, 171 had 90 percent or better comparability in the 1970 system. About one-half of these occupations, however, were not included in the matrix. In addition, the accuracy of some of the projections that were based on historical data from sources other than the census could not be verified. After eliminating occupations which were less than 90 percent comparable and those which had verification problems, the evaluation of projections was limited to 76 of the 162 detailed occupations covered in the matrix.

Estimates from the CPS were subject to greater sampling variability than those from the decennial census. For an occupational estimate of 50,000, for example, the standard error would be about 900 if the data were from the 1960 Census, and about 6,700 if the data were from the CPS. Projections for several occupations were within the range of sampling error for CPS estimates of actual employment in 1975. Projections for the following occupations were within one standard error of the estimate:

Compositors and typesetters
Asbestos and insulation workers
Crane, derrick, and hoist operators
Pharmacists
Dietitians and nutritionists
Airplane pilots and navigators
Cabinetmakers
Cement and concrete finishers
Furnace tenders, smelters, and pourers
Metal molders
Millwrights
Jewelers and watchmakers
Railroad conductors
Sailors and deckhands

If the measure is set at 1.6 standard errors of the estimate, projections for the following additional occupations are within the range of CPS sampling error:

Waiters and waitresses
Bartenders
Clergy
Meat cutters and butchers, except meat packing
Roofers and slaters
Heat treaters and annealers
Log and lumber inspectors
Locomotive engineers' helpers

Comparability of occupational employment estimates also is affected by other differences between the census and the CPS. Among these are the more extensive training and experience of the CPS enumerators than the census enumerators, differences in format of schedules, and differences in methods used to process the original data. In addition, occupational estimates from the CPS were annual averages of 12 monthly estimates, whereas the Census data were collected only for April.

Dental and vision care benefits in health insurance plans

As medical care costs increase, dental and vision care insurance become more important; most of the plans studied were financed by employers, and there were restrictions and limitations on use of services, especially for dental care

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Dental care and vision care have been among the fastest-growing areas of employee health insurance in recent years. Between 1974 and 1977, the latest date for which data are available, the proportion of employees covered by dental care insurance doubled or tripled, depending on the measure used; the proportion covered by vision care insurance increased by about one-half.[1]

Both employees and employers are interested in extending insurance coverage to areas that are important in terms of consumer cost. According to the Bureau of Labor Statistics' Consumer Price Index, dental care costs increased at annual rates of 8.8 percent between 1974 and 1977, and 7.7 percent between 1977 and 1979. Vision care costs increased 7.1 and 5.3 percent per year during the same periods. These increases were less than the increase in the cost of medical care, which rose at a rate of 9.8 percent a year from 1974 to 1979. However, for most employees, the bulk of the cost of medical care (physicians, hospitals, and prescription drugs) was covered by insurance, but for many, dental and vision care was uninsured.

Dental and vision care plans vary considerably in terms of services covered, types of payment made, coinsurance provisions, deductibles, maximum benefits, and other characteristics. This article outlines the principal features of dental and vision care plans included in the Bureau of Labor Statistics' *Digest of Selected Health and Insurance Plans*, 1977–79.[2] The 148 health insurance plans in the *Digest* are not necessarily model plans, nor are they a representative sample of all health insurance plans. However, they cover large numbers of workers in major industries, set or reflect trends, or are examples of different approaches to health insurance planning and, therefore, illustrate the characteristics and features of a variety of health insurance plans in private industry.

Typically, dental and vision care benefits are found in plans that also have protection against catastrophic illness, usually through major medical benefits. Health plans are considered as including dental and vision care if the benefits are separately provided as part of basic health benefits or if they are provided by major medical benefits, unless coverage was limited to dental surgery or accident care.

Nearly three-fifths (88) of the 148 health plans in the *Digest* provided out-of-hospital dental care; two-fifths (56) of the plans included benefits for out-of-hospital vision care. However, 3 dental and 10 vision care plans were part of multiple choice health insurance programs and are not discussed in this article.[3] Hence, this analysis includes 85 out-of-hospital dental care plans in effect as of July 1979, and 46 such vision care plans.

Dental coverage

All of the 85 plans provided diagnostic, preventive, restorative, and prosthodontic services, and 56 of them

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also covered orthodontic services, which are frequently more costly than other dental services.

Diagnostic and preventive services include examinations of the mouth, X-rays, cleaning, fluoride treatments, space maintainers, and consultations. Restorative services and treatments cover routine fillings (such as amalgam, silicate, acrylic, or synthetic porcelain), as well as inlays, onlays, gold fillings, and crowns. In addition, out-of-hospital oral surgery such as root resections and removal of impacted teeth, root canal therapy, and treatment of gums are included in this type of benefit.

Prosthodontic services typically include initial installation, repair, and replacement of removable and permanent dentures and bridgework. Orthodontic services cover treatment to correct or prevent irregularities in the position of the teeth and include X-rays, surgery, and the application of braces or similar devices.

The proportion of health plans with dental coverage varied among employee groups, ranging from 51 percent of the plans for nonoffice employees to 64 percent for the office and for the nonoffice and office (all employees) plans.[4] All dental plans provided coverage for preventive, restorative, and prosthodontic care, but a greater percentage of dental plans covering only office employees provided orthodontic services. (See table 1.)

Employers paid the full cost of dental insurance for employees and their dependents in 74 (or 84 percent) of the 85 plans. Eighty-seven percent of the plans that covered retirees age 65 or over were fully financed by the employer, as were 78 percent of those that provided coverage to retirees under age 65. The following tabulation shows the number of plans that are financed by employers or by employers and employees:

	Employer	*Employer and employee*
Active employees . . .	74	11
Retired employees:		
Under age 65 . .	35	10
Age 65 or over .	26	4

Table 1. Dental services provided in health insurance plans by employee group and reimbursement arrangement, July 1979

Employee group or reimbursement arrangement	Diagnostic and preventive services	Restorative services and treatments	Prosthodontic services	Orthodontic services
All plans	85	85	85	56
Employee group:				
Nonoffice only	36	36	36	23
Office only	21	21	21	15
Nonoffice and office[1] . .	28	28	28	18
Reimbursement arrangement:				
Full service	[2]3	[2]3	2	0
Nonscheduled cash allowance	65	63	63	48
100 percent	[3]35	12	3	2
90-100 percent . .	4	7	4	0
80-90 percent . .	19	33	11	3
70-80 percent . .	7	7	3	2
60-70 percent . .	0	0	4	2
50-60 percent . .	0	4	36	39
Scheduled cash allowance	17	19	[2]20	8

[1] Employees covered by dental plans having the same benefits for nonoffice and office employees.

[2] Includes one plan (Doll Manufacturers plan, New York, N.Y.) providing full service benefits at the union's dental center for diagnostic and restorative services, but paying for dentures by scheduled allowances.

[3] Includes plan that pays 100 percent of charges for preventive services and 95 percent for diagnostic services.

With few exceptions, dental care benefits for retirees were the same as those for active employees. Retirees under age 65 had their dental benefits continued under 45 of the 85 plans with dental coverage. Older retirees were less likely to have dental benefits continued—only 30 of the plans had benefits for retirees age 65 or older.

Reimbursement provisions of dental plans

Restrictions on dental care were nearly equal among plans regardless of employee groups covered, although maximums for orthodontia and deductibles for specified services were more frequently found in plans covering only office employees. Like most other types of health insurance, dental plans have reimbursement arrangements to prevent abuse by the insured and, thus, keep down the insurer's costs.

There are three basic reimbursement arrangements: a nonscheduled cash allowance, which pays a proportion of the reasonable and customary charge for a procedure; a scheduled cash allowance, which pays up to a specified amount for a procedure; and a full service payment, which pays the full reasonable and customary charge for a procedure.

The most common reimbursement arrangement in the dental plans studied was the nonscheduled cash allowance. This procedure applied to all services except orthodontic in 65 of the 85 plans; 17 plans used a scheduled cash allowance, and 3 provided full payment. Nonscheduled cash allowances were common for orthodontic services—they were used by 48 (or 86 percent) of the 56 plans providing orthodontia. Orthodontic services were covered in three-fourths of the plans which paid nonscheduled cash allowances for other services, compared with fewer than one-half of those which paid scheduled cash allowances.

Plans with nonscheduled cash allowances were analyzed according to the proportion they paid of the reasonable and customary charges for each of the major dental services. Diagnostic and preventive care was the only service for which the majority of the plans paid the full reasonable and customary charge. Slightly more than one-half of the plans paid 80 or 85 percent of the full charge for restorative services and treatments; about three-fifths paid approximately 50 percent of the charge for prosthodontic services; and nearly four-fifths paid only 50 percent of the reasonable and customary charge for orthodontia. (See table 1.)

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The proportion of the charge paid for dental services appeared to be related to the cost of the procedure. For example, diagnostic and preventive care services, which include low-cost dental procedures, were fully paid by 34 of the 65 plans with nonscheduled cash allowances. The more expensive restorative services were typically paid at 80 to 85 percent of reasonable and customary charges, prosthodontic and orthodontic services, which are even more costly, were paid at 50 to 60 percent.

Two-thirds of the plans with scheduled cash allowances allowed $100 to $200 for the most expensive restorative service procedure and nearly three-fourths allowed from $100 to $300 for the most expensive prosthodontic procedure. Allowances were higher for a complete course of orthodontic treatment. For example, Dow Chemical Co. employees are allowed $50 for preliminary X-rays and diagnostic costs, $225 for the first month of active treatment, and $30 for each succeeding month. The time required for such treatment is usually 1 or 2 years. Thus, the amount payable under the Dow plan for a 2-year course of orthodontic treatment could be as much as $965, compared with the $205 allowance for the most expensive prosthodontic procedure.

There were exceptions to the typical 80 to 85 percent payment for restorative services. About 1 of 3 plans providing this service paid 100 percent for certain procedures, such as root resections and oral surgery. About 1 of 2 provided only 50 to 60 percent reimbursement for crowns, inlays, and gold fillings.

The lower percentage payment provided for crowns may be explained by the usually higher dollar cost of such procedures. The higher percentage payment for oral surgery and related benefits may be related to the fact that these services either are or had been covered by basic surgical benefits. For example, in the Uniroyal and Goodyear plans negotiated with the United Rubber Workers, procedures such as oral surgery, root resections, and gingivectomy, which were formerly covered under surgical benefits at 100 percent, are covered under dental benefits at that rate either in or out of hospital. Plans negotiated by the Steelworkers, such as the one with the American Can Co., provide 100 percent coverage under both surgical and dental benefits. However, in-hospital services are paid under surgical benefits and out-of-hospital services are paid under dental benefits.

A few of the plans encouraged the employee or dependent to visit a dentist annually by gradually eliminating, for those who did so, the copayment requirement for diagnostic and restorative services, or for diagnostic, restorative, and prosthodontic services as a group, over a 3-year period. In the metalworking industry plan negotiated by the Machinists' union and in the Prudential Insurance Company's plan for insurance workers, benefits in the first year are provided at 70 percent and increase by 10 percentage points each year, if the insured receives annual dental checkups, until it reach 100 percent in the fourth year. Such plans are apparently designed to encourage preventive care and thereby lower overall costs in the long run (although short-term costs may be higher), while providing higher levels of coverage.[5]

Another method of cost control is to limit the frequency with which a service is provided. Many plans, such as the Central States Trucking Industry-Teamsters plan, restrict routine oral examinations, cleaning, and bite-wing X-rays to once during a 6-month period; however, a few plans, such as the American Telephone and Telegraph Co.-Communications Workers plan, while covering such expenses twice during a 12-month period, do not specify when such expenses must be incurred. In 35 percent of the plans, more complete examinations, including full mouth X-rays were limited to once in 36 months. The replacement of dentures frequently requires proof that the existing bridgework cannot be made serviceable or that 3, 4, or 5 years have elapsed since the installation of the original dentures. The latter limitation is found in 49 percent of plans offering prosthodontic benefits.

Setting a maximum benefit amount to be paid during a specified period is another way to control costs. (See table 2.) Yearly maximum amounts for diagnostic, restorative, and prosthodontic services as a group, were specified in 58 of the 85 plans, and lifetime maximum amounts were specified in 7 other plans (including plans

Table 2. Maximum benefits and deductibles of dental care plans, July 1979

Reimbursement restriction	Total plans	Employee group: Nonoffice only	Employee group: Office only	Employee group: Nonoffice and office [1]
All plans	85	36	21	28
Plans that provided maximums for:				
All dental services, including orthodontia				
Yearly	5	0	2	3
Lifetime	3	1	1	1
Diagnostic, restorative, and posthodontic services [2]	58	24	14	20
Yearly	7	3	3	1
Lifetime				
Orthodontia	1	0	0	1
Yearly	49	21	14	14
Lifetime				
Plans that provided deductibles for: [3]	4	3	1	0
All services	28	9	12	7
Specified services				

[1] Employees covered by dental plans having the same benefits for nonoffice and office employees.

[2] Some plans have separate maximum benefit amounts for certain services or courses of treatment.

[3] Some plans have separate deductible amounts for certain services, and 6 plans have combined dental and major medical deductibles.

providing dental benefits as part of major medical benefits). Yearly maximums ranged from $500 to $2,000 for dental services other than orthodontia; however, nearly half of the maximums were $750. Lifetime maximums (except in plans with dental benefits included under major medical) for services other than orthodontia ranged from $5,000 to $25,000, with most plans specifying $5,000. In contrast, of the 56 plans with orthodontia, 49 had a lifetime maximum for such services. Maximums ranged from $408 to $3,000, but most plans allowed between $500 and $750 for lifetime benefits. A few plans had overall maximums which applied to all benefits, and some plans had both yearly and lifetime maximums applicable to benefits other than orthodontia. For example, the Dow Chemical-Steelworkers' plan had a yearly maximum of $750 and a lifetime maximum of $5,000 for such services.

Another control mechanism is the requirement that the insured pay the first part of any expense incurred—the "deductible." Thirty-two of the 85 plans required the employee to pay an annual or lifetime deductible. A deductible for a group of dental services was specified in 28 of the plans; 11 required the deductible only for diagnostic and preventive, and prosthodontic services as a group; the remaining 17 required a deductible for all services, except diagnostic and preventive services. Dental plans may not require a deductible for diagnostic and preventive services because of the relatively low cost of these services and because such care may help avoid future high-cost procedures.

Table 3. Reimbursement arrangement of vision care plans, July 1979

Reimbursement arrangement	Total plans	Employee group		
		Nonoffice only	Office only	Nonoffice and office[1]
All plans	46	27	6	13
Plans that provided:				
Full service				
Eye examination	4	3	0	1
Eye glasses or contact lenses	3	3	0	0
Nonscheduled cash allowances				
100 percent				
Eye examination	14	8	1	5
Eyeglasses or contact lenses	9	7	1	1
80 to 85 percent				
Eye examination	2	1	1	0
Eyeglasses or contact lenses	2	1	1	0
Scheduled cash allowances				
Eye examination	25	14	4	7
Eyeglasses[2]				
Frames	26	15	4	7
Single lenses	26	15	4	7
Bifocal lenses	14	8	2	4
Trifocal lenses	9	6	1	2
Contact lenses[3]	12	7	2	3

[1] Employees covered by dental plans having the same benefits for nonoffice and office employees.

[2] Includes some plans with combined allowance for eye examination and 1 pair of glasses (frame and single lenses). Plans that did not specify the specific type of lens were treated as covering all types.

[3] Includes plans with allowance for contact lenses not required for 20/70 vision acuity, frequently offered in lieu of all other benefits.

A relatively new method of cost control is "pretreatment" review, where the insurer reviews the proposed treatment and cost before agreeing to cover the cost. The pretreatment review requirement is usually for services estimated to exceed a specified amount. For example, in the Ford Motor Co.-United Auto Workers plan, when a course of treatment other than for emergency or preventive care is estimated to cost $125 or more, a "predetermination of benefits" form must be filed with the insurance carrier by the employee's dentist. The dentist describes the procedures required and estimates the charge. The insurance carrier notifies the employee and the dentist of the amounts payable, based on alternate and possibly less costly courses of treatment that may be appropriate in view of the benefits specified in the plan.

Vision care plans

Vision care benefits typically cover a narrow range of services—eye examinations, corrective lenses, and frames—but most plans cover all of these services. Of the 46 plans included in this analysis, 45 provided at least partial coverage for eyeglasses. (See table 3.) Three-fifths of the plans paid benefits according to a schedule of allowances which includes specific amounts for one examination and either one pair of glasses or contact lenses. Allowances for glasses are usually comprised of separate amounts for the frame and lenses, and allowances for lenses differ by type of lens—single vision, bifocal, trifocal, or contact lenses. For example, the Armour and Co.-Meat Cutters' plan for hourly employees allows $15 for one eye examination, $7 for the frame, $16 for single vision lenses, $20 for bifocal lenses, $24 for trifocal lenses, or $80 for contact lenses.

The remaining two-fifths of the vision care plans paid the full cost of at least an eye examination, either by paying the entire reasonable and customary charge for vision care services or by providing such services through a full-service plan.

Some plans provide higher allowances for eye examinations by ophthalmologists than by optometrists, and some cover contact lenses only if such lenses are required for 20/70 vision acuity. Other plans provide allowances for contact lenses not required for 20/70 vision acuity, in place of all other benefits, and some provide a lesser amount for contact lenses not necessary for 20/70 vision acuity. For example, the Associated General Contractors-Carpenters Union plan pays the full cost of contact lenses prescribed as necessary for 20/70 vision acuity, but pays only $55 if the lenses are prescribed for cosmetic or other reasons.

Cost controls, other than those provided by scheduled cash allowances and coinsurance features of nonscheduled allowances, consisted of: (1) limits on the frequency with which a benefit could be provided, (2) maximum benefits, and (3) deductibles. Nearly 9 of 10 plans stipulated that only one eye examination or one pair of glasses or contact lenses could be provided during a 1- or 2-year period; 1 of 5 plans specified maximum benefits that would be paid during a 1- or 2-year period; and only 2 plans required payment of deductibles.

The proportion of health plans with vision care coverage varied by employee group. More than one-third of the plans covering only nonoffice workers offered vision care, whereas fewer than one-fifth of those covering only office workers and one-fourth of those covering all employees had such benefits.

Vision care benefits were most often provided according to scheduled cash allowances, regardless of employee group covered. However, plans that had a more liberal payment structure that either provided full service or paid reasonable and customary charges were more common for nonoffice than for office employees.

The following tabulation shows the number of plans that are financed by employers or by employers and employees:

	Employer	*Employer and employee*
Active employees . . .	45	1
Retired employees:		
Under age 65	13	0
Age 65 or over . . .	11	0

All but one of the 46 vision care plans were fully financed by the employer. Thirteen plans, all employer financed, continued vision care for retired employees under age 65, and 11 plans continued such benefits to retirees over 65. With few exceptions, the plans provided retired employees the same benefits as active employees. ☐

FOOTNOTES

[1] The Bureau's periodic survey of health plans from 1974 to 1977 shows a 100-percent increase in employees covered by group health plans with dental coverage and a 50-percent increase in vision care. The Bureau's data for workers in metropolitan area establishments indicate an increase of 154 percent for plantworkers and an increase of nearly 200 percent for officeworkers covered by health plans with dental coverage. See Dorothy R. Kittner, "Changes in health plans reflect broader benefit coverage," *Monthly Labor Review*, September 1978, p. 57 and *Area Wage Surveys, Metropolitan Areas, United States, and Regional Summaries* (Bureau of Labor Statistics, various issues from 1974 to 1977).

[2] See *Digest of Selected Health and Insurance Plans, 1977–79* (Bureau of Labor Statistics, 1978) as amended by Supplement I, January 1979 and Supplement II, July 1979. Of the 148 health plans summarized in the digest, 71 plans covered nonoffice employees, 33 plans office employees, and 44 plans all employees (office and nonoffice).

[3] Employees in 3 health plans with dental benefits and in 10 health plans with vision care benefits had a choice of having benefits provided by a commercial insurance company, a nonprofit organization such as a dental or vision care service corporation, or health maintenance organization (HMO). In some cases the choice was between a plan with such benefits, usually an HMO, and one with no dental or vision benefits.

[4] The "nonoffice and office (all employees)" group include employees covered by dental plans having the same benefits for nonoffice and office employees.

[5] See Richard Ostuw, "Dental Plan Design," *Employee Benefits Journal*, Fall, Z977. Ostuw argues that liberal coverage of preventive care allows a greater portion of the covered group to qualify for benefits "thereby improving the degree of satisfaction with the plan by participants," and reducing the long-term cost of treatment.

Productivity growth below average in fabricated structural metals

The industry that shapes metal parts for buildings, bridges, and overpasses showed productivity setbacks in 1973–78, contributing to a 20-year average less than half that of the entire manufacturing sector

PHYLLIS FLOHR OTTO

Despite advances in technology, productivity growth in the fabricated structural metal industry has been only half that of all manufacturing industries, and in recent years output per employee hour has declined.

Fabricated structural metal plants convert mill shapes (primarily steel), by cutting, bending, welding, drilling, and other methods. Products include columns, joists, and trusses, which are used to build frameworks for buildings and bridges. Lesser quantities of products go to industries such as shipbuilding.

Output per employee hour in the industry rose at an average annual rate of 1.2 percent from 1958 to 1978.[1] (See chart 1 and table 1.) This is the result of an average annual increase of 2.2 percent in output and 1.0 percent in employee hours. Productivity growth for the entire manufacturing sector of the economy was 2.6 percent for the same period.

Productivity and output dropped during 1973–78. Productivity fell an average annual rate of 2.9 percent a year, and output by 3.9 percent. These losses were only partly offset by a 1.0-percent average annual drop in employee hours. The industry was particularly hard hit by the 1974–75 recession, and demand for bridge-building products was hurt by imports. Productivity in these years recorded the two largest declines in the industry, 5.8 percent in 1974 and 9.4 percent in 1975. A slight increase of 1.0 percent occurred in 1976, when employee hours fell more than output. However, the industry continued to record productivity declines after the recession, .3 percent in 1977 and an additional .2 percent in 1978.

Causes of declines

Productivity growth has been retarded by increased requirements for quality control and the made-to-order nature of goods produced in the industry, and by the lag in adjusting employment to changing output levels in this industry. Because of the high skill level of the work force, some employers attempt to retain employees during business downturns. When demand drops they tend to make lower bids for work, or bid on smaller jobs than they normally handle. This enables them to continue operating and retain their employees, and to cover some overhead costs in paying for capital equipment. However, this results in productivity de-

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clines during cyclical downturns.

As in many other industries, short-term productivity changes in fabricated structural metal are closely associated with changes in output. Demand is directly affected by construction activity, which in turn is tied to cyclical fluctuations in the overall economy. The largest single market for the industry is industrial construction, which purchases about 24 percent of output. Commercial construction accounts for 20 percent; highway and street construction, 14 percent; public utilities construction, 13 percent; and educational building construction, 8 percent.[2] This means that at least 79 percent of the industry's goods are purchased by construction businesses. Because cyclical changes in the economy are heavily reflected in construction, output changes in the fabricated structural metal industry generally coincide with or lag slightly behind them.

The influence of cyclical fluctuations on productivity and output can be observed by comparing the 1958–73 period (a time of overall economic growth when productivity grew at an average annual rate of 2.3 percent a year) to the 1973–78 period (which included a major recession, when nonresidential construction was down significantly, and productivity declined at an average annual rate of 2.9 percent a year).

Advances during 1958–73

The 2.3-percent rate of growth in productivity during 1958–73 occurred while output in the industry was rising by 4.0 percent a year and employee hours by 1.6 percent. Increases in productivity during this period ranged from 1.2 percent in 1964 to 5.3 percent in 1971. Productivity declined only three times during the 15-year period. In 1959, it fell 2.1 percent in response to an 11.2-percent decline in output and a 9.3-percent decline in employee hours. New construction of industrial buildings dropped 10.6 percent, and public utilities, 5.8 percent.[3] In contrast, the two other declines in productivity during the 1958–73 period, 2.2 percent in 1966 and 0.4 percent in 1969, occurred when employee hours rose more than output. A contributing factor was the shortage of skilled employees, particularly drafters and welders.[4]

The construction and fabricated structural metal industries prospered during the economic expansion which characterized most of the 1958–73 period. The few declines in output were between 1 and 2 percent except in 1959. Schools, colleges, and hospitals were being built at a rapid rate. Overall, construction of nonresidential buildings increased at a rate of 3.7 percent a year. Continuous data are not available for all of the subcategories, but construction of industrial buildings rose at an average annual rate of 6.2 percent from 1958 to 1964. Construction by public utilities expanded at a rate of 6.1 percent a year during 1958–73. It was also during this time that most of the interstate highway system was constructed, increasing the demand for metal to erect bridges and overpasses.

Adding to the strong demand during the 1958–73 period was the industry's ability to compete with alternative construction materials by introducing new products. For example, the introduction of high strength steel in the early 1960's enabled the industry to combat the competition from concrete manufacturers in the high-rise buildings market. High strength steel is stronger and lighter than conventional steel, resulting in lower overall building costs in some cases. Another new product was weathering steel, which develops a protective patina when exposed to the atmosphere, resulting in lower maintenance costs.

Slow employment growth

The industry employed 98,500 persons in 1977, including 72,000 production workers. Employment rose at an average annual rate of 1.1 percent from 1958 to 1978, slightly faster than the 1.0 percent rate in work hours. There has been a small reduction in average annual hours worked per employee.

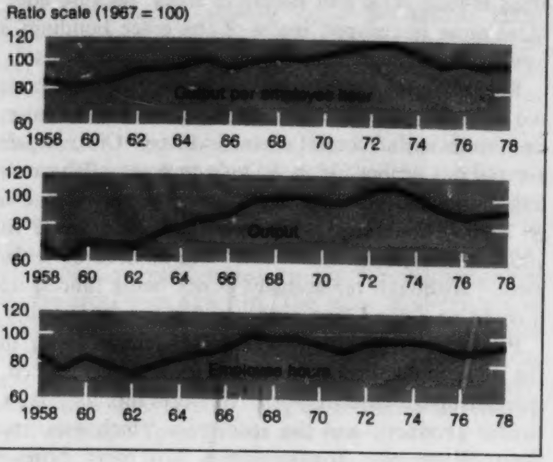
Employment in the industry peaked at 107,500 in 1967 and has been generally declining since, reflecting

Table 1. Productivity and related indexes for fabricated structural metals, 1958–78

[1967 = 100]

Year	Output per employee hour			Output	Employee hours		
	All employees	Production workers	Nonproduction workers		All employees	Production workers	Nonproduction workers
1958 ..	83.0	83.6	81.3	69.4	83.6	83.0	85.4
1959 ..	81.3	84.0	73.4	61.6	75.8	73.3	83.9
1960 ..	83.9	85.4	79.3	69.6	83.0	81.5	87.8
1961 ..	88.1	88.9	85.7	68.7	78.0	77.3	80.2
1962 ..	91.5	91.4	91.8	67.9	74.2	74.3	74.0
1963 ..	95.0	95.4	93.6	74.6	78.5	78.2	79.7
1964 ..	96.1	96.4	95.4	79.5	82.7	82.5	83.3
1965 ..	100.5	100.1	101.5	86.6	86.2	86.5	85.3
1966 ..	98.2	97.4	100.9	88.4	90.0	90.8	87.6
1967 ..	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1968 ..	103.7	103.8	103.4	100.2	96.6	96.5	96.9
1969 ..	103.3	104.4	99.8	100.6	97.4	96.4	100.8
1970 ..	105.7	107.7	99.6	98.8	93.5	91.7	99.2
1971 ..	111.3	112.7	106.9	98.8	88.8	87.7	92.4
1972 ..	114.7	115.9	110.7	107.9	94.1	93.1	97.5
1973 ..	116.5	118.4	110.8	110.8	95.1	93.6	100.0
1974 ..	109.7	110.9	106.0	103.8	94.6	93.6	97.9
1975 ..	99.4	101.0	94.5	92.8	93.4	91.9	98.2
1976 ..	100.3	102.6	93.7	87.9	87.6	85.7	93.8
1977 ..	100.0	102.9	92.1	89.8	89.8	87.3	97.5
1978 ..	99.8	101.5	94.8	92.4	92.6	91.0	97.5
	Average annual rates of change (percent)						
1958–78	1.2	1.3	1.0	2.2	1.0	0.9	1.1
1958–73	2.3	2.3	2.4	4.0	1.6	1.6	1.6
1973–78	−2.9	−2.8	−3.7	−3.6	−1.0	−1.2	−.5

Chart 1. Productivity and related data, fabricated structural metals industry, 1958-78



the declining output of recent years. In the autumn of 1977, most plants were operating at no more than 60 percent of capacity. During that year, many firms went out of business.[5]

Production workers have consistently accounted for 74 to 75 percent of the employees in the industry. Therefore, the trend in output per production worker hour, 1.3 percent, is similar to that for all employee hours. A 1974 survey showed 75 percent of production workers in the industry scheduled to work 40 hours a week, with the remainder scheduled for additional time. None was scheduled to work fewer than 40 hours. However, crews often work either more or less than the scheduled number of hours.[6]

Most production workers are in skilled occupations, many doing highly judgmental work requiring specialized knowledge such as welding, layout, and inspection. Workers earn high wages reflecting these skills. During 1958–78, average hourly earnings were about 7 percent higher than for all manufacturing industries. Many of these employees, in occupations such as crane operator, welder, and layout worker, have skills which can be transferred to other heavy industries; if they are laid off their return may depend on the proximity of other heavy industry in the area.[7]

The industry also requires many structural drafters and engineers to design shop drawings; architectural drawings are not completely detailed. Many details must be filled in before construction begins. These employees make up about 10 percent of the work force.[8]

The fabricated structural metal industry consists mainly of many small establishments serving primarily local markets. In 1972, 50 percent of the shops in the industry had fewer than 20 employees, and 30 percent employed between 20 and 49 persons. The industry includes plants owned by major steel companies or their subsidiaries, which fabricate metal for their own use.

Few projects are bid on the national market for fabricated structural metal. A few large fabricators sell within a region, but most establishments service smaller local markets within about 200 miles of their plants. Transporting the finished product is costly, so most fabricators are in densely populated areas, near major construction sites.

Technology and capital expenditures

From 1958 to 1977, growth in capital expenditures per employee in the fabricated structural metal industry averaged 7.8 percent a year as compared to 8.0 percent for all manufacturing industries. Most of the capital expenditure has been in the largest firms. Bidding on major projects and maintaining a sizable work force, they are the buyers of heavy or sophisticated equipment.

The most important new technological development in the industry is the automatic beam line which has been an important aid to productivity gains. Beam handling can be a time-consuming and costly process in the shop. Some studies show that using the old technology, a beam is lifted by a crane at least 16 times while being moved between work stations.[9] Each lift requires the use of at least two employees. The introduction of automatic beam lines eliminated much of this burden. The automatic lines move beams to various work stations along roller conveyors, where automatic drilling, punching, and cutting operations occur. The conveyors can be used with an automatic gauge. This is a block which moves along underneath the conveyor and stops at a point designated by the operator. The block moves between the rollers to stop the beam. This provides an accurate gauge for the metal and automatically positions the beam at the point where it is to be worked on. Beams can be moved automatically from one line to another by a set of bars which move between the rollers and flip the metal onto the next conveyor.

This process has facilitated the use of automatic equipment for cutting, punching, drilling, and welding. Usually, the layout of the plant is altered to accommodate beam handling equipment, minimizing the number of times, and the distances the metal must be moved.

The welding process has become increasingly automated, allowing increased use of shop welding without a proportionate increase in the number of welders. In 1964, 24.8 percent of the production workers in the industry were hand welders, and 3.4 percent machine welders.[10] By 1974, the proportion of hand welders had fallen to 19.6 percent and that of machine welders had grown to 7.0 percent.[11] New methods, allowing for faster deposition of the weld metal, have speeded the process.

Computers and automation

The increasing use of computers has resulted in additional automation. Computers are used to handle inventories, payroll, and clerical functions. One of the most important applications has been in work scheduling. Fabricated structural steel must be delivered to the construction site on a workflow basis. The fabricator must match the needs of the contractor by arranging a schedule which makes optimum use of available resources. The computer is also used in drafting and designing work.

There are numerous applications for numerically controlled machinery in the manufacture of fabricated structural metal. Some machines are able to do the jobs of skilled layout workers. The machinery can punch holes in proper relationship to the sides and end pieces of sections, automatically compensating for metal which is not perfectly squared. It has also been used for drilling, cutting, and welding tasks in the workplace.

Another technological advance in the industry is the cold cut saw for cutting structural shapes. This circular saw is continuously bathed in oil as it rotates, and increases productivity in two ways: cold cutting is faster than the friction sawing it replaces, and leaves fewer burrs to be removed. Cold cut saws are also quieter than friction saws.

Quality control has always been important work in the fabricated structural metal industry. However, more employee-hours are spent on quality control now than in the past; contractors and designers are demanding closer tolerances, and because labor costs have increased faster at the construction site than in the plant, it is cheaper to have this work done in the plant.

There have been some technological improvements in quality control. The job has become far more sophisticated, particularly in weld inspection. Electronic testing of welds has become much easier; portable weld testers are now available.

The growth in modular construction has led to further investment in new capital equipment. The allowable variance of dimensional tolerance for modular construction is tighter than in other types of buildings. Mechanization is one way of tightening tolerances for this kind of construction.

More stringent safety standards resulted in some capital expenditures being made for safety equipment and noise protection. This has provided employees with a safer work environment and may have reduced expenditures on other capital equipment.

Slow growth probable

Productivity growth in the fabricated structural metal industry probably will not resume until output picks up. Industrial construction, the major market for the industry, did not increase until mid-1978. Much of the activity until now has involved rehabilitation of existing structures. This is relatively inexpensive but does not benefit the industry. Neither does the move by corporations toward rural and suburban areas. Because land in these areas is cheaper, many of the office buildings are low structures which use little or no structural metal.

Regardless of the anticipated recovery in nonresidential construction, there are good signs for the future of the fabricated structural metal industry. Oil companies are placing orders for metal to construct offshore drilling platforms. These orders call for delivery in the early 1980's. Estimates have been made that more than 100,000 bridges in this country are in need of replacement.[12] Although replacement is not being funded now, it could be a good long-range market for the industry.

Productivity growth will probably remain lower than the all-manufacturing average. The industry is tied to individualized, custom work. This prevents long runs of similar products, and the economies which accompany them. Work must continue on a flow basis, benefiting and accommodating the contractor rather than the manufacturer. Further, stringent quality control and testing will continue to be necessary. ☐

——*FOOTNOTES*——

[1] Average annual rates of change are based on the linear least squares trends of the logarithms of the index numbers. The fabricated structural metal industry is designated industry 3441 in the Standard Industrial Classification Manual, 1972 Edition, issued by the Office of Management and Budget. The industry comprises establishments primarily engaged in manufacturing fabricated iron and steel or other metal for structural purposes, such as bridges, buildings, and sections for ships, boats, and barges. A technical note describing the indexes is available upon request. The indexes for this industry will be updated and included in the annual Bureau of Labor Statistics Bulletin, *Productivity Indexes for Selected Industries.*

[2] *U.S. Industrial Outlook 1975—With Projections to 1980,* Domestic and International Business Administration; U.S. Department of Commerce (U.S. Government Printing Office, Washington, D.C.); 1975; p. 26.

[3] All figures on construction put in place are based on data from *Construction Review* (Bureau of Domestic Commerce, U.S. Department of Commerce), various issues.

[4] *U.S. Industrial Outlook 1970,* Business and Defense Services Administration, U.S. Department of Commerce, (U.S. Government Printing Office, Washington, D.C.,) 1970, p. 464.

[5] *U.S. Industrial Outlook 1978,* Bureau of Domestic Commerce, U.S. Department of Commerce (U.S. Government Printing Office, Washington, D.C.) 1978, p. 17.

[6] *Industry Wage Survey: Fabricated Structural Steel November 1974,* Bureau of Labor Statistics, Bulletin 1935, 1977, p. 4 (U.S. Government Printing Office, Washington, D.C.)

[7] Based on discussions with a number of industry sources.

[8] Debron Corporation, notice of annual meeting and proxy statement, May 5, 1978.

[9] "Handling Taken Out of Beam Fabrication," by John L. Obrzut, *Iron Age,* February 24, 1972, p. 60.

[10] "Earnings in Fabricated Structural Steel, 1964," *Monthly Labor Review,* October 1965, p. 1220.

[11] *Industry Wage Survey: Fabricated Structural Steel November 1974,* p. 8.

[12] *U.S. Industrial Outlook 1978,* p. 17.

APPENDIX: Measurement techniques and limitations

The productivity indexes in this study measure the change over time in industry output per unit of labor input. They do not measure the specific contribution of labor, but reflect the influence of many factors such as technology, capital investment, and managerial skills, as well as the skill and effort of the work force.

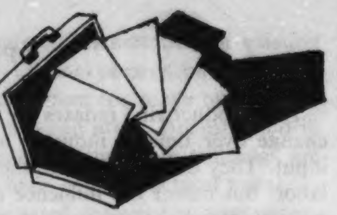
The output index is based on value of shipments data adjusted for inventory change, published by the Bureau of the Census. Detailed data from the Census of Manufactures for 1958, 1963, 1967, and 1972 were used to derive benchmark indexes, to which the annual indexes for intervening years, based on the Annual Survey of Manufactures, were adjusted. The value of shipments of the various product classes were adjusted for price changes by appropriate Producer Price Indexes to derive a real output measure. These, in turn, were combined with employee hour weights to derive the overall output measure. Employment and employee hour indexes were derived from census data. Employees and employee hours are considered homogeneous and additive, and thus do not reflect changes in the qualitative aspects of labor, such as skill and experience of persons constituting the aggregate.

Data on the quantities of goods produced by the fabricated structural metal industry are not complete. Real output, therefore, was estimated on the basis of a deflated value technique. That is, changes in the price levels of the current dollar value of production were removed by means of appropriate price indexes. Because an adjustment for changing price levels usually lowers the dollar value, such a series is referred to as a deflated value measure. In an industry such as the fabricated structural metal industry, where the raw material may differ from one product to the next, this technique may result in some bias in the measure. However, this bias is minimal.

To combine segments of the output measure, employee hour weights relating to the individual segments were used. This technique was used at various levels of subaggregation for the variety of products manufactured by this industry. These procedures result in a final output index that is conceptually close to the preferred output measure.

Indexes of output per employee hour relate total output to one input labor time. The indexes do not measure the specific contribution of labor, capital, or any other single factor. Rather, they reflect the joint effects of such factors as changes in technology, capital investment, capacity utilization, shop design and layout, skill and effort of the work force, managerial ability, and labor-management relations.

Conference Papers



The following excerpts are adapted from papers presented at the Thirty-Second Annual Meeting of the Industrial Relations Research Association, December 28–30, 1979 in Atlanta, Ga.

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Labor force activity of married women as a response to changing jobless rates

OLIVIA S. MITCHELL

For married women, the bulk of cross-sectional literature appears to indicate that the net effect of local unemployment rates on participation is a negative one.[1] Early time-series studies also showed a small procyclical labor force response of married women,[2] but recent papers seem to reveal a counter-cyclical pattern.[3]

Resolution of this empirical paradox is of interest, because a prevalent "discouraged worker" effect suggests that economic prosperity will simply draw more females into the labor force without decreasing observed unemployment rates substantially. On the other hand, if women enter the labor force in response to high local unemployment, and then withdraw in more prosperous periods, policies to stimulate economic growth will reduce the overall unemployment rate more rapidly than expected. Jacob Mincer's discussion of the issue suggests that "the findings in the cross-section analysis constitute evidence largely in favor of a hypothesis that prolonged depressed employment conditions in an area tend to shrink the area's labor force rates."[4] The implication is that cross-sectional behavior reflects primarily a long-run response to permanent unemployment faced in each labor market, while time-series data are more likely to reveal participation response to cyclical changes. However, no previous attempts to resolve this question have been able to distinguish effectively between the behavioral responses to short and long-run labor market conditions.

These long-term differences between labor markets are probably the result of various characteristics of labor markets which are difficult to measure with accuracy. However, if these factors are correlated with included explanatory variables in labor force participation models, coefficient estimates for other variables will be biased. For example, wages and employment rates are probably correlated with seasonal and industrial employment patterns specific to each labor market, educational systems vary with location, job and pay structures depend on the power of unions and discriminatory customs, and the manner in which social/welfare programs are administered determine the environment in which labor supply decisions are made. These factors cannot be satisfactorily quantified, but controls are required in order to obtain unbiased estimates of the explanatory variables of interest.

I have examined both cross-section and time-series results for a panel of data on major U.S. cities over the period 1968–75. The labor force participation equation is similar to those estimated by other researchers, but in accordance with the underlying hypothesis in this paper, results for separate cities and separate years are estimated. As Mincer predicted, time-series behavior differs from that in the cross section. The novelty of the approach is that an overall response in pooled data can also be examined. Here the results are found to depend on the way city-specific structural effects are modeled.

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Data and estimation

Data from the March Current Population Survey (CPS) are available for the years 1968 through 1975. By grouping observations on married women (spouse present) living in the 19 locations identified by the CPS in each year, I obtained a panel of cross-section time-series data for the largest urban labor markets in the nation. Aggregation of micro data in this way reduces errors in measurement and variations in tastes, and permits the appending of area-specific unemployment measures obtained from *Employment and Earnings* and the *Economic Report of the President.*[5] All nominal variables are deflated by a consumer price index which takes into account price variations across Standard Metropolitan Statistical Areas over the 8-year period.[6]

One problem with the CPS, as with most data sets, is that wages are not observed for many sample respondents. Here, two approaches are taken. First, an educational attainment term is used as one proxy for wages. Second, a wage rate applicable to full-time female workers is imputed to all women based on location of residence.

When a full-time worker wage rate is used to control for offered wages in each labor market, cross-sectional patterns within most years show a negative relationship between unemployment and participation rates which suggest a net discouraged worker effect. However, regressions for each urban area over 8 years indicate that rising local unemployment rates induce female participation. This is consistent with a net added worker response; and, in many cases, the correlation is statistically significant. Analysis of pooled data without city terms indicates an insignificant participation response; however, when the pooled model is expanded to include city-specific intercepts, the female participation response to local joblessness is positive and highly significant. Thus, a predominant added worker effect is observed when structural between-city differences are incorporated.

As a final check on the differential impact of cyclical and long-term area unemployment, I examined female participation responses to the difference between average and current local unemployment over time. Results from pooled data indicate unambiguously that when local unemployment exceeds the 8-year city average, female participation rises; conversely, participation rates decline when local joblessness falls below the long-term average.[7] This net added worker effect is statistically significant whether or not city-specific intercepts are included, which supports the notion that deviations from long-term conditions are better predictors of cyclical behavior than are the current unemployment rates. It should be noted that even in this case a majority of city terms differs significantly from zero, suggesting that these factors pick up persistent patterns of behavior in addition to the long-term unemployment conditions.[8]

THE APPARENT PARADOX between cross-section and time-series female participation responses to unemployment reported in the literature is thus resolved when city-specific characteristics first alluded to by Mincer are explicitly controlled. Though further research is required to identify the information summarized in these city-specific intercepts, theoretical arguments indicate that they should be incorporated. When they are not, static year-by-year relationships between cities show that a low female participation rate is associated with depressed business conditions. However, the relationship over time within a city or within a group of cities is positive on net, if long-term structural differences are controlled. This added worker response may be more relevant for policymakers concerned with predicting labor force cyclical sensitivity, rather than estimating a mixture of long and short-run responses to unemployment in each labor market. □

——*FOOTNOTES*——

[1] See, for instance, William Bowen and T. Aldrich Finegan, "Labor Force Participation and Unemployment," *Employment Policy and the Labor Market,* A. M. Ross, ed. (Berkeley, University of California Press, 1965); Judith Fields, "A Comparison of Intercity Differences in the Labor Force Participation Rates of Married Women in 1970 with 1940, 1950 and 1960," *Journal of Human Resources,* Fall 1976, pp. 568–77.

[2] A discussion of early approaches is found in Edward Alban and Mark Jackson, "The Job Vacancy-Unemployment Rates and Labor Force Participation," *Industrial and Labor Relations Review,* April 1976, pp. 412–19.

[3] A recent study finding this result is Michael Wachter, "A Labor Supply Model for Secondary Workers," *Review of Economics and Statistics,* May 1972, pp. 141–51. John L. Goodman, Jr., also discusses the issues in "Spectral Analysis of the Dependence of Labor Force Participation on Unemployment and Wages," *Review of Economics and Statistics,* August 1974, pp. 390–92.

[4] Jacob Mincer, "Labor Force Participation and Unemployment: A Review of Recent Evidence," *Prosperity and Unemployment,* R. A. Gordon and M. S. Gordon, eds. (New York, John Wiley and Sons. 1966), p. 81.

[5] Bureau of Labor Statistics, Bulletin 1370–12, 1974, and Office of Management and Budget, *Economic Report of the President,* 1975, Washington.

[6] This was derived from intra-SMSA cost of living indexes published annually in the *Monthly Labor Review.*

[7] The variable is defined as the difference between unemployment in each city averaged over the 8 years and the current unemployment rate in that city. Without city intercepts the coefficient on this term is –.006 (with a t statistic of 2.57); with city intercepts the coefficient is –.007 (with a t statistic of 4.23).

[8] Further evidence supporting the dominance of an added worker effect appears in analysis of the underlying micro cross-section data from the CPS. A probit regression of wives' participation on economic and demographic variables similar to those used above also produces a positive unemployment coefficient when city-specific intercepts are used, but a negative coefficient when city-specific terms are excluded. See Olivia Mitchell, "The Labor Supply of Nonmarried Women," paper presented at the Econometric Society meetings in Atlanta, GA, Dec. 28–30, 1979.

Unionism's effect on faculty pay: handicapping the available data

MARTIN J. MORAND AND DONALD S. MCPHERSON

One of the unanticipated outcomes of collective bargaining in higher education has been the creation of a new industry—academic studies of academic unionism. The implications of faculty bargaining for such traditional concerns as academic freedom, collegiality, governance, and similar abstruse subjects have attracted speculation and study. Articles published in these areas represent no more than individual theorizing or rely on data which are no more than a collection of individual opinions. In contrast, those scholars who focus on the compensation question—how unionism relates to wages and fringes—would seem to have the advantage of a wealth of objective data.

All interested academicians are familiar with the American Association of University Professors (AAUP) "Annual Report on the Economic Status of the Profession." It is convenient, predates collective bargaining, covers unionized and unorganized institutions, and serves as the basic statistical resource for most research. AAUP edits, interprets, and publishes data that, since 1976, have been gathered exclusively by the National Center for Education Statistics (NCES) through the Higher Education General Information Surveys (HEGIS). Yet, these compensation studies have reached sharply contradictory conclusions which lead to lengthy and learned argument over the relative advantages of matched pairs versus multiple regression. The fault lies less in the statistical methodology than in the assumption that the statistics are complete, relevant, and accurate enough to reach meaningful conclusions on the relationship between unionism and wages, hours, and working conditions in academe.

We acknowledge our own bias. We are active members of the Association of Pennsylvania State College and University Faculties (APSCUF, affiliated with AAUP and American Federation of Teachers, AFL-CIO), the union of the Pennsylvania State College and University (PSCU) system where we work. As beneficiaries of faculty unionism, we approach studies which report a negative or null effect of collective bargaining on faculty compensation with skepticism. If the impact be so slight, why does management protest so much? Or, as Brown and Stone wonder, because faculty unions have not been associated with general economic gains and union dues are substantial, what explains the rapid growth of faculty unionism?[2] Further, because it is easier to decertify than to organize (because administrators seldom fight to keep unions) why have faculties which come to unionism with such misgivings not repudiated their unions?

Our interest and suspicions grew out of the contradictions between our own experience and published reports on our system. For example, the 1975 AAUP report showed an increase of over $3,000 per faculty member in our system. It caused consternation in Pennsylvania political circles, showing that the PSCU had shot ahead of faculty compensation at the prestigious University of Pittsburgh. But we knew that our across-the-board increase for that year was 4 percent, or about $1,000. Investigation revealed that almost two-thirds of the reported *raise*, about $2,000, was actually the result of a *reduction* in the employer's cost for pensions.

This is one of several conundrums which led us to suspect first the statistics and then the statisticians. The explanation of the contradiction between what AAUP reported and what we observed is simple and revealing. In order to improve benefit packages generally and pension mobility particularly, AAUP counts only those employer contributions that become vested (in the faculty member) within 5 years. The State contributions to the retirement system never before "counted" because in Pennsylvania pensions became vested only after 10 years.

But in 1975 the faculty union negotiated an optional retirement system with immediate vesting. Although *few* faculty chose the option, once immediate vesting became available, the institution was credited under AAUP rules as if *all* were covered. Our university saves thousands of dollars each year on faculty who opt out of the State system because it is now charging double to catch up on prior years of underfunding. In the very year the union's negotiated cost saving was implemented, the university appeared to be paying a large increase for faculty retirement benefits.

These apparent discrepancies led us first to suspect that the fault lay with AAUP. However, after extensive dialogue with AAUP's director of research, Maryse Eymonerie, we became convinced that the numbers themselves are not the villains. She shared with us, as she told us she had with previous researchers, her perceptions of the pitfalls inherent in unsophisticated application of published figures. Our own findings on data deficiencies are organized under four headings.

Missing data

Some data are missing; some just missed. HEGIS tapes contain information not summarized on AAUP charts. The tapes include all employer payments for

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pensions including those, primarily in the public sector, which do not vest within 5 years. HEGIS tapes also include all employer costs for housing subsidies and tuition benefits. AAUP does not include these benefits unless a cash option is available. Jerome Staller's study of community colleges uses these raw data. We do not know whether counting these benefits influenced his finding that "unionization has raised fringe benefits nearly 80 percent over those prevailing in nonunion colleges."[3] But Staller was the first scholar in the field to insist that salaries *and* fringes *and* hours—or their analogue, workload—because they could either be improved in tandem or traded against each other, must be examined separately and severally in any study of total compensation. Despite his warning and despite the fact that the literature makes it clear that workload is a major issue at the bargaining table,[4] only one other compensation study that we know of deals with it.[5]

The complexity of defining and measuring workload, the difficulty of measuring salaries outside the base year and the danger of relying on AAUP tables as the only information source are all illustrated in a single example. Pennsylvania State University (not to be confused, as it was by one researcher, with PSCU) has transferred hundreds of faculty from 48-week to 36-week contracts since 1974. They maintained their full salary and were expected to maintain "the same workload (particularly teaching) and quality standards." Does this represent a 25 percent increase in salary? It is reported as such to AAUP. Is this a reduction in workload? If one views workload as time work, yes, as piecework, no. The faculty member who volunteers to accept this offer must agree to forgo across-the-board raises for 2 years. Why do they accept? In many cases because they can now earn extra income during the newly freed 12 weeks—income sometimes paid from the same grants they work under during the 36-week payroll period.

Other significant omissions from available salary data important to studies of collective bargaining include: retroactive salary payments, improved summer contracts, compensation for co-curricular duties, stipends for chairpersons, released time for consulting and grant income which supplements salaries. The contract at the City University of New York system provides over $3.5 million annually for research and fellowship awards. Our own union negotiated a $500,000 trust which funds educational expenses, research, and travel.

Eymonerie listed benefits which are omitted from the various surveys, some of which have a significant collective bargaining related impact. Her examples include: "office space, secretarial assistance, library privileges, laboratory and computer facilities, travel and membership fees to professional organizations, parking, meals, and sabbatical leave."[6] Our records add: professional liability insurance; paid leaves for illness, parenting and education; reduced interest loans; and wholesale costs for purchases of insurance, autos, appliances. One contract even guarantees the right to collect a cord of wood on campus.

It is clear that data currently missing on changes in workload, on extra salaries, and on missing benefits must be collected and considered in any effort to evaluate accurately the impact of faculty unionism.

Misleading data

Academicians' faith in the salutary effects of grading on a curve to encourage improved performance leads AAUP to continue to report legislated benefits such as social security. It hopes to encourage all States to make coverage mandatory. Because salaries subject to social security taxes have a ceiling, this item is reflected in the reports as a greater "fringe benefit as a percent of salary"[7] at campuses with lower salaries. Thus, institutions which pay less get higher "marks" in the fringe column.

Unemployment compensation replicates the social security problem and adds a peculiar, collective bargaining related, distortion of its own. Institutions are often on a pay-as-you-go basis with unemployment compensation—the more layoffs, the more payout, the more chargebacks. Many unions have succeeded in blocking mass retrenchments and reducing individual dismissals. This faculty benefit, when reflected in lower unemployment compensation costs, appears as a lower fringe and thus less total compensation rating on the charts.

An accurate evaluation of legislated fringe benefits as an obviously important part of compensation must, in any case, deal openly with these problems of misleading data.

Misinterpreted data

Definitions and instructions used in surveys are ignored by respondents and researchers alike. "Instructional faculty" is the group purportedly being counted, and faculty researchers mistakenly assume we all know what that means. But collective bargaining and its concommitant, unit determination, have changed the perception, if not the definition, of the term. Studies which compare the pre-bargaining 1960's with the post-bargaining 1970's are often comparing oranges and lemons.

For example, our union represents two bargaining units—teaching faculty and administrative faculty. But the teaching unit includes, among others, librarians, coaches, counselors, student-teacher supervisors, athletic directors, equal-opportunity-in-sports coordinators and department chairpersons. All or part of their salaries ought to be excluded from the reports. Some campuses, particularly where the person responding has been filling out HEGIS questionnaires since the pre-bargaining days, do exclude them. Others, understandably, find the numbers to fill in on the form by punching a button on the computer which is programmed by bargaining unit—including all these persons and their *total* instructional and administrative salaries. We came across this problem when we observed campuses reporting salaries higher than the maximum contained in the contractual salary schedule because they were including these administrative payments. Although textual exegisis is not our preferred procedure for understanding the dynamics of collective bargaining, a look at the contract while looking at the report might alert researchers to problems they now miss.

Mistakes in data

Most of the data error we identify is in the Pennsylvania reports, presumably because we are more familiar with the facts and alert to the problems. But we have no reason to believe the situation is different elsewhere. Indeed, Professor James Begin of Rutgers finds problems with HEGIS data in his studies of collective bargaining in New Jersey community colleges, particularly because of failure to capture retroactive pay increases.[8] While these occur frequently in collective negotiations they are seldom granted to the unorganized.

Scanning the charts and checking the contracts in the PSCU reveals that for 1973–74 Cheyney State College reports a 21-percent increase for associate professors, and Edinboro State College shows 23 percent for instructors. With a 5-percent across-the-board increase in September '73 and an additional 5 percent in January '74, no arithmetic combination of additional increases such as merit, promotion or increment could have led to the average increases reported. They were far in excess of amounts published for other ranks at these colleges and for any ranks at other PSCU colleges. We believe reporting error is inherent in the data collection system and not unique to the PSCU.

BACK TO BASICS in measuring the impact of unionism on faculty compensation means more than cleaning up the economic data. The HEGIS data are better than those available for most industries. The best of data will only be understood if examined in the context of institutional research, which itself takes into account the insights of the behavioral sciences. Campus unionism presents a unique opportunity for collective bargaining researchers to examine theory in practice. ☐

FOOTNOTES

[1] For example, see James P. Begin, "Bargaining and Faculty Reward Systems: Current Research Findings," revised version of a paper presented at the University of Minnesota, Feb. 24, 1978; Robert Birnbaum, "Compensation and Academic Bargaining: New Findings and New Directions," paper presented at the Annual Meeting of the National Center for the Study of Collective Bargaining in Higher Education, New York, April 1977, "Unionization and Faculty Compensation: Part I," *Educational Record*, Winter 1974, and "Unionization and Faculty Compensation: Part II," *Educational Record*, Spring 1976; William Brown and Courtenay Stone, "Academic Unions in Higher Education: Impacts on Faculty Salary, Compensation, and Promotions," *Economic Inquiry*, July 1977, "Collective Bargaining and Faculty Compensation Revisited," *Sociology of Education*, October 1977, and "Faculty Compensation Under Unionization: Current Research Methods and Findings," working paper No. 77501, School of Business Administration and Economics, California State University, Northridge, March 1977; Larry Leslie and Teh-Wei Hu, *Financial Implications of Collective Bargaining in Higher Education*, Center for the Study of Higher Education, Pennsylvania State University, Report No. 29, September 1977; Joan Marshall, "Effects of Collective Bargaining on Faculty Salaries in Higher Education," *Journal of Higher Education*, 1979; David Morgan and Richard Kearney, "Collective Bargaining and Faculty Compensation," *Sociology of Education*, January 1977, and "Collective Bargaining and Faculty Compensation Revisited: A Response and a Reaffirmation," *Sociology of Education*, October 1977.

[2] Brown and Stone, "Student-Faculty Ratios and Unions" *Educational Record*, Spring 1979, p. 169.

[3] Jerome Staller, "Collective Bargaining: Its Effect on Faculty at Two-Year Public Colleges," paper presented at the Annual Meeting of the National Center for the Study of Collective Bargaining in Higher Education, New York, April 1975, p. 81.

[4] John Creswell, Gerald Kramer, and Thomas Newton, *Faculty Workload Provisions in Contract Agreements Negotiated at Four Year Colleges*, Academic Collective Bargaining Information Service, Research Summary No. 6, December 1978; Kenneth Mortimer and Gregory Lozier, "Faculty Workload and Collective Bargaining," *New Directions for Institutional Research*, J. I. Doi, ed. (San Francisco, Jossey-Bass, 1974).

[5] Brown and Stone, "Student-Faculty Ratios and Unions."

[6] Based on correspondence between Maryse Eymonerie and the authors, Nov. 8, 1979.

[7] American Association of University Professors, "Annual Report on the Economic Status of the Profession," each year, 1969–79.

[8] Based on correspondence between James Begin and the authors, Aug. 7, 1979.

Hospital managers' perception of the impact of unionization

CHARLES MAXEY

During the past decade there has been substantial growth in the number of formal union-management relationships in the U.S. hospital industry.[1] As in other sectors where vital human services are an important employer "product," the growth of hospital employee unionism has been a controversial development. Industry spokespersons and other observers have expressed concern over the impact of collective bargaining on the financial vitality of the industry, and on the ability of

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the hospitals to maintain quality health care services. The general research issue which arises, then, concerns the impact of unionization and collective bargaining on the employer as an organization, and on organizational performance.

Trade unions may affect employers in numerous ways that have implications for how the organization performs. Strikes and other job actions provide obvious short-run examples. But the research literature suggests that longer term changes in organizational structure and process are also important. Examples of such organizational impact are: effects on the content and execution of human resource management policy, impact on the structure of decisionmaking within management, and impact on the attitudes and behavior of both managers and nonsupervisory employees.[2] This paper presents some general and preliminary findings from a study intended to assess such organizational changes in unionized hospitals.[3] A number of areas of union impact will be reported on in brief, summary form, but particular attention will be given to effects on the ability of the employer to provide quality patient care, and on other organizational dimensions that might reasonably be expected to influence overall performance—the role of hospital management, and the attitudes and behavior of unionized, nonprofessional employees.

The findings reported here are based on hospital managers' assessment of the magnitude and direction (positive or negative) of union impact on their own organizations. Perceptual data of this kind are of considerable value because they reflect the understandings of those intimately involved in the labor-management relations, where differences of values and goals between the parties can generally be assumed, and varying assessments of the nature of union impact on the employer can be expected.

A second purpose of this study was to present some preliminary results on the development of an explanatory or interpretive framework for the managerial perceptions reported. The model, presented in the full version of this paper, hypothesizes systematic relationships among managers' perceptions of a number of dimensions of union impact.

The data

Data for the study were collected through administration of written survey questionnaires to managers employed in 36 unionized hospitals located in 6 major U.S. cities. Cities were selected to represent a variety of bargaining structures and climates. Within cities, hospitals were chosen to provide variety in terms of organizational size, ownership, pattern of employee representations, and managerial philosophy. Individual managers were selected on the basis of position (senior administrator, personnel/industrial relations officer, supervisory physician, nursing administrator, support service department head), and knowledge of the union-management relationship. In all, 292 managers participated in the survey.

The survey instrument used Likert-type response scales to obtain managers' views of the nature of the union-management relationship, and the impact of unionization and collective bargaining on the hospital; 79 impact questions were included. Respondents made assessments of both the *magnitude* of union impact, and its *direction* (positive or negative as seen from the per-

Table 1. Hospital managers' perceptions of the strength and direction of union impact in selected areas

Impact areas	Mean response[1]	Percent negative		No impact	Percent positive	
		Strong	Weak		Weak	Strong
General						
Centralized policy making	4.04	7.7	3.5	11.6	32.0	45.2
Wage levels (union employees)	3.53	24.7	8.9	2.6	16.6	47.2
Ability to retain employees	3.52	8.2	11.3	25.7	30.0	24.8
Overall quality of care	2.86	10.9	22.3	42.0	19.7	5.0
Productivity of employees	2.80	19.9	23.5	26.3	17.5	12.7
Financial standing of hospital	2.65	39.8	16.6	6.2	13.3	24.1
Hospital management						
Overall quality of management	3.70	5.8	5.8	27.4	35.1	25.9
Ability to run hospital effectively	2.97	15.8	25.8	19.2	23.8	15.4
Authority of supervisors	2.93	22.8	33.6	9.3	26.6	17.8
Employee attitudes and behavior						
Interest in long-term employment	3.62	5.4	9.3	28.3	32.2	24.8
Turnover	3.30	7.7	15.1	34.7	25.1	17.4
Interest in promotion	3.28	8.2	14.0	31.1	34.6	12.1
Morale	3.12	11.5	23.0	20.3	33.0	12.3
Absenteeism	2.79	17.6	26.1	25.3	21.8	9.2
Commitment to goals of hospital	2.75	15.6	25.8	33.8	17.1	7.6
Willingness to perform extra work	2.40	30.3	27.3	21.1	12.7	7.6

[1] Items are scaled: 1 = Strong Negative Impact; 2 = Weak Negative Impact; 3 = No Impact; 4 = Weak Positive Impact; 5 = Strong Positive Impact. Total number of responses was 292.

spective of the hospital). Magnitude was measured on a 5 point scale, and direction on a 3 point scale (+, 0, −).[4]

Table 1 displays some of the survey results. On the basis of the aggregated results (some of which are not reported in the table for space reasons), the following generalizations are warranted:

Economic impact (wage and benefit levels) was seen as substantial. Managers reported positive effects in terms of increased stability of employment and an improved competitive position in local labor markets. On the other hand, the overall financial standing of the hospitals was seen to have been adversely affected.

Within management, decision and policy making had become more centralized, with senior administrators and personnel/industrial relations specialists assuming an expanded role. Employee relations policies were seen to have become more formal, more similar across organization subunits, and applied with greater consistency.

Departmental managers and supervisors were seen to be spending more time in direct supervision and in attending to matters of discipline. The quality of supervision and management were felt to have improved, but the difficulty of the supervisor's job had increased. Similarly, the overall ability of management to run the hospital effectively was seen to have been diminished.

Managers perceived the attitudinal and behavioral responses of nonsupervisory employees to have fallen along two interrelated dimensions. Managers believed that the desirability of the hospital as a place of employment had increased as reflected in both employee attitudes (morale, interest in long-term employment, interest in promotion) and behaviors (reduced turnover). However, performance-related changes were viewed negatively; respondents reported decreased commitment (to the mission of the hospital and to patient care as a goal) and poorer work performance (increased absenteeism, decreased willingness to perform, decreased productivity.) The overall pattern in the aggregated data suggests managerial perception of an increased "instrumentalism" on the part of unionized employees.[5]

Finally, the quality of patient care, a significant dimension of overall organizational performance, was seen to have been negatively affected, although the size of the effect is not great on average, and there is considerable disparity among respondents as to both the strength and direction of the effect. ☐

——*FOOTNOTES*——

Data collected by the American Hospital Association indicate that between 1967 and 1977 the number of U.S. hospitals with at least one formal union-management agreement increased from 6.7 percent to about 25 percent.

[2] For example, see S. H. Slichter, J. D. Healy, and E. R. Livernash, *The Impact of Collective Bargaining on Management* (Washington, D.C., The Brookings Institution, 1960).

[3] The study was supported by grant number 5 R18HS 01557-02 from the National Center for Health Services Research.

[4] For a discussion of a previous use of a similar measure, see Milton Derber and others, *Labor-Management Relations in ILINI CITY* (Champaign, Ill., Institute of Labor and Industrial Relations, University of Illinois, 1954), pp. 40–41.

[5] Similar results were reported by Tove Helland Hammer, "Relationships between Local Union Characteristics and Worker Behavior and Attitudes," *Academy of Management Journal*, December 1978, pp. 560–77.

Two approaches to the mediator's role

DEBORAH M. KOLB

The differing roles mediators play, "deal maker" or "orchestrator," reflect respective common sense theories about how disputes between the parties get resolved.[1] Mediators from a State agency, who generally want to make a deal, believe that such a deal, if achieved, results from their knowledge of the components of a reasonable settlement (and, by implication, the parties' ignorance of such components), combined with their ability to persuade the parties to accept such a "reasonable" settlement. Federal mediators, however, prefer a settlement to be achieved by the parties themselves. By orchestrating a full exploration of their differences with some assistance and "injections of reality," Federal mediators believe that parties generally will be able to resolve their own differences.[2]

These theories held by mediators about how disputes get resolved emerge from the roles the mediators attribute to the other parties in the process. The State mediators believe that they need to put together a deal because the other actors in the process—the union and management committees—lack the expertise to do it themselves. The inexperience of the bargaining committees is readily apparent to the mediator. Committees, particularly those on the union side, come to mediation with long lists of demands—demands which are often unrealistic in the estimation of the mediator. Inexperienced committees get "wedded" to their positions and are therefore exceedingly reluctant to lower their sights

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or to delegate the authority to the negotiators they hire (who have the expertise to negotiate more effectively). Committees on the management side, often made up of politically elected representatives, are likewise described as inexperienced. They adopt exceedingly conservative positions and adhere to these positions tenaciously.[3]

Federal mediators, interestingly, describe the union negotiating committees they encounter in the private sector in much the same way as do the State mediators. These committees are inexperienced: they come unprepared to mediation with too many demands, many of which are unrealistic and, because of their inexperience, only make changes reluctantly. The management committees the Federal mediators work with are often as inexperienced as the union committees, but the inexperience is manifested differently. Management committees tend to overprepare, and to adopt bottom line positions early in the negotiations that leaves little room for exploring options. However, as opposed to the union committees which have a democratic structure and require a majority (if not a consensus) to make a move, the management committees have a hierarchical decisionmaking structure. The process of generating movement, therefore, differs between the two types of committees.

In most of the cases studied, negotiating committees on both sides had chief spokesmen, most of whom were professional negotiators. These professionals, because of their experience and frequent encounters with mediators, are called "pros." For the most part, pros are either labor relations attorneys or business agents from the union. Both State and Federal mediators had pros on their cases with approximately the same frequency, but the expectations about how these pros would act in their relationships with their committees, with the mediator, and with each other differed.

The State mediators looked to the pros to help them make a deal, a deal the committees, because of their inexperience, presumably would be unable to reach themselves. When working with two pros, the State mediators expected that most of the mediation would be conducted in off-the-record meetings. As a team, the pros and the mediator, both knowledgeable in the prerequisites of a reasonable settlement, could come gradually to an agreement. During the case, the mediator would then, in concert with the pros, "sell" the agreed upon package to the respective committees. With just one pro on the scene, the mediator had assistance on one side in the form of insights into the committee's behavior and the pro's assessment of "what it would take" to get a settlement—the bottom line. But the pros did not always function in this way. The problem from the State mediator's viewpoint is that the committees, because they are inexperienced, control their spokesmen in such a way that their ability to make an off-the-record deal may be severely circumscribed. When this occurs, the pro isn't acting like a pro. According to one State mediator,

> There are pros, but it's not just his experience. Only if they have the authority to bargain, are they true pros. And for a true pro, if he doesn't have the authority, he'll grab it, he'll demand it as a condition of his continued employment.

State mediators often found that their expectations about what the pros would do went unfulfilled. Many pros, according to the State mediators, acted unprolike during a case. And the mediators' explanation for this behavior rested with the inexperienced committees. They were so inexperienced that they controlled the pro too tightly, and thus the effect of having a pro at all was negated. This inexperience of the committees (manifested in their tight control and the presence of pros who often did not act like pros) reaffirmed the mediator's sense of his role. He needed to "educate" the parties about the realities of mediation, which he did by demonstrating the elements of a reasonable settlement (his deal).

To the Federal mediator, the pro is an experienced, knowledgeable, and effective negotiator who is as well acquainted with the elements of a reasonable package and often better informed about the local character of the issues in dispute than the mediator. Though the pros and the mediator would be capable of reaching a reasonable settlement, the acceptance of such a settlement rests with the committees. Thus it is the pros, each working with his respective committee, who, through the ever narrowing exchange of proposals, move a committee toward a settlement. With the hierarchical management committee, the pro's advice was more likely to be heeded. But with the inexperienced union committee, the process was likely to be long and arduous, often requiring more assistance from the mediator.

For the Federal mediator, the mark of the true pro is not that he grabs authority but that he acts like a "closer." A closer is a pro who, based on his experience and knowledge, uses that expertise to move his committee by suggesting alternative options for a settlement when negotiations have reached a stalemate. The Federal mediators see their role as lending credibility and assistance to the pros as they work with their respective committees to "close" the deal. The dose of reality the Federal mediators say they inject in a caucus is often no more than reiterating what the pro has been saying all along. The only difference is that when the mediator says it, it's from a "neutral mouth." By adopting the role of orchestrator, the mediator provides the forum for the committees, guided by their pros, to directly negotiate their agreement. ☐

FOOTNOTES

[1] On the properties of common-sense theorizing, see Harold Garfinkel, *Studies in Ethnomethodology* (New Jersey, Prentice Hall, 1967), and Aaron Cicourel, *Cognitive Sociology* (New York, The Free Press, 1974).

[2] As a participant observer, intermittently over a 3-year period, I attended 16 mediation cases with nine different mediators from both a State office of conciliation and arbitration and a field office of the Federal Mediation and Conciliation Service.

The process of selecting cases to attend was different for each service. State mediators allowed me virtually open access to any case. They would open their appointment books, tell me what was coming up, and I would pick a convenient date and case of interest. Federal mediators did roughly the same thing, but made it clear that certain cases would be off limits. These were the well publicized, "big" cases and those where the relationship between the parties was such that an outsider might exacerbate what was already a volatile situation. The State cases I observed thus represent a fair sampling of a typical caseload. Observed Federal cases also represent a typical caseload, except for the 1 percent described as "problematic" or "headline getters."

[3] Inexperienced and diffuse committees, particularly those on the management side, have been identified as a distinguishing characteristic of public sector bargaining. See Thomas Kochan, "A Theory of Multilateral Bargaining in City Governments," *Industrial and Labor Relations Review*, July 1975, p. 526; and Kenneth McLennan and Michael Moskow, "Multilateral Bargaining in the Public Sector," *Proceedings of the 21st Annual Meeting*, Industrial Relations Research Association (Madison, Wisc., IRRA, 1968), pp. 34–41.

A note on communications

The *Monthly Labor Review* welcomes communications that supplement, challenge, or expand on research published in its pages. To be considered for publication, communications should be factual and analytical, not polemical in tone. Communications should be addressed to the Editor-in-Chief, *Monthly Labor Review*, Bureau of Labor Statistics, U.S. Department of Labor, Washington, D.C. 20212.

Communications

Labor-management panels: three case studies

JAMES W. DRISCOLL

Cooperative departures from traditional collective bargaining behavior have begun to interest scholars and practitioners.[1] Former Secretary of Labor John Dunlop has chaired the meetings of an informal Labor-Management Group at the national level to make recommendations on macroeconomic policy. Numerous local communities now support area-wide labor-management committees. And numerous cooperative programs have appeared in local plants, including quality-of-worklife programs at General Motors and in-plant committees in the steel industry, under the auspices of the Federal Mediation and Conciliation Service, and in the Scanlon Plan.

Despite the recent chill in U.S. union-management relations, cooperative programs have arisen because the two adversaries increasingly face common problems.[2] Challenges to both parties are presented by demographic and attitudinal shifts in the work force, new governmental regulation, technological change, and foreign competition.

All new programs in collective bargaining aiming to answer these challenges share a common behavioral denominator: they encourage joint problem-solving rather than traditional bargaining. Richard Walton and Robert B. McKersie popularized the distinction between these two techniques of conflict resolution.[3] Bargaining conceals information in order to extract concessions from an opponent; problem-solving relies on sharing information in open discussions. Rather than the exchange of proposals, problem-solving includes careful identification of joint concerns, generation of a range of possible alternatives, and the selection of an alternative to maximize joint benefits.

Research on these recent problem-solving efforts has largely consisted of broad overviews and testimonials by their proponents. Our own recent study takes a look at three cooperative innovations, running the gamut from success to failure. Our purpose was to learn whether cooperative problem-solving between adversaries in collective bargaining works, and what factors facilitate its success.

Study of cooperative efforts

Case I describes an attempt to improve the negotiation of contracts through an industry committee. Case II focuses on efforts to improve the administration of the grievance procedure in one plant of a large company. Case III deals with issues outside the scope of traditional collective bargaining in a quality-of-worklife project at a hospital.

In each case, we primarily gathered data by interviewing as many of the regular participants, past and present, as possible. We interviewed 83 participants (about half of those involved), including some third-party participants and about equal numbers of union and management representatives.[4] Joint meetings were also observed in our study.

The retail food committee

Collective bargaining in the retail food industry is extremely decentralized, with contracts signed in individual cities. Unions have been able to play one local employer against another in highly unionized areas of this competitive product market. Along with a skilled work force, this has led to higher wage levels than those of workers in other retail trades.

The industry also has a high profile. Labor and management felt that unless they agreed to address common problems in collective bargaining, the industry would be subject to continued wage-price controls (in early 1974). To reduce this possibility, the three major unions in the industry—the Retail Clerks, the Meatcutters, and the Teamsters—met with the major supermarket chains and employer association representatives in April 1974 to form the Joint Labor-Management Committee of the Retail Food Industry.

Wayne Horvitz, former chairman of the industry's Tripartite Wage Stabilization Committee during the period of controls, was chosen as permanent chairman of the Joint Committee.

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Committee members included the presidents of the international unions and the chief executives of the major supermarket chains. A steering committee was also established, consisting of the labor-relations vice presidents of the companies and staff officials from the unions. The steering committee met monthly, while the original top-level executives convened quarterly to set policy.

An early start tackling issues. The committee examined collective bargaining and general industry problems. It published some general principles to guide contract negotiations in the industry.

However, the national recommendations have not become standard practice in local negotiations, although the committee has targeted key negotiations for national attention. It has convened local conferences to help identify problems before contract negotiations begin, thereby reducing the possibility of work stoppages.

In addition to institutionalizing pre-negotiation conferences, the (neutral) chairman and other committee members worked closely with the Federal Mediation and Conciliation Service in mediating a number of deadlocked negotiations, avoiding several unnecessary work stoppages and shortening others.

The steering committee has also initiated action on other problems. In 1976 it undertook a union-management study of personal protective equipment for meatcutters, because both parties were dissatisfied with a regulation proposed by the Occupational Safety and Health Administration (OSHA). As a result, the committee came up with a more workable clarification of the standard providing greater protection to workers and acceptable to OSHA.

More recently, the committee has sponsored studies of potential industry health hazards growing out of concerns about "meatcutters asthma" and the use of polyvinyl chloride wrapping paper, and of the cost of health benefits under collectively bargained benefit plans. The health proposals could help reduce benefit costs, while maintaining or increasing benefit levels for workers.

The committee's specific accomplishments stem in large part from the effort of its permanent third parties and especially the original chairman. He held it together in its early days and mediated some key contract disputes. Later, when the steering committee became bogged down (in part from antagonisms generated during contract negotiations) the chairman reactivated the executive committee to provide policy direction from a group that was not engaged in continuous negotiations.

Mixed reviews. In summary, the steering committee has taken action on a number of fundamental industry problems. For this reason, most of the labor members praised the committee. Company representatives were dissatisfied, however, because they wanted the committee to help reduce the upward pressure on wages from collective bargaining. However, the companies also applauded the committee's work, when specific accomplishments were considered.

The disappointment of company members does highlight a major shortcoming. Although it is involved in settling local disputes, the committee has not enabled the parties to achieve a structural breakthrough in market-area bargaining. Negotiating contracts for larger geographical areas facing similar market conditions might allow greater stability and lower pressure on wages than current fragmented bargaining patterns. As a consequence, the frequency of local disputes might decline. Despite progress in some local areas and the merger of two participating unions—the Clerks and the Meatcutters, the structural problems of collective bargaining in the industry remain.

A small plant's alternative

Pressure from external events forced union and management representatives in a local plant of a large multinational manufacturer to consider an alternative to traditional collective bargaining. Shortly after the founding of this small plant in 1969, demand for its product slackened. As a local policy, workers were not laid off, but were used as janitors. Union-management antagonisms developed, which finally led the corporate industrial relations staff to recommend that no new work be assigned to the plant.

By 1972, the plant's employment had dropped to 35 in the bargaining unit. A consultant from the corporate organizational development staff, which is separate from the industrial relations staff, began to work with the plant management to improve its effectiveness. The consultant quickly became aware of the labor-management hostility and offered his help, which was accepted by the plant manager.

From early-1973 to mid-1974, the consultant initiated, designed, and implemented a series of multiple-day meetings at which union and management representatives discussed their differences in a carefully orchestrated format. All local union officers and members of the bargaining committee met first with the plant manager and his staff and later with the production supervisors in the plant.

In the initial meetings, each group openly vented its dissatisfaction with the other side. Most members participated in the discussion, and both sides acknowledged some of their own problems. They subsequently agreed on areas where joint action was needed by top leadership.

Relations improve. These meetings dramatically improved the collective bargaining climate, as both sides unanimously reported. Relations among the participants of the meetings improved immediately, and most said that they could now trust opposing members to tell the truth more often.

More importantly, the plant personnel manager and the local union president agreed on two supplements to the contract: one to revise the assignment of overtime, the other to specify job ladders within the plant. Both issues had previously caused many grievance problems; now grievances decreased immediately.

The two men also began to meet regularly for open-ended discussions of plant problems. Indeed, when a department that housed new products developed serious labor problems, the two held a 3-day meeting with department representatives.

Finally, the monthly union-management meeting was expanded from a management briefing to include both safety issues and specific concerns raised by the union. In this improved atmosphere, the plant manager was able to support the introduction of new products.

It is always difficult to untangle the effects of such development programs from simultaneous external influences. In this case, new products were brought on line after the first meeting, so employment had returned to 200 following the last meeting. A new personnel manager also came to the plant just before the first meeting; he was the first to hold that position on a full-time basis. Finally, a new union president was elected after the second meeting. He had participated in and had been impressed by the meetings and continued to work closely with management, dominating the local union for several years. Each of these factors undoubtedly helped resolve some of the problems.

Health care union approached

The quality-of-worklife project at the hospital did not arise from external pressures, as in the cases previously discussed. Rather, in 1975, a small independent agency that had been founded to stimulate joint quality-of-worklife projects approached a major union in the health care field. The union suggested the 1,200-bed private, teaching hospital in a major northeastern city as a site for the project. Relevant parties involved with the hospital agreed to support a proposal by the quality-of-worklife agency for Federal funding. The purpose of the externally funded project was to improve patient care and the quality of worklife in the hospital.

During the initial discussion of the project, the union was represented by a vice president; the residents' committee (which then had a collective bargaining agreement with the hospital) sent its leader for the metropolitan area; and the State nurses association was represented by its statewide director of collective bargaining. The hospital was represented by its director, the director of nursing, and the vice president for labor relations. It was the first and only time that top leaders from the various parties met during the project.

A steering committee consisting of representatives of these top leaders was formed to identify a demonstration unit within the hospital, and to establish a control group so the effect of the project could be determined. The steering committee then hired a consulting team, as called for by the proposal, to initiate the project.

Change in consulting team. Following a slow start, the first consulting team was dismissed and a second team was hired, 16 months after the first, top leadership meeting. The latter consultants initially worked with rank-and-file workers on the target ward to identify problem areas for improvement. Later, the consultants extended their efforts to include higher-level supervisors and a major department that provides diagnostic services for the entire hospital.

At the time of the interviews for this report (Fall 1977), the consultant had been working in the hospital for 15 months and had undertaken a number of programs. Workers on the target ward, aided by the consultants, prepared an orientation program for new residents to ensure continuity in day-to-day work practices, a major problem in teaching hospitals. The consultants conducted training sessions on interpersonal skills for workers on the ward, and they began a survey of attitudes and perceptions of performance for the diagnostic department.

It is difficult to assess the impact of these programs on patient care and worklife because the interviews for this report focused only on members of the steering committee. A major evaluation effort is underway to measure both the delivery of service and the attitude of workers. Nonetheless, labor and management representatives felt that the stated goals had not been achieved, and that there had been little impact on the larger collective bargaining system, where most had also hoped to see some improvement.

Two dynamics are worthy of note in understanding the quality-of-worklife project. First, the director of the hospital who endorsed the project was replaced shortly afterward by a successor whose mandate was to cut costs. Second, the consulting team worked primarily with employees in the target ward, members of the diagnostic department that was being surveyed, and with a few steering committee members. The consultants did not develop the steering committee to be a problem-solving group.

Guidelines offered

Cooperative projects emerged from these cases not as panaceas, nor as surefire successes. Rather, practitioners must exercise caution in the face of optimistic claims for joint programs and care in their execution. Based on the three cases studied, it is possible to offer the following guidelines for cooperation:

- Do not expect certain success.
- Examine the initial situation to predict the success of the program; specifically, the felt need for change, the mutual legitimacy of the parties, and support from top-level management.
- Expect more interpersonal changes and indirect effects than specific accomplishments.
- Attempt problem-solving at any hierarchical level.
- Engage a third party with labor-relations experience and behavioral-science skills.
- Despite the increased risk of failure, identify common objectives early.
- Involve "line" officials of both union and management.
- Develop a cohesive group of labor and management representatives.
- Avoid challenges to union or management authority.
- Attempt change in an entire, largely self-contained social system.

The three cases not only identify a probable pattern of factors facilitating cooperative problem-solving, but also suggest a tentative strategy to implement such a change. These guidelines stress the need for participants in a joint effort to monitor the *process* of the change effort as well as specific substantive issues. □

FOOTNOTES

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Helpful comments were provided by Richard Shore and Edgar Weinberg of the Department of Labor.

[1] William Batt and Edgar Weinberg, "Labor-Management Cooperation Today," *Harvard Business Review*, January-February, 1978.

[2] J. W. Driscoll, "A Behavorial-Science View of the Future of Collective Bargaining in the United States," *Labor Law Journal*, July 1979, pp. 433–38.

[3] Richard Walton and Robert B. McKersie, *A Behavorial Theory of Labor Negotiations*, New York, McGraw-Hill, 1965, pp. 4–5.

[4] The interviews lasted from 20 minutes to 8 hours, with a median length of 1 hour.

Foreign Labor Developments

Employment training in France: firm and worker experience

Dorothy G. Sparrow

Have French workers benefited from the 1971 law which required firms to provide education and training programs for workers? A series of interviews with a group of 50 workers and managers in 10 firms revealed that worker participation in training programs had increased by 69 percent since the law was enacted. Also, workers reported improved job satisfaction which they attributed to the availability of the programs and said that chances of promotion for lower level employees were improved.

To aid in meeting the dual challenge of rapidly changing occupational requirements and the growing demand for broader economic and social opportunities, the French National Assembly in July 1971 passed the law for Continuous Training *(Formation Professionnelle Continue)*. The three key provisions are:[1]

1. Employers with 10 employees or more are obligated to pay a payroll tax, currently 1 percent, into a National Training Fund. With establishment of training for their workers, employers are reimbursed.
2. Every worker has a right to a paid training leave.
3. Governmental agencies coordinate policies and participate at all levels to facilitate and ensure application.

This report examines the experience of firms and workers since the passing of the law, focusing on the following questions:

1. Has the training facilitated labor force adaptation to economic and technological change?
2. Do workers obtain significant benefits in terms of improved access to training, improved promotional opportunities and salaries? Do the least-skilled workers share in these benefits?
3. Has imposition of a payroll tax on all employers increased training opportunities?

The study is based on a series of interviews with a group of 50 workers and managers in 10 firms in banking, electronics, food distribution, metallurgy, pharmaceuticals, textiles, transportation, and a public utility.

Continuous Training was the capstone of a decade of developing employment training policies. Industrialization of a predominantly agricultural society and rapid growth following the close of World War II increased the demand for skilled workers and created new occupational requirements. A significant aspect of the origin of *Formation Continue* is that its enactment represented legislative ratification of prior agreements negotiated by industry and labor representatives. The accord set forth joint responsibilities for developing and participating in vocational training programs:[2]

- to permit each worker to increase his knowledge and skills in relation to his own aspirations and perspectives on employment;
- to give firms the incentive to develop training policies compatible with their needs and potentials; and
- to give labor organizations the possibility of contributing to the development and functioning of training institutions which fill individual and collective needs.

One of the primary purposes of *Formation Continue* was to make the highly structured, traditional educational system more flexible and more responsive to current demands. The consensus which supported *Formation Continue* was based on the perception that the traditional educational and training system was inadequate and that benefits of a better trained labor force for employers may also increase promotional opportunities.

In France, employment status in terms of skill level and compensation is directly related to the level of educational certification. A Certificate of Vocational Education, obtained after 1 year of study, permits access to unskilled jobs. Entry in skilled trades is secured through completion of a 3-year program which leads to the *Certificat d'Aptitude Professionnelle* (CAP) for each skilled occupation. A *Brevet Professionnel* (BP) is obtained with an additional 2 years of technical training.

Employers view much technical training as inadequate, irrelevant, and often producing graduates lacking even basic skills. The system of "conventions"—permitting employers to contract with public and private institutions—was to stimulate competition with the existing system. For many workers, the educational establishment was viewed as an entrenched elitist bureaucracy

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which had succeeded in limiting educational opportunities to the privileged few.

The role of employers

Employers, both in firms and in employer associations, play a leading role. Employers may fulfill their obligation in one or more of the following ways: they may organize training in the firm; finance training by contracting with an outside institution; contribute to a joint employer-union training fund; make payment to an approved training institution; or make payment to the Treasury.[3]

Within the firm, training policy is formulated by top-level management. Administrative responsibility in large firms rests with the training director, and in smaller firms with the personnel director. The training director is responsible for assuring training facilities and personnel either in the firms or in public or private institutions. He or she acts as mediator between top management and workers' representatives in development of training plans in plants with active Works Councils. Management draws up a training plan and budget which are submitted to Training Committees at the central office level and to Works Councils *(Comités d'Entreprise)* in plants and branch offices for comments from worker representatives. The training plan incorporates not only firm projection of manpower requirements over a 3- to 5-year period, but also individual requests for training.

Employer associations in leading industries have established new training centers. Efforts are made to obtain the participation of representatives of educational institutions, the employment service, vocational training centers, and unions. The role of the employer associations varies from region to region. In the North, they act as a clearinghouse of information on educational and training programs and promote the exchange of ideas and experiences. In an agricultural region undergoing rapid industrialization, the association established a training center offering more than 200 courses in many occupations at all levels.[4] Courses are also offered to the unemployed, particularly the young and women entering the labor market.

Role of the unions

Although generally supportive of *Formation Continue*, leading labor organizations expressed concern with the application of the law. One union argued for recognition of courses by diploma, in view of the significance of certification for skilled employment status. Other unions were greatly concerned that firms might provide merely narrow, specialized training, of benefit only to the firm, and pressed for general educational opportunities. Labor also remained on guard against misuse of the law leading to reduction in the time and scope of preemployment education, so recently enlarged.[5]

Among the firms in the study, the role of union representatives varied. In all firms, worker representatives obtained health and safety courses for the employee, urged extended opportunities for the least-skilled workers, women, immigrants, and those workers over age 45. In general, union representatives seek more promotional training as opposed to narrow, technical courses which tend to be firm-specific. However, in the accords on employment security and vocational training it was the Works Council and not the Union Section which was given a consultative role.[6]

Although all firms above a given size have been required to establish a Works Council since 1945, not all firms have complied. In some instances the role of the Works Council is limited, often confined to considering employee social benefits. The purpose of a July 1976 amendment to *Formation Continue* was to strengthen the consultative role of Works Councils. Protesting the lack of a right of appeal in case of disagreement with the Works Council, two unions would not sign the agreement preceding the 1976 amendment. One of the unions was a strong proponent for broadening individual rights to a training leave,[7] increasing worker participation in policymaking, and seeking greater responsiveness of public education authorities to locally expressed needs.[8] The active role of union representatives on Works Councils has supported increased opportunities for less advantaged workers.

Types of training offered

Formation Continue serves firms undergoing both expansion and contraction in employment. In firms with employment growth, increases in training facilitated adaptation of new employees and in firms with stable or declining employment, retraining for current employees. Retraining provided replacements for retiring supervisors, updated the skills of older employees, and developed new skills for new job positions.

Differing sharply in employment trends and in occupational composition, the transport and textile firms covered in this study demonstrate the significance of *Formation Continue* for labor force adjustments. In the transport firm, one-fifth are professional workers and more than one-half are skilled workers. In the textile firm, three-fourths of the work force are unskilled. Training of professionals in transport may require 700 hours per course, compared with 144-hour courses for skilled textile workers.

Data for the transport firm show shifts in training emphasis from long promotional courses to short technical training and increased employee participation from 1975 to 1976. (See table 1.) However, in 1976, hours per person for technicians, assistants, workers, and employees decreased, while hours for engineers, managers,

Table 1. Employee participation in training in a transport firm, by type of training, 1975–76

Type of training	Trainees		Hours of training		Distribution of hours		Hours per trainee	
	1975	1976	1975	1976	1975	1976	1975	1976
All training	251	529	16,088	18,875	100	100	64	36
General education	112	93	2,638	1,923	17	10	23	21
Relations in the firm	22	100	593	6,670	4	35	26	67
Technical training	98	324	3,329	8,862	20	47	33	27
Promotional training	19	12	9,528	1,420	59	8	501	118

and supervisors increased. (See table 2.)

Prior to *Formation Continue*, training in the textile firm was limited to on-the-job training. Job rotation occasionally led to promotion to plant director. In the textile firm, *Formation Continue* improves and maintains worker skill competence, facilitates adaptation to technological and technical changes in production, and provides promotional opportunities to younger workers. In all firms, personnel directors made clear there is no direct connection between training and promotions. However, in the textile firm, the director noted that the distinction is arbitrary because technical training not infrequently is followed by promotion.[9]

Training in the supermarket firm includes short, specialized courses for employees and somewhat longer technical training for supervisors and store managers. Short courses train personnel in every department: cheese-cutting, fresh produce, meats, and seafood. Subjects include "notions of quality in fresh fruits and vegetables," "display," and "specialty preparation," reflecting recognition of traditional values in modern methods of food distribution. Although training tends to be limited to the specialized courses, participating employees have benefited from the firm's internal promotion policies. Promotions occur from entry level to managerial positions. In 1975, 16 percent of management personnel were internally promoted.[10]

Within the firms, the extent of promotional training varies, not only with the proportion of professional and skilled personnel, but also with the training policy of the firm. The long 2- and 3-year courses leading to the CAP and BP degrees are most frequently observed in banking and in the public utility. Operating in the nationalized sector with a tradition of employment security, these firms have elaborate employee career development policies. In both industries, promotional training has been important in areas of technological and technical advance.

Technology changes occupational requirements. A major purpose in training was to adapt the work force to the impacts of both technological and technical change on occupational requirements. Technological change occurred, not only in the application of advanced knowledge to production processes, but also in what Edwin Mansfield has defined as:[11]

> . . . new methods of producing existing products, new designs which enable the production of products with important new characteristics and new techniques of organization and management.

In a country until only recently dominated by its agricultural sector and single proprietor shops, the growth of modern forms of mass distribution and financial services falls within the broader definition of technological change. Between 1963 and 1972, employment in agriculture declined from 19.5 to 12.9 percent of total employment, industrial employment remained stable at 40.3 percent, transport increased 5.8 to 6.1 percent, and the service sector increased dramatically from 30.3 to 40.7 percent.[12] The service sector created new occupations at all levels, from office and sales employees to professional administrators, managers, and technical experts. In industry, technical changes in equipment and materials, as well as technological change, affected skill requirements.

The role of mass distribution has increased significantly,[13] accompanied by "a profound change in the economic structure of the commercial apparatus, the objectives, the forms of organization and techniques utilized by the firms."[14] In a society accustomed to shopping daily for fresh produce, the introduction of frozen foods is a major technological change. Personnel must be trained in new methods of food preservation to guard against losses. Creation of numerous managerial positions in supermarkets required training for a full range of administrative responsibilities. General education, recommended for employees and supervisors as well, is viewed as a desirable and necessary complement to the specialized programs.

Technological and technical change affected occupational requirements in the metallurgical plant and the textile firm. Many phases of production are electronically controlled and monitored by computers, creating positions for computer programmers. Installation of automated equipment required retraining for electricians and related occupations in industrial design and electronics. Changes in materials brought technical

Table 2. Employee participation in training in a transport firm, by occupational level, 1975–76

Occupational level	Trainees		Hours of training		Distribution of hours		Hours per trainee	
	1975	1976	1975	1976	1975	1976	1975	1976
All occupations	251	529	16,088	18,875	100	100	64	36
Engineers and managers	29	29	800	935	5	5	27	32
Supervisors	31	67	805	3,458	5	18	25	52
Technicians and assistants	78	145	4,183	5,506	26	29	53	38
All other employees	113	288	10,300	8,976	64	48	91	31

change: stainless steel in metallurgy and synthetic materials in textiles.

Reorganization and increased firm size have increased administrative responsibility, requiring technical training for managers, particularly in personnel. In the metallurgical plant, automation and technical change have increased productivity substantially. In metallurgy, most training has served to update the skills of older workers. A few workers have been retrained to fill new positions, such as computer programmer. In the textile firm the purpose of technical training is to develop versatile workers with all-around skills.

Worker experience

Characteristics of worker group. The worker group interviewed in 1976 and again in 1977, was diverse with respect to age, sex, industrial sector, and occupational level. About one-half were production workers, the remaining were employees in service sector industries. Thirty-three were under 35 years of age, and the same number were male. Those interviewed tended to have attained educational levels higher than that of their parents. Whereas 11 had parents who had received no diploma, only 4 workers had not obtained any diploma. Ten workers had received the Baccalaureat, the French prerequisite for university admission, compared with only 4 of the parents. Production workers were interviewed in metallurgical, textile, and pharmaceutical plants; service sector workers were in banking and supermarket firms.

Worker responses. Workers responded to a questionnaire to give their reasons for taking courses and to evaluate the results. One-third responded that their goal was improved professional qualifications. Although some had a particular position in mind, most viewed the course taken as a step toward future improved occupational opportunities. Ten percent sought to improve current skills; another 10 percent wanted to improve their general background. Seven specified "a better job;" four expressed interest in new jobs in the firm. Less than half stated that they took the course at the suggestion of supervisors. However, only eight indicated they had requested the course on their own initiative. Individual requests were most common in banking where the CAP is required for all new employees, and additional requests are made to complete the program in the second year.

Other workers referred to "improved ability to understand the effects of technological changes in process or equipment on their work," and "improved sense of relationship, both in terms of human relations and firm operations as a whole."

A few workers were less than enthusiastic. Two older textile workers claimed technical training added little to their background. A supervisor expressed preference for the greater thoroughness of apprenticeship training. Workers interested in training unrelated to their jobs or the firm resented informational courses. In general, however, workers expressed improved job satisfaction. A newly promoted bank employee said, "I feel more at ease in my new position." Greatest satisfaction occurred where promotion followed. Worker interest in general education had two objectives, personal and cultural environment and improved vocational background. Women were more likely than men to express these interests. However, scheduling of most general education after work, often in locations remote from worker residences, restricts participation.

Improvements in occupational status. Despite the fact that management emphasized that there is no automatic connection between training and promotion, most workers undertook *Formation Continue* in the hopes of improved job opportunities. Consequently, younger workers and skilled and professional workers tended to have greater rates of participation.

For 32 percent of the group (16 workers), *Formation Continue* was followed by promotion. Promotion involved jobs with more responsibility, increases in salary, and in the case of four production workers, improved professional rank. Of the 17 women, 4 were promoted, compared with 12 of the 33 men. Among production workers, promotions occurred in stable and declining industries to replace retiring personnel. Promotions may well be related to educational attainment: 7 of the 16 workers had primary diplomas, the remaining, the CAP or the Baccalaureat. The predominance of promotion among more educated employees is not surprising. Employers are traditionally more interested in educating employees with prior training, because of higher payoff probabilities in increased productivity. Educated workers tend to have more of a "taste for education" and are more likely to seek it out. It is important to note, however, that promotions were not confined to the more educated workers. *Formation Continue* has created possibilities formerly limited to upper level employees in a few firms.

Between 1972 and 1977, national trends in worker participation in firms' training show a 69-percent increase, from 1,050,000 to 1,774,000 workers.[15] Average length of program diminished from 74 to 57 hours per trainee.[16] In 1977, the number of courses exceeded the number of trainees by 293,000, supporting the evidence noted in all firms that many participants have taken more than one course.

By occupational level, there has been a slight decrease in participation in training opportunities by professionals and managers, the supervisory group, and to a lesser extent, by unskilled workers during the 1972–77 period.

In 1977, participation by occupational level was as follows: unskilled, 15.8 percent; skilled, 45.7; supervisors, 23.6; and engineers and managers, 14.9 percent.[17] Skilled workers and employees with a high school diploma or equivalent increased their participation almost 10 percent since 1972. The preponderance of skilled worker and employee participants is directly related to the high proportion of technical training programs.

Extent of training opportunities. Changes in the extent of training opportunities with the inception of *Formation Continue* may be measured in terms of firm participation, the role of employer associations, and worker participation. From 1972 to 1974–75, the numbers of participating firms and trainees increased. Since 1974, there has been a slight decline. (See table 3.)

Small and medium-size employers, many for the first time, are training employees in public or employer-established training centers. Since 1972, smaller firms have increased participation in terms of percent of payroll expended, but have not yet reached the 1 percent level, due in part to the greater difficulty of scheduling training leaves and to fewer promotional opportunities.

Examining changes in training categories assists in evaluating training opportunities. National data show slight shifts in emphasis. Technical training remains most significant, increasing from 72 to 75 percent of the total from 1972 to 1977. The role of long, promotional programs show little change, varying only from 12 to 11 percent. Retraining to prevent unemployment increased from 1 to 3 percent.[18]

Another measure of training opportunities is the extent of individual training leave requests. Although in some firms directors had noted a slight increase, as borne out by worker interviews, national data indicate requests diminished to 3 percent of the total number of trainees in 1977.[19] The decline is attributed to the stringency of legal requirements, such as the maximum number of employees permitted simultaneous leave in an enterprise. Because worker motivation is, in part, due to perceptions of promotion opportunities, the decline in employment, particularly in some industries, may be a factor.

The effect of the payroll tax

An important aspect of *Formation Continue* is the universality of the payroll tax. All employers share some burden and incentive in the creation of training facilities. Underinvestment in training by firms occurs where the training decision rests solely with the individual firm. Employers are aware that the workers they train may well seek opportunities elsewhere. As one personnel director commented:[20]

> "Yes, it is true we do occasionally lose workers we have trained. However, we do not view that as a loss. First, the very next day it is quite probable that a similarly trained worker from another firm may walk in the door. And, secondly, we believe that the general increase in productivity resulting from *Formation Continue* benefits all firms, and therefore society as a whole."

Table 3. Number of participating firms and trainees, selected years, 1972–77

[Number in thousands]

Year	Number of firms	Number employed	Trainees	
			Number	As a percent of total employed
1972	113	9,760	1,050	10.7
1974	121	10,470	1,790	17.1
1975	123	10,440	1,840	17.6
1977	121	10,079	1,774	17.6

SOURCE: *Projet de Loi de Finances pour 1979,* Formation Professionnelle et Promotion Sociale, p. 40.

Employer support of *Formation Continue* derives, not only from increased ability to shape training to suit firm requirements, but to profit from the general increase in skills of a larger trained labor force.

Robert Gordon has pointed out that wages tend to rise particularly rapidly, as well as prices, in sectors experiencing labor shortages, and tend to spill over into sectors in which unemployment exceeds vacancies.[21] By maintaining training facilities throughout cyclical changes, a payroll training tax system, together with other manpower policies, may assist in reducing inflationary pressures.

Formation Continue helps compensate for employee underinvestment in training.[22] Workers taking courses during work receive their normal salary. The long promotional courses are taken, in part, during work time.

THE APPLICATION OF *Formation Continue* in connection with firm redesign of jobs, and with the application of technological changes in production, suggests a fruitful area for future research. There is a complex interaction between work reorganization, technological change, job content and training. The role of unions in assuring worker benefits with the application of training in work reorganization will be important to observe. Study of the operation of *Formation Continue* indicates that active worker representation in development of training plans is essential to guarantee benefits to the least advantaged workers under a system in which employers play the leading role. ☐

FOOTNOTES

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with translations. The author accepts full responsibility for the conclusions.

[1] Liaisons Sociales, *Formation Professionnelle Continue*, December 1972.

[2] *Ibid.*

[3] *Ibid.*

[4] Institut de Formation Continue d'Indre-et-Loire, *Reports of annual meetings of General Assembly 1975–78.*

[5] Commission Confédérale, Confédération Générale du Travail, "Emploi, Formation et Perfectionnement Professionnels," *Un Tremplin Pour Nos Luttes* ("Employment, Vocational Education and Training," *A Platform for our Struggle*), August 1972, pp. 86–88. See also Confédération Democratique du Travail (CFDT), "Les positions en matière de formation professionnelle et de l'éducation permanente" ("The positions of the CFDT concerning vocational training and continuing education"), Numéro spécial, Septembre–Octobre, 1972, p. 3.

[6] Jean-Daniel Reynaud, "France: Elitist Society Inhibits Articulated Bargaining," in Solomon Barkin ed., *Worker Militancy and its Consequences, 1965–1975* (New York, Praeger Publishers, 1975), p. 307.

[7] Joseph Jacob and Raymond Lebescond, "Pourquoi la CFDT n'a pas signé l'avenant du 9 juillet 1976 à l'accord interprofessionnel du 9 juillet 1970" ("Why the CFDT did not sign the amendment to the July 1970 joint agreement"), *Droit Social*, Fevrier 1977, pp. 53–55.

[8] *Projet de Loi de Finances Pour 1979*, pp. 8–9.

[9] Interviews with personnel director of textile firm, 1976 and 1977.

[10] Company report, 1976.

[11] Edwin Mansfield, *The Economics of Technological Change* (New York, Norton and Co. 1968), pp. 10–11.

[12] La documentation francaise, *Profil Economique de la France, structures et tendances*, Paris 1975, p. 38.

[13] *Profil Economique*, p. 180.

[14] l'Union Interprofessionnelle Patronale d'Indre-et-Loire, *Trouver un Emploi en Touraine*, 1975.

[15] *Projet de Loi de Finances pour 1979*, p. 40.

[16] *Ibid., pour* 1976, p. 38. *Ibid., pour* 1979, pp. 42–43.

[17] *Ibid., pour 1976* p. 14 and *pour 1979*, p. 44.

[18] *Ibid., pour 1979*, p. 43.

[19] *Ibid.*, p. 8.

[20] Interview with personnel director in metallurgical plant, 1976.

[21] Robert A. Gordon, "Some Macroeconomic Aspects of Manpower Policy" in Lloyd Ulman ed., *Manpower Programs in the Policy Mix* (Baltimore, Md., Johns Hopkins University Press, 1973), p. 22.

[22] Lester Thurow, *Investment in Human Capital*, (Belmont, Calif., Wadsworth Publishing Company, 1970), pp. 77–79.

Cost-of-living indexes for Americans living abroad

The U.S. Department of State has prepared new indexes of living costs abroad for Americans in Buenos Aires and London. The new index for Buenos Aires is 7 percent higher than the previous index and for London 6 percent higher. (See table 1.) The periods between survey dates are 3 months for Buenos Aires and 6 months for London.

For Americans in Buenos Aires, average prices of goods and services were up 20 percent more than in Washington, D.C., between survey dates, but the peso depreciated 11 percent against the dollar and offset most of the relative price rise. The new index for London reflects primarily the British rise in living costs, including the July 1979 value-added tax increase; the British pound appreciated slightly relative to the U.S. dollar over the 6 months.

Because exchange rates are subject to sudden shifts, it is advisable to check the prevailing rates whenever using the indexes of living costs abroad. The indexes for these and all other reporting cities are published in quarterly reports entitled *U.S. Department of State Indexes of Living Costs Abroad and Quarters Allowances*, available on request from the Office of Publications, Bureau of Labor Statistics.

Table 1. Indexes of living costs abroad, excluding housing and education, February 1980

[Washington, D.C. = 100]

Country and city	Survey date	Monetary unit	Rate of exchange per US $1	Local index
Argentina: Buenos Aires	Oct. 1979	Peso	1483	142
Australia: Canberra	Apr. 1979	Dollar	0.8751	121
Belgium: Brussels	Mar. 1979	Franc	30.0	158
Brazil: Sao Paulo	Apr. 1979	Cruzeiro	23.0	115
Canada: Ottawa	Dec. 1978	Dollar	1.17	99
France: Paris	Mar. 1979	Franc	4.32	166
Germany: Frankfurt	Mar. 1979	Mark	1.87	164
Hong Kong: Hong Kong	May 1979	Dollar	5.08	112
India: New Delhi	July 1979	Rupee	8.11	93
Italy: Rome	Oct. 1978	Lira	840	114
Japan: Tokyo	Mar. 1979	Yen	212	183
Mexico: Mexico, D.F.	Feb. 1977	Peso	22.0	78
Netherlands: The Hague	Feb. 1979	Guilder	2.06	154
Philippines: Manila	Jan. 1979	Peso	7.38	89
South Africa: Johannesburg	Dec. 1977	Rand	0.8697	91
Spain: Madrid	Dec. 1978	Peseta	69.0	120
Sweden: Stockholm	June 1979	Krona	4.24	173
Switzerland: Geneva	May 1979	Franc	1.65	184
United Kingdom: London	July 1979	Pound	0.4757	130
Venezuela: Caracas	Aug. 1978	Bolivar	4.28	140

SOURCE: U.S. Department of State, Allowances Staff.

Significant Decisions In Labor Cases

Substance of seniority

In its 1977 *Teamsters* decision,[1] the Supreme Court approved a two-track seniority system for overland and city truck drivers. A move from one classification to the other left the worker at the bottom of the unit's seniority ladder. The Court ruled that such a plan was immune from the antidiscrimination provisions of Title VII of the 1964 Civil Rights Act, even though it may lock in the effects of pre-act discrimination. Thus, *Teamsters* identified the congressional intent not to disturb existing "bona fide" seniority systems, while it instantly created a slew of questions about the legitimate content of such plans.

Acknowledging the need for some judicial guidance, the Supreme Court took the opportunity recently presented by *California Brewers Assn.*[2] to set broad guidelines defining the characteristics of seniority systems, based on their nature and purpose. As a result, the Court ruled that entry to a preferred-benefit track can be limited to those who have held their jobs for at least 45 weeks in a calendar year. Such a rule operates on the commonly accepted basis of seniority—employment longevity—the Court reasoned, even if it may not always operate consistently with an employee's cumulative length of service.

Building on *Webster's* definition of "seniority," Justice Potter Stewart's majority opinion concluded that the seniority systems Congress meant to exempt from the normal operation of Title VII also could include rules not based on the time spent in employment:

> . . . In order for any seniority system to operate at all, it has to contain ancillary rules that accomplish certain necessary functions, but which may not themselves be directly related to length of employment. For instance, every seniority system must include rules that delineate how and when the seniority time clock begins ticking, as well as rules that specify how and when a particular person's seniority may be forfeited . . . rules that define which passages of time will "count" towards the accrual of seniority . . . [and] rules that particularize the types of employment conditions . . . governed by seniority . . .

The multi-employer collective bargaining agreement covering workers in most California breweries establishes several classes of employees, each with specific rights as to hiring and layoffs. "Temporary" employees are those who have worked at least 60 days in the preceding calendar year. "Permanent" employees, those who have completed 45 weeks of employment in one classification during a calendar year, are laid off last (in reverse order of group seniority) and maintain priority status in rehiring for up to 2 years.

Black workers alleged that the 45-week rule for achieving permanent status was actually a classification device resulting in a discriminatory impact on black workers, in violation of Title VII. The fact that a black worker had never achieved permanent-employee status was submitted as evidence of the disparate impact. Because it found the 45-week rule to be an arbitrary classification device, the Ninth Circuit Court of Appeals ruled that such rules could not be part of a seniority system exempted from Title VII.

In overruling the appeals court, the Supreme Court not only outlined the scope of possible provisions in seniority systems, but it stressed the freedom of parties to collective bargaining agreements to shape such provisions. However, Stewart also issued a mild warning that only rules comforming to "commonly accepted notions concerning the acceptable contours of a seniority system" would be permitted. As some general guidelines, he indicated that an educational standard, an aptitude or physical test, "or a standard that gives effect to subjectivity" would be impermissible seniority system rules under Title VII.

It is interesting that Stewart referred to last year's *Weber* ruling[3] (permitting voluntary union/employer affirmative action programs) to endorse the Court's emphasis on the freedoms available under collective bargaining. Although such a position has been a feature of court decisions under the National Labor Relations Act, *Weber's* extension of it to Title VII may continue to provide additional influences other than on affirmative action programs.

Even though the Court has sanctioned a broad array of negotiated seniority system rules, aggrieved workers will still remain free to show that such rules were not established in good faith (and, therefore, not entitled to the exemption for "bona fide" plans under Title VII) or that the *operation* of such rules has produced differences

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in employment conditions resulting from an intention to discriminate. Thus, California's black brewery workers will have an opportunity to show any discriminatory aspects of the 45-week rule or other seniority system rules on remand in district court.

Deflating damage awards

The Supreme Court recently entered into the inflation-fighting business by seeking to limit high damage awards by juries under the Federal Employer's Liability Act. The Court sided with a vanguard of lower courts by ruling that employers could calculate and present to the jury the *after-tax* future earnings of a victim. Until now, standard practice was to assume that the prediction of a deceased or injured wage earner's tax burden was too speculative and complex for jury deliberations. Writing for the Court, however, Justice John Paul Stevens reasoned that all the other variables involved in calculating lost future income—continuity of employment and health and the estimation of future expenditures, interest rates, and inflation—are equally complex. He also noted that juries are "increasingly familiar with the complexities of modern life." In addition, the 7-to-2 majority found that it was wrong for a judge to refuse to instruct a jury that any award of damages under the law would not be subject to income tax. Despite the clarity of the law on this point, the Court reasoned that the jurors may inadvertently provide a larger sum by considering the imaginary tax consequences. *(Norfolk and Western Railway Co.*[4])

In the present wrongful-death case, the jury awarded the survivors of a railroad fireman killed in a collision caused by the employer's negligence $775,000. The survivors had only claimed a loss of future gross income of $302,000, while the employer claimed that, on an after-tax basis, the deceased's future earning amounted to $138,327 when discounted to the present. The counsel for the survivors attributed the higher jury award to the pecuniary value of the "guidance, instruction, and training that the decedent would have provided to his children." The employer claimed that the difference resulted from the jurors' mistaken impression that the award was taxable and their use of gross income as the measure of loss instead of after-tax income—the "actual" loss to the dependents of the deceased.

Justice Harry Blackmun, joined by Justice Thurgood Marshall, wrote a vigorous dissent to the majority's concern over the "inadvertent" escalation of such damage awards. He argued that the effect of an income tax is only relevant to the recipient of income. To permit the employer to reduce its payment burden to an after-tax basis creates an important benefit for the defendant in such cases, Blackmun charged. Instead of intending to permit such a windfall for the guilty party, Congress probably intended to provide an additional benefit to the victim of a tort or simply sought to avoid the administrative burden associated with collecting taxes on such awards, he wrote.

Blackmun also dissented from the Court's finding that the jury must be instructed, at the defendant's request, that the damage award is not taxable. Terming it "an admonition to the jury not to misbehave," he reasoned that such instruction could easily lead to a barrage of unnecessary and confusing comments on what and what not to consider.

Paid enforcement

Even though the penalties assessed by the Department of Labor for violations of child labor laws can be used to help defray the cost of enforcing the law, such a practice does not violate constitutional due process requirements, the Supreme Court recently ruled. The Court has ruled in earlier cases that the Constitution prohibits the adjudication of either criminal or civil cases by a decisionmaker who stands to gain based on the outcome of the decision.[5] However, in *Marshall v. Jerrico, Inc.*[6] the Court found that persons charged with enforcing the child labor laws by assessing penalties for violations act more clearly in a prosecutorial manner rather than as final decisionmakers. As a result, the Court reasoned that the relationship between the assessment of fines and their eventual allocation as part of the operating budget is so "remote and insubstantial" that those who assess penalties stand no realistic chance of gaining from the arrangement.

Writing for a unanimous Court, Justice Thurgood Marshall illustrated that an employer assessed a penalty by the Secretary of Labor for a violation of the child labor laws may file for a *de novo* review of such a determination by an administrative law judge within 15 days of receiving notice. The administrative law judge may affirm, in whole or in part, the Secretary's determination or may find that no violation occurred.

In such a review process, those who have assessed a penalty must bear the burden of proof on contested issues; thus, they clearly become the prosecutors, with an impartial third party[7] adjudicating the issue.

Marshall also recognized that, as public officials, prosecutors can be motivated by some of the same improper factors that threaten due process when they affect judicial and quasi-judicial decisionmakers. The Court made clear that it will not apply the same standard for judges as for prosecutors; but Marshall left to another day any determination as to what limits there may be on a financial or personal interest of one who performs a prosecutorial function. He refused to consider such issues in this case because the alleged source of bias is "exceptionally remote." Government workers involved have fixed salaries and could not gain financially; total penalties collected have been a tiny portion of the overall budget; distribution is determined by the national office, not the prosecutors in the field; and such monies are proportioned based on expenses incurred in prosecuting, not on penalties assessed. All of these facts persuaded the Court that such a scheme does not violate the Due Process Clause of the Fifth Amendment to the Constitution.

Legitimacy through living together

Illegitimate children have generally gained access to Federal benefits available to other children if they can demonstrate some relationship with their parents. The Supreme Court has facilitated such benefit equality by striking down dependency restrictions only for illegitimates as unconstitutional—in violation of equal protection guarantees. In a recent case, the Court removed an arbitrary barrier to the distribution of benefits to the illegitimate survivors of Federal Civil Service employees. However, the Court's decision involved a careful interpretation of the underlying statute, without reaching the constitutional issue as had the lower court. A 7-to-2 majority ruled that the requirement that "recognized natural" children "lived with" their parents to be eligible for a survivor's annuity means only that they must have *once* lived in a normal parent-child relationship—not necessarily at the time of the worker's death. (*United States v. Clark.*[8])

Because a solution involving statutory construction is viewed by the Court as preferable to one reaching constitutional dimensions, the majority reviewed the legislative history of the Civil Service Retirement Act to test whether a more liberal interpretation of the "lived with" requirement might interfere with congressional intent.

Writing for the Court, Justice Thurgood Marshall found that earlier versions of the law contained a provision requiring proof of dependency in addition to specifying living arrangements. In 1966, Congress deleted the dependency requirement in order to ensure recovery for the children of female civil servants, who typically earned less than their husbands and accordingly contributed less than the amount (50 percent) required for proof of dependency. Based on the legislative record, Marshall concluded that Congress did not intend to let the "lived with" provision which remained in the law carry the function of the deleted dependency criterion. To view it as such, he wrote, would raise constitutional questions because legitimate and adopted children are not required to show any dependency. Thus, Marshall was able to conclude that the "lived with" provision is satisfied when the recognized natural child has lived with the deceased employee in a regular parent-child relationship, regardless of whether such an arrangement existed at the time of the employee's death. Although not an explicit dependency requirement (which would raise constitutional issues), the "lived with" provision establishes some basis for the economic support intended to flow to the dependent survivors of a Federal worker. ☐

FOOTNOTES

[1] *Teamsters v. United States,* 431 U.S. 324 (1977), see *Monthly Labor Review,* August 1977, pp. 48–49, and January 1978, pp. 12–17.

[2] *California Brewers Assn. v. Bryant,* 48 U.S.L.W. 4156 (U.S., Feb. 20, 1980).

[3] *Steelworkers v. Weber,* 47 U.S.L.W. 4851 (U.S., June 27, 1979), see *Monthly Labor Review,* August 1979, pp. 56–57, and January 1980, pp. 14–21.

[4] *Norfolk and Western Railway Co. v. Liepelt,* 48 U.S.L.W. 4132 (U.S., Feb. 19, 1980).

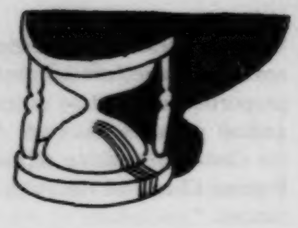
[5] See *Tumey v. Ohio,* 273 U.S. 510 (1927), where the Court reversed convictions rendered by a mayor of a town when the mayor's salary was paid in part by fees and costs levied by him acting in a judicial capacity; and *Ward v. Village of Monroeville,* 409 U.S. 57 (1972), invalidating a procedure by which sums produced from a mayor's court accounted for a substantial portion of municipal revenues, even though the mayor's salary was not augmented by such sums.

[6] *Marshall v. Jerrico, Inc.,* 48 U.S.L.W. 4485 (U.S., Apr. 28, 1980).

[7] The Office of Administrative Law Judges at the Department of Labor is not entitled to any reimbursement under the provisions challenged in this case, the Court noted, because any "supervision" of the procedures of the operating divisions (such as child labor law enforcement) is expressly forbidden by the Administrative Procedures Act.

[8] *United States v. Clark,* 48 U.S.L.W. 4195 (U.S., Feb. 26, 1980).

Major Agreements Expiring Next Month



This list of collective bargaining agreements expiring in July is based on contracts on file in the Bureau's Office of Wages and Industrial Relations. The list includes agreements covering 1,000 workers or more.

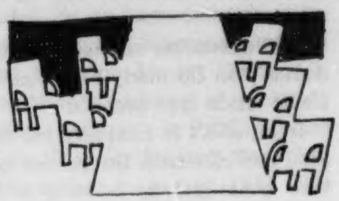
Employer and location	Industry	Union[1]	Number of workers
ACF Industries, Inc., Carter Carburetor Division (St. Louis, Mo.)	Machinery	Auto Workers (Ind.)	1,500
American Metal Climax, Inc., Climax Molybdenum Co. Division (Climax, Colo.)	Mining	Oil, Chemical and Atomic Workers	2,100
Arizona Steel Field Erectors Association (Phoenix, Arix.)	Construction	Iron Workers	1,300
Armco Steel Corp., 2 Agreements (Pennsylvania & Ohio)	Primary metals	Butler Armco Independent Union; and Armco Employees Independent Federation, Inc. (Ind.)	8,500
Associated General Contractors of St. Louis & 2 others (Missouri)	Construction	Iron Workers	1,600
Associated Guard and Patrol Agencies (Chicago, Ill.)	Services	Service Employees	5,000
Association of Master Painters and Decorators of New York City, Inc. (New York, N.Y.)	Construction	Painters	5,000
Association of Motion Pictures and Television Producers, Inc. (Interstate):			
Technicians Basic Agreement	Amusements	Theatrical Stage Employees	21,000
Television Film Agreement	Amusements	Musicians	2,000
Theatrical Motion Picture Agreement	Amusements	Actors	8,500
Theatrical Motion Picture Agreement	Amusements	Musicians	1,500
Automotive Repair Industry (California)[2]	Services	Machinists	1,000
Bowaters Southern Paper Corp. (Calhoun, Tenn.)	Paper	Paperworkers; and Electrical Workers (IBEW)	1,000
Briggs & Stratton Corp. (Milwaukee, Wis.)	Machinery	Allied Industrial Workers	8,000
Brooklyn Union Gas Co. (New York, N.Y.)	Utilities	Transport Workers	2,300
Columbus & Southern Ohio Electric Co. (Ohio)	Utilities	Electrical Workers (IBEW)	1,350
E. J. Brach & Sons, Inc. (Chicago, Ill.)	Food Products	Teamsters (Ind.)	3,000
Firestone Tire & Rubber Co., Firestone Steel Products Co. Division (Wyandotte, Mich.)	Transportation equipment	Auto Workers (Ind.)	1,050
Floor Covering Association of Southern California, Inc. and 3 others (California)	Construction	Painters	1,600
FMC Corp., Northern Ordnance Division (Fridley, Minn.)	Fabricated metal products	Auto Workers (Ind.)	2,500
Hercules Inc. (Coverington, Va.)	Chemicals	Paperworkers	1,050
Kimberly-Clark Corp. (Memphis, Tenn.)	Paper	Paperworkers	1,100
Leeds & Northrup Co. (North Wales, Pa.)	Instruments	Auto Workers (Ind.)	2,200
Mirro Aluminum Co. (Manitowoc and Two Rivers, Wis.)	Fabricated metal products	Steelworkers	1,800
Non-Registered Drug & General Merchandise Agreement (Portland, Oreg.)[2]	Retail trade	Food and Commercial Workers	2,200
Pan American, Ground Service (Interstate)[3]	Air transportation	Transport Workers	5,850
Restaurant and Tavern Employers (Tacoma, Wash.)[2]	Restaurants	Hotel and Restaurant Employees	2,000
Safeway Stores, Inc. (Interstate)	Retail trade	Teamsters (Ind.)	2,300
Sealed Power Corp. (Muskegon, Mich.)	Machinery	Auto Workers	1,000
Southern Florida Hotel and Motel Association (Miami Beach, Fla.)	Hotels	Hotel and Restaurant Employees	3,000
Teledyne Wah Chang Albany (Oregon)	Primary metals	Steelworkers	1,200
Todd Pacific Shipyards Corp., Los Angeles Division (California)	Transportation equipment	Marine and Shipbuilding Workers	2,500
Weyerhaeuser Co. (Plymouth, N.C.)	Paper	Paperworkers; and Operating Engineers	1,600
White Pine Copper Co. (White Pine, Mich.)	Mining	Steelworkers	1,000
Winery Employers Association (California)	Food products	Distillery Workers	5,000

[1] Affiliated with AFL-CIO except where noted as independent (Ind.).

[2] Industry area (group of companies signing same contract).

[3] Information is from newspaper reports.

Developments in Industrial Relations



Steel contracts feature pension increases

Operating under the bargaining procedures and deadlines of the Experimental Negotiating Agreement, nine Coordinating Committee Steel Companies and the United Steelworkers union negotiated a new contract. An impasse continuing beyond the April 15 deadline for a settlement would have meant that the unresolved issues would have been submitted to binding arbitration, as required by the negotiating agreement. Discussions were continuing on whether to extend the Experimental Negotiation Agreement to govern the 1983 talks.

The union had stressed that its major concern was winning pension increases for present retirees to help them counter the erosion of their income that had resulted from inflation. In fact, the union waived the May wage escalator adjustment for employees to help the companies meet the cost of the benefit improvements for present retirees. The 33-cent increase would have been the last scheduled quarterly escalator adjustment under the 1977 contract.

The new pension formula for current retirees provides for a two-stage increase, ranging from 70 percent for employees who retired prior to July 31, 1966, to 10 percent for those who retired during July 31, 1977–July 30, 1980. The increases are subject to a $25-a-month minimum and a $250-a-month maximum and, according to the union, will average $182 a month for retirees in the earliest category and $52 for those in the later category. Spouses of deceased retirees also received benefit increases.

There also were several improvements in pensions for employees retiring after July 31, 1980. One was a new minimum formula which provides for a three-step increase in the monthly pension rates. (Employees are eligible for a pension under an alternate percentage formula if it amounts to more than that under the minimum benefit formula.) The August 1, 1982, final-step rates are $17.50 for each of the first 15 years of service, plus $19 for each of the next 15 years, and an additional $20.50 for each year in excess of 30. Under the 1977 contract, the corresponding rates were $13.50, $15, and $16.50.

The settlement provided for a May 1, 1980, wage increase of 25 cents an hour plus a 1-cent increase in the increment between the 33 job grades. The resulting overall range was 25 cents for employees in the lowest grade to 57 cents for those in the highest. The accord also provides for a 20-cent increase on August 1, 1981, 15 cents on August 1, 1982, plus 1-cent increment increases on both dates, bringing the ranges to 20 to 52 cents and 15 to 47 cents. The three increases will be larger for the 85 percent of the employees who are covered by incentive plans, because the increases will be added to their incentive calculation rates, rather than being paid as a flat add-on for each hour worked. In conjunction with this provision, the "earnings opportunity" for iron ore miners was increased to 123 percent of incentive calculation rates, from 115 percent. Shift differentials were increased to 30 cents an hour (formerly 20) for the second shift and to 45 cents (formerly 30) for the third.

In addition to a guaranteed 3-percent wage increase each year, the Experimental Negotiating Agreement guaranteed continuation of the cost-of-living wage escalator clause. As before, employees will receive quarterly adjustments (beginning August 1, 1980) of 1 cent an hour for each 0.3-point movement in the BLS Consumer Price Index (1967=100) for Urban Wage Earners and Clerical Workers. Under the prior contract, adjustments from August 1977 through February 1980 had totaled $1.73. The Experimental Negotiating Agreement also guaranteed a $150 bonus for all employees on the payroll on August 1, 1980, in return for the assurance that there would be no 1980 strike over economic issues.

Improvements in insurance benefits included a $4,500 increase in life coverage, bringing the range to $14,500 to $17,000, and a $500 increase for employees retiring after July 1, 1982, bringing their benefit to $3,500. Sickness and accident benefits, which had ranged from $153 to $211 a week, were increased, in steps, to a $211–$276 range on August 1, 1982. There were a number of changes in health insurance, including a provision for up to 365 days of full coverage in a skilled nursing home (the previous coverage was usually only 80 percent of the cost); a new home health care benefit;

"Developments in Industrial Relations" is prepared by George Ruben and other members of the staff of the Division of Trends in Employee Compensation, Bureau of Labor Statistics, and is largely based on information from secondary sources.

$1,000 maximum annual coverage per person under the dental plan (formerly $750); and increases in the schedule of vision care benefits.

In an effort to minimize the duration and cost of hospital confinements, the parties agreed to a utilization review procedure to be used in conjunction with those hospitals that have such programs.

Other economic provisions included:

- A new $40 safety shoe allowance, payable twice during the contract term.
- A $55-a-week increase in maximum Supplemental Unemployment Benefits for weeks when a laid-off worker is receiving State unemployment compensation and a $65-increase for other weeks, bringing the maximums to $180 and $235.
- An additional week of extended vacation for those employees in the top half of the seniority roster who have 25 years of service and for all employees in the bottom half of the roster (extended vacations are taken every 5 years). Previously, all employees in the top half received 13 weeks (including their regular annual vacation for that year) and those in the lower half received 3 weeks plus their regular vacation for that year.

Recent shutdowns of some operations led to a contract provision requiring the companies to give at least 90 days' notice of planned closings. During the notice period, the parties will discuss the shutdown, after which the company will formally announce its decision to the union.

The employers' demand for the separation of steel fabricating, steel warehousing and other "List 3" operations from steel producing units for bargaining purposes will be analyzed in joint discussions to be concluded by August 1, 1981. The companies had generally contended that competitive reasons required that "List 3" employees be placed on lower pay scales than other employees.

The Council on Wage and Price Stability approved the pay package, saying that it will raise worker compensation by 24.7 percent over 3 years, or 7.65 percent a year, compounded. The council noted that this was "near the bottom end" of the 7.5–9.5 percent guideline for the second year of the anti-inflation program. A council official said the package cost calculations were made by excluding the cost of the pension improvements for the present retirees and assuming that the annual inflation rate will be 7.5 percent.

The nine companies that settled on economic provisions for their 290,000 workers represented by the Steelworkers are United States Steel Corp.; Bethlehem Steel Corp.; Republic Steel Corp.; National Steel Corp.; Jones & Laughlin Steel Corp.; Armco, Inc.; Inland Steel Co.; Wheeling-Pittsburgh Steel Corp.; and Allegheny Ludlum Industries, Inc. Bargaining was continuing on local issues and there was the possibility of strikes at some locations. The Experimental Negotiating Agreement permits strikes over local issues, if they are authorized by the Steelworkers' president.

Bargaining on economic terms was continuing for 160,000 employees of smaller steel companies that generally follow the pattern of the accords negotiated by the nine companies. Based on past developments, the steel contracts are expected to influence coming settlements in the container, aluminum, and copper industries.

Initial contract for steelworkers at Newport News

The Steelworkers' 2-1/2 years organizing campaign at the Newport News Shipbuilding and Drydock Corp. culminated in an initial 43-month contract that provides for general wage increases and improved supplementary benefits.

According to the Steelworkers, the settlement closes one of the "stormiest organizing campaigns in the history of the South." The union said that its new local 8888 at the yard is its second largest in the country and largest in the South. Newport News Shipbuilding is the Nation's largest private shipbuilder.

The first major development in the campaign occurred in January 1978, when the Steelworkers apparently defeated the incumbent Peninsula Shipbuilders Association in a National Labor Relations Board representation election. However, the company filed charges of election "irregularities" with the NLRB and refused to bargain with the union. The Board ruled against Newport News Shipbuilding, but there was a series of appeals within the Federal district courts. In an attempt to force the shipyard to begin bargaining, the Steelworkers struck, beginning in January 1979, but suspended the strike in April of that year. After the Fourth U.S. Circuit Court of Appeals upheld the NLRB's certification of the election results, the company recognized the union as bargaining agent for the 15,500 production, maintenance, technical, and clerical workers and the parties started bargaining.

For production and maintenance workers, the accord provided for a wage increase ranging from 80 cents an hour for helpers and handymen to $1 for specialists and mechanics. Prior to this increase, rates ranged from $3.64 to $8.20 an hour, with most workers earning $4.55 to $7.61. The 235 technical employees received the same initial increase, while the 750 clerical employees received a 10.5-percent increase. Future increases for all employees are 55 cents an hour on August 1, 1981, 50 cents on October 1, 1982, and 10 cents "cost-of-living" increases—not contingent on the movement of a Consumer Price Index—on March 1, 1982, and April

1, 1983. According to the union, more than 90 percent of the employees received or will receive additional pay increases as a result of job upgradings and the adoption of automatic wage progression schedules.

The monthly pension amount for each year of service from July 1, 1969, to December 31, 1977, was increased to $12 for employees retiring on or after April 1, 1980, and to $14 for those retiring on or after October 1, 1982. The previous monthly pension rates were 0.1 percent of average annual earnings for each year of service from July 1, 1969, to December 31, 1974, plus $11 for each year from January 1, 1975, to December 31, 1977. There was no change in the $14 rate for service after December 31, 1977. A new disability pension provision for 15-year employees provides for lifetime benefits, unlike the previous benefit which terminated when the retiree became eligible for social security benefits.

Changes in medical insurance included 180 days coverage of each hospital confinement (formerly 120 days); full coverage of miscellaneous medical services (previously, the hospitalized person was required to pay 20 percent of that portion of the charges in excess of $750); and a $100 a year deductible under major medical coverage (formerly $100 for each family member).

Other benefits included $15,000 of company-financed life insurance for employees (formerly $10,000), and company-financed sickness and accident benefits of $110 to $145 a week, for up to 26 weeks. (Previously, employees contributed toward the cost of the benefits, which ranged from $60 to $95 a week, for up to 13 weeks.)

Despite the settlements, there was a continuing dispute, and the union filed a complaint with the NLRB charging the shipyard with refusing to bargain in good faith with a designers local organized more than 3 years earlier. The company had broken off talks for the unit in the fall of 1979, after a dissident group within Local 8417 petitioned the NLRB for a vote on decertifying the union as bargaining agent for designers.

New York transit employees end strike

An 11-day strike ended in 2-year agreements between 33,000 New York City subway and surface transit employees and the Metropolitan Transit Authority. John E. Lowe, head of the Transport Workers local union, ordered the 31,000 subway workers back to work pending the outcome of their vote on the contract. (Ordinarily, the local's 44-member executive board makes the final decision on a settlement but the board's vote ended in a tie). The matching agreement for the 2,000 surface transit workers represented by the Amalgamated Transit Union was approved by the executive board of the ATU local union.

The agreements provided for an immediate wage increase of 9 percent and an additional 8 percent on April 1, 1981. There also was provision for an October 1, 1981, automatic wage escalator adjustment of 1 cent an hour for each 0.4-percentage point rise in the Consumer Price Index for New York City-Northeastern New Jersey during the 12 months ending in August 1981. The adjustment will be limited to the amount resulting from a 6-percent rise in the index. In addition, 3,400 workers who had been hired since the 1978 settlement and had not received a cost-of-living adjustment provided to other workers, will get an immediate 95-cent "catch-up" adjustment. The Transit Authority also agreed to contribute about $20 million to the unions' health and welfare funds to offset higher costs.

The unions agreed to several of the productivity demands, or "give-backs", that the Transit Authority had sought to minimize labor costs, including a 20-minute-a-day reduction in paid work breaks; the elimination of 2 hours paid time off on election day; combination of certain job classifications; and adoption of a system to eliminate abuse of sick leave. In another cost savings feature, automatic progression from starting to top pay rates was extended for employees on schedules shorter than 2½ years.

New York City Mayor Edward Koch, who did not become involved in the talks, called the settlement an "outrage," saying it would cost the deficit-ridden transit system $271.4 million more over the 2-year period. The Transit Authority, which is under the jurisdiction of the State rather than the city, denied that the cost would be that high, but did not provide a specific figure. Koch insisted that the accord not be viewed as a pattern-setter for the city's upcoming negotiations with various unions to replace agreements scheduled to expire June 30 for 238,000 workers.

Despite the end of the walkout, there were some unresolved matters. The unions were appealing a $1-million fine imposed for violating the State's Taylor Law, which prohibits strikes by public employees. Also, some members of the Transport Workers union were continuing their legal efforts to prevent the vote by the rank-and-file and have a revote by the executive board.

The city estimated that it lost $2 million a day in tax revenues because of the strike and a State official said that 60,000 workers were laid off because of the stoppage.

In another development, the Transit Authority, settled with unions representing 4,000 employees of the Long Island Railroad, the Nation's busiest commuter line. The 3-year pact, retroactive to January 1, 1979, provided for a 24-percent increase in wages over the term for seven unions. A total of 17 unions had been involved in protracted bargaining; 10 unions had settled earlier for a smaller wage increase. However, their contract had a "me too" clause guaranteeing them the same terms as those subsequently negotiated by the other unions. The railroad had been struck briefly by a Teamsters local, but the workers returned to heavy overtime scheduling during the New York City transit tieup.

Ford limits management pay increases

Ford Motor Co. has agreed to limit compensation increases of 5,000 nonunion management employees for 1 year to offset the amount by which the Council on Wage and Price Stability claimed the cost of the company's 1979 settlement with the Auto Workers exceeded the then prevailing 7-percent pay guideline. According to a council official, the average increase for the management employees will be held to "less than" the 7.5-percent low end of the current 7.5–9.5 percent guideline.

Ordinarily, a company is not permitted to make such an adjustment. However, Ford argued for an exception to the rule, saying that it could not offset the above-guidelines portion of the production workers agreement by holding down price increases because of "significant losses" on U.S. operations in 1979. General Motors Corp., which had settled with the UAW on the same terms as Ford, had earlier retained its right to bid on Government purchase contracts by agreeing to limit price boosts. (See *Monthly Labor Review*, February 1980, p. 13.)

Minneapolis food store employees settle

Settlements for 14,000 food store employees in the Minneapolis-St. Paul area provided for immediate wage increases of 15 to 17 percent and 11 percent in March 1981 and 1982. The three locals of the United Food and Commercial Workers first settled with Red Owl Stores to end a 3-day strike against that chain; National Tea Co. and various independent stores later accepted the same terms. About 325 stores were covered by the 3-year contracts.

The 15-percent initial pay increase for full-time meat cutters brought their maximum pay rate to $10.47 an hour. Maximum rates for full-time grocery clerks went to $9.71 as a result of a 17-percent increase. Full-time employees attain the top rate for their classification after 5 years of service. Part-time workers, who reach their top rate after 5,200 hours of work, received increases of 15, 11, and 11 percent on the respective dates, except for some "senior" part-timers who received $1 an hour increases in each year. The senior employees previously earned $6.33 and the other part-timers, $3.90 to $6.00. A rate schedule also was adopted for delicatessen employees similar to the rates for part-time workers in other departments.

The accords drew opposition from some members, who complained because the union had not won a primary goal, a cost-of-living wage escalator clause. Eugene Utecht, secretary-treasurer of Locals 653 and 653A and the chief union negotiator said that pay rates in the area were nevertheless among the highest in the Nation.

The employers won several changes that were expected to partly offset labor costs resulting from the contracts. Employers are now permitted to use scanning equipment for recording the price of an item indicated by the Universal Product Code markings. Previously, individual employers were required to negotiate with the union on introduction of scanners and some of the St. Paul stores had won limited use of such equipment.

Another gain permits employers to purchase precut boxed beef. Previously, they were required to purchase whole carcasses, which were then cut up in the meat departments.

Another change permits the stores to increase the ratio of part-time to full-time employees from 2 to 3. However, this can only be done through attrition; all current jobs are protected from conversion.

The normal monthly pension rate for each year of credited service was increased by $2 in each contract year. The resulting rates, which will reach $14 in the final year, will apply to future retirees and to current retirees who ceased work on or after July 1, 1971, because the 1977 settlement had included a commitment to provide matching pension rates for these current retirees.

Other contract changes included $12,000 life insurance for employees and $3,000 for the spouse, instead of the previous $9,000 and $1,000 coverage; a 100-percent increase in the optical benefit; addition of prescription drug coverage; and a $210-a-week sickness and accident benefit, instead of $125. □

Book Reviews

The evolution of collective bargaining

Collective Bargaining: Contemporary American Experience. Edited by Gerald G. Somers. Madison, Wis., Industrial Relations Research Association, 1980. 588 pp.

As the introduction to this important work implies, it may appropriately be assessed by comparison with its counterpart of 40 years ago, the Twentieth Century Fund study, *How Collective Bargaining Works.* Methodologically, the two works are very similar. Each is comprised of a series of independent chapters by various authors describing and analyzing the evolution and prevailing nature of collective bargaining on an industry basis. This volume, published by the Industrial Relations Research Association, covers 10 industries; its predecessor covered 14. In both cases, the authors had extensive research or practical experience or both in their respective industries and provided highly informative and realistic analyses of their subjects. Both works give the reader brief but enlightening descriptions of the economics of each industry, the historical development of the principal employer and union institution, the structure and processes of collective bargaining, and current policies, practices, and problems. Both also contain a general essay of a summary and overview nature—the Industrial Relations Research Association's essay by Jack Barbash coming at the end and the Twentieth Century Fund's essay by Philip Taft at the beginning. Each author, it may be noted, is a distinguished institutional economist and Industrial Relations Research Association president.

Even the limitations are similar. Both volumes (with a few notable exceptions) treat collective bargaining almost entirely in terms of contract negotiations. Contract administration and grievance handling are given scanty treatment. The informal day-to-day life of the workplace is, for the most part, ignored. Customary practice, fractional bargaining, and joint cooperation committees are largely passed over. These omissions are particularly unfortunate in the contemporary volume because of the extensive treatment of these and related subjects in the post-World War II literature. The absence of an index in the present work is also regrettable because of the wealth of detailed information it contains.

In comparing these studies, one can learn a great deal about the evolution of collective bargaining in the United States. The choice of industries for study is, in itself, revealing. Only four industries—bituminous coal mining, construction, steel, and electrical products—are treated in both volumes. The omission of the automobile industry from the Industrial Relations Research Association's volume is particularly surprising, although it may be attributable to the extensive literature that is available on this industry. (A statement explaining the basis of industry selection would have been helpful). The other essays are largely reflective of major historical changes. Trucking and airlines replace the railroads in transportation. Agriculture, hospitals, the postal service, and public education represent the areas of significant growth in collective bargaining during the post-World War II period. Chapters on other expanding sectors, like State and local government and retail food trade, would have been equally desirable, but space considerations may have been a reason for their omission.

However, the Twentieth Century Fund's chapters on anthracite coal, daily newspapers, book and job printing, men's clothing, hosiery, automobiles, rubber products, glass, and the Chicago service trades have not been replicated. Anthracite has become a nonindustry; the crafts of printing and publishing have been transformed by new technology; and the "model" unionism and collective bargaining in clothing have been victimized by foreign competition and relocation from the northeastern and midwestern metropolitan centers to the South. A case could have been made for their replication as a guide to understanding the shifting currents of collective bargaining. But the inclusion of both the expanding and declining bargaining sectors would have required a second volume.

The substantive content of the two studies also makes an interesting contrast. In 1940, collective bargaining reflected the dramatic rise of industrial unionism in the mass production industries and the resurgence of the old unionism in coal, clothing, construction, printing, and railroads. The tone everywhere was upbeat. Collective bargaining stood for dynamic change. By the end of the 1970's, collective bargaining was seen as institutionalized, bureaucratized, technically sophisticated, and under pressure even in the areas of expansion. Unionization was lagging behind growth in the labor force. Antiunion forces were growing in strength—as the failure of the Labor Law Reform Bill campaign revealed. Even such traditional centers of union strength, like construction, were experiencing a loss in job territories and industrial power centers like steel and autos were shrinking in size.

Jack Barbash concludes his summary essay with seven major issues which he describes as the "essences of the problems that have been raised throughout this work." In brief, these issues relate to (1) the ability of collective bargaining to adapt to adverse market conditions after a generation of expansion; (2) the limits of state intervention in collective bargaining; (3) the role of the state in minimizing the inflationary effects of collective bargaining; (4) the competing forces of centralization and decentralization; (5) public sector strikes; (6) occupational health and safety, and (7) racketeering and corruption in some unions. All are part of the problem of the exercise of power in a free society. These are perceptive and challenging issues. Others might be added such as the adjustment of individual or minority rights to collective interests and duties, and the capability of national institutions to cope with powerful international forces of competition and collaboration. All point to a future for collective bargaining that is, if anything, more challenging than the past 40 years.

A final note of tribute must be paid to Gerald G. Somers, who was the chief architect of the project, but who died before its completion. The quality of this work is a fitting testimony to his creative imagination and enterprise, known to all academic industrial relations specialists. We are indebted to Jack Barbash, Somers' colleague, and to Barbara Dennis, Industrial Relations Research Association editor, for the professional completion of the undertaking.

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Not all jobs are created equal

Good Jobs, Bad Jobs, No Jobs. By Eli Ginzberg. Cambridge, Mass., Harvard University Press, 1979. 219 pp. $15.

This book is a collection of revised essays published between 1976 and 1979. The work is clearly intended for a general audience and is well written and free of technical jargon. The author, a professor of economics at Columbia University, is chairman of the National Commission for Employment Policy.

Eli Ginzberg's topic is a significant one. He has provided a broad overview of the American labor market. The central theme is that there is today a shortage of both jobs and good jobs. Ginzberg has estimated the number of potentially employable people to be 18 to 24 million, or 3 to 4 times the officially unemployed ones. Public and private employment cannot be expected to absorb more than a few million of this reserve force. While this may be so, a more detailed analysis of why it is so is in order. As for good jobs, less than one-third of such jobs were added since 1950 to the private sector. In contrast, two-thirds of government jobs are good ones.

From a theoretical perspective, the most important point by Ginzberg is that the economy is really a pluralistic one, with no less than one-third of all jobs in the not-for-profit sector, many of them in the service sector. This has facilitated a rapid growth of female employment, but also made it more difficult to secure gains in productivity.

For the 1980's, Ginzberg sees increasing competition among white males, women, and minorities for managerial and professional positions. Since the late 1960's, the labor market for highly educated persons has deteriorated and many have been forced to accept positions below their expectations. The resulting underemployment will lead to increasing disenchantment. This has been a recurrent theme in many of the writings on the labor market for educated people, but so far there is little evidence of it.

There are no prescriptions for a solution. This is somewhat of a disappointment, although the author does trace the development of labor policy. He also recognizes the increasing pressure on the Federal Government to provide jobs for more and more people.

All in all, this is a fine survey of the major labor market developments in the post-World War II period. Unlike Margaret S. Gordon, ed., *Higher Education and the Labor Market* (1974) and Richard B. Freeman, *The Overeducated American* (1976), Ginzberg has related the current labor market problems to broader economic developments. This is one of the greater strengths of his book. A bibliography of the relevant literature would have made the work even more useful.

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The workplace as battleground

Workers' Control in America: Studies in the History of Work, Technology, and Labor Struggles. By David Montgomery. New York, Cambridge University Press, 1979. 189 pp. $14.95.

Robert Hoxie, in *Trade Unionism in the United States*, pointed out that "the essence of unionism is a social philosophy." David Montgomery's essays trace the impact of various social philosophies as their proponents vie for control of the workplace and of the rules which will govern employment, work pace, and method of payment. Although Montgomery favors the Socialist view, his quotations and analyses reveal some of the impacts of Hoxie's five functional types of unionism. As the author states in the introduction:

> No one knew better than the workers themselves that they needed a much better standard of living than they enjoyed, that only hard work and sound productive organization could produce such improvement, and that inefficiency and waste were built into the very fiber of the economic system. Their ideas of how to remedy the situation, however, were very different from those of their employers.

The first five chapters trace workers' efforts to retain or regain control over work rules from the late 1800's to the 1920's. Throughout the period, worker control of the workplace is eroded by industrialization, mass production techniques, immigration of workers with different control ideas, scientific management, paternalistic welfare schemes, as well as their own inability to select and support a social philosophy which will provide a significant counterforce to these massive social, economic, and managerial changes.

Chapter 6, coauthored by Ronald Schatz, and chapter 7 depart from the short period historical perspective and examine two topics over a longer timespan. The first deals with workers' attempts to restrict the use of layoff as a response to reduced demands for worker hours. The second is a dreary interpretation of the death of the labor movement and its replacement by "an immobile and isolated aggregation of legally certified bargaining agents." The attribution of this result to joint action by government and industry seeking a passive participant in the "moribund Capitalist system" is an indication of the polemic tone of these two chapters.

A closing bibliographical essay lists useful books and other sources for persons interested in delving further into worker control.

The book is a collection of essays with worker control as a unifying theme. Because the essays were meant to stand alone (only chapters 3 and 7 have not been previously published), this reviewer finds a disturbing amount of repetition of the setting, of management and worker views, and of the principal issues across the several essays.

Montgomery looks forward to the day when workers will "regain mastery over collective and socialized production". Although he does not show that they ever had such mastery, he does provide a revealing and sympathetic look at the struggle for control of their worklives in the face of dramatically changing conditions. He highlights the tension within unions as to whether their workplace power should be used for their own ends (Hoxie's business unionism) or to support the progress of the entire working class (Hoxie's uplift unionism). The essays underline the fundamental problem of achieving a consistent coalition among people whose self-interests and common interests only occasionally coincide. While the author blames the Capitalist and credit systems for keeping workers from gaining control of the workplace, the essays seem to illustrate that the question of *which* workers have control is often as important as *whether* workers have control.

The organizational view presented here is a strong contrast to the personal view presented by Robert Schrank in *Ten Thousand Working Days;* yet both are valuable perspectives on some of the same issues of worker control.

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NOTES ON CURRENT LABOR STATISTICS

This section of the *Review* presents the principal statistical series collected and calculated by the Bureau of Labor Statistics. A brief introduction to each group of tables provides definitions, notes on the data, sources, and other material usually found in footnotes.

Readers who need additional information are invited to consult the BLS regional offices listed on the inside front cover of this issue of the *Review*. Some general notes applicable to several series are given below.

Seasonal adjustment. Certain monthly and quarterly data are adjusted to eliminate the effect of such factors as climatic conditions, industry production schedules, opening and closing of schools, holiday buying periods, and vacation practices, which might otherwise mask short-term movements of the statistical series. Tables containing these data are identified as "seasonally adjusted." Seasonal effects are estimated on the basis of past experience. When new seasonal factors are computed each year, revisions may affect seasonally adjusted data for several preceding years. For a technical discussion of the method used to make seasonal adjustments, see "Appendix A. The BLS Seasonal Factor Method," *BLS Handbook of Methods for Surveys and Studies*, Bulletin 1910 (Bureau of Labor Statistics, 1976), pp. 272–78, and *X-11 Variant of the Census Method II Seasonal Adjustment Program*, Technical Paper No. 15 (Bureau of the Census, 1967). Seasonally adjusted labor force data in tables 2–7 were last revised in the February 1980 issue of the *Review* to reflect the preceding year's experience. Beginning in January 1980, the BLS introduced two major modifications in the seasonal adjustment methodology for labor force data. First, the data are being seasonally adjusted with a new procedure called X-11/ARIMA, which was developed at Statistics Canada as an extension of the standard X-11 method. A detailed description of the procedure appears in *The X-11 ARIMA Seasonal Adjustment Method* by Estela Bee Dagum (Statistics Canada Catalogue No. 12-564E, September 1979).

The second change is that seasonal factors are now being calculated for use during the first 6 months of the year, rather than for the entire year, and then are calculated at mid-year for the July-December period. Revisions of historical data continue to be made only at the end of each calendar year. Annual revision of the seasonally adjusted payroll data in tables 11, 13, 16, and 18 was last introduced in the November 1979 issue of the *Review*. New seasonal factors for productivity data in tables 33 and 34 are usually introduced in the September issue. Seasonally adjusted indexes and percent changes from month to month and from quarter to quarter are published for numerous Consumer and Producer Price Index series. However, seasonally adjusted indexes are not published for the U.S. average All Items CPI. Only seasonally adjusted percent changes are available for this series.

Adjustments for price changes. Some data are adjusted to eliminate the effect of changes in price. These adjustments are made by dividing current dollar values by the Consumer Price Index or the appropriate component of the index, then multiplying by 100. For example, given a current hourly wage rate of $3 and a current price index number of 150, where 1967 = 100, the hourly rate expressed in 1967 dollars is $2 ($3/150 × 100 = $2). The resulting values are described as "real," "constant," or "1967" dollars.

Availability of information. Data that supplement the tables in this section are published by the Bureau of Labor Statistics in a variety of sources. Press releases provide the latest statistical information published by the Bureau; the major recurring releases are published according to the schedule given below. The *Handbook of Labor Statistics 1978*, Bulletin 2000, provides more detailed data and greater historical coverage for most of the statistical series presented in the *Monthly Labor Review*. More information from the household and establishment surveys is provided in *Employment and Earnings*, a monthly publication of the Bureau, and in two comprehensive data books issued annually—*Employment and Earnings, United States* and *Employment and Earnings, States and Areas*. More detailed information on wages and other aspects of collective bargaining appears in the monthly periodical, *Current Wage Developments*. More detailed price information is published each month in the periodicals, the *CPI Detailed Report* and *Producer Prices and Price Indexes*.

Symbols

p = preliminary. To improve the timeliness of some series, preliminary figures are issued based on representative but incomplete returns.
r = revised. Generally this revision reflects the availability of later data but may also reflect other adjustments.
n.e.c. = not elsewhere classified.

Schedule of release dates for major BLS statistical series

Title and frequency (monthly except where indicated)	Release date	Period covered	Release date	Period covered	MLR table number
Employment situation	June 6	May	July 3	June	1–11
Producer Price Indexes	June 6	May	July 8	June	26–30
Consumer Price Index	June 24	May	July 23	June	22–25
Real earnings	June 24	May	July 23	June	14–20
Work stoppages	June 30	May	July 29	June	37
Labor turnover in manufacturing	June 30	May	July 30	June	12–13
Major collective bargaining settlements (quarterly)	....	....	July 25	1st half	35–36
Productivity and costs (quarterly):					
Nonfarm business and manufacturing	....	....	July 28	2nd quarter	31–34

EMPLOYMENT DATA FROM THE HOUSEHOLD SURVEY

EMPLOYMENT DATA in this section are obtained from the Current Population Survey, a program of personal interviews conducted monthly by the Bureau of the Census for the Bureau of Labor Statistics. The sample consists of about 65,000 households beginning in January 1980, selected to represent the U.S. population 16 years of age and older. Households are interviewed on a rotating basis, so that three-fourths of the sample is the same for any 2 consecutive months.

Definitions

Employed persons are (1) those who worked for pay any time during the week which includes the 12th day of the month or who worked unpaid for 15 hours or more in a family-operated enterprise and (2) those who were temporarily absent from their regular jobs because of illness, vacation, industrial dispute, or similar reasons. A person working at more than one job is counted only in the job at which he or she worked the greatest number of hours.

Unemployed persons are those who did not work during the survey week, but were available for work except for temporary illness and had looked for jobs within the preceding 4 weeks. Persons who did not look for work because they were on layoff or waiting to start new jobs within the next 30 days are also counted among the unemployed. The **unemployment rate** represents the number unemployed as a percent of the civilian labor force.

The **civilian labor force** consists of all employed or unemployed persons in the civilian noninstitutional population; the **total labor force** includes military personnel. Persons **not in the labor force** are those not classified as employed or unemployed; this group includes persons retired, those engaged in their own housework, those not working while attending school, those unable to work because of longterm illness, those discouraged from seeking work because of personal or job market factors, and those who are voluntarily idle. The **noninstitutional population** comprises all persons 16 years of age and older who are not inmates of penal or mental institutions, sanitariums, or homes for the aged, infirm, or needy.

Full-time workers are those employed at least 35 hours a week; **part-time workers** are those who work fewer hours. Workers on part-time schedules for economic reasons (such as slack work, terminating or starting a job during the week, material shortages, or inability to find full-time work) are among those counted as being on full-time status, under the assumption that they would be working full time if conditions permitted. The survey classifies unemployed persons in full-time or part-time status by their reported preferences for full-time or part-time work.

Notes on the data

From time to time, and especially after a decennial census, adjustments are made in the Current Population Survey figures to correct for estimating errors during the preceding years. These adjustments affect the comparability of historical data presented in table 1. A description of these adjustments and their effect on the various data series appear in the Explanatory Notes of *Employment and Earnings*.

Data in tables 2–7 are seasonally adjusted, based on the seasonal experience through December 1979.

1. Employment status of the noninstitutional population, 16 years and over, selected years, 1950–79

[Numbers in thousands]

Year	Total noninstitutional population	Total labor force		Civilian labor force						Not in labor force
					Employed			Unemployed		
		Number	Percent of population	Total	Total	Agriculture	Nonagricultural industries	Number	Percent of labor force	
1950	106,645	63,858	59.9	62,208	58,918	7,160	51,758	3,288	5.3	42,787
1955	112,732	68,072	60.4	65,023	62,170	6,450	55,722	2,852	4.4	44,660
1960	119,759	72,142	60.2	69,628	65,778	5,458	60,318	3,852	5.5	47,617
1964	127,224	75,830	59.6	73,091	69,305	4,523	64,782	3,786	5.2	51,394
1965	129,236	77,178	59.7	74,455	71,088	4,361	66,726	3,366	4.5	52,058
1966	131,180	78,893	60.1	75,770	72,895	3,979	68,915	2,875	3.8	52,288
1967	133,319	80,793	60.6	77,347	74,372	3,844	70,527	2,975	3.8	52,527
1968	135,562	82,272	60.7	78,737	75,920	3,817	72,103	2,817	3.6	53,291
1969	137,841	84,240	61.1	80,734	77,902	3,606	74,296	2,832	3.5	53,602
1970	140,182	85,903	61.3	82,715	78,627	3,462	75,165	4,088	4.9	54,280
1971	142,596	86,929	61.0	84,113	79,120	3,387	75,732	4,993	5.9	55,666
1972	145,775	88,991	61.0	86,542	81,702	3,472	78,230	4,840	5.6	56,785
1973	148,263	91,040	61.4	88,714	84,409	3,452	80,957	4,304	4.9	57,222
1974	150,827	93,240	61.8	91,011	85,935	3,492	82,443	5,076	5.6	57,587
1975	153,449	94,793	61.8	92,613	84,783	3,380	81,403	7,830	8.5	58,655
1976	156,048	96,917	62.1	94,773	87,485	3,297	84,188	7,288	7.7	59,130
1977	158,559	99,534	62.8	97,401	90,546	3,244	87,302	6,855	7.0	59,025
1978	161,058	102,537	63.7	100,420	94,373	3,342	91,031	6,047	6.0	58,521
1979	163,620	104,996	64.2	102,908	96,945	3,297	93,648	5,963	5.8	58,623

2. Employment status by sex, age, and race, seasonally adjusted

[Numbers in thousands]

Employment status	Annual average		1979									1980			
	1978	1979	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
TOTAL															
Total noninstitutional population[1]	161,058	163,620	163,006	163,260	163,469	163,685	163,891	164,106	164,468	164,682	164,898	165,101	165,298	165,506	165,693
Total labor force	102,537	104,996	104,280	104,476	104,562	105,175	105,218	105,586	105,688	105,744	106,088	106,310	106,346	106,184	106,511
Civilian noninstitutional population[1]	158,941	161,532	160,926	161,182	161,393	161,604	161,801	162,013	162,375	162,589	162,809	163,020	163,211	163,416	163,601
Civilian labor force	100,420	102,908	102,198	102,398	102,476	103,093	103,128	103,494	103,595	103,652	103,999	104,229	104,260	104,094	104,419
Employed	94,373	96,945	96,254	96,495	96,652	97,184	97,004	97,504	97,474	97,608	97,912	97,804	97,953	97,656	97,154
Agriculture	3,342	3,297	3,215	3,246	3,243	3,267	3,315	3,364	3,294	3,385	3,359	3,270	3,328	3,358	3,242
Nonagricultural industries	91,031	93,648	93,039	93,249	93,409	93,917	93,689	94,140	94,180	94,223	94,553	94,534	94,625	94,298	93,912
Unemployed	6,047	5,963	5,944	5,903	5,824	5,909	6,124	5,990	6,121	6,044	6,087	6,425	6,307	6,438	7,265
Unemployment rate	6.0	5.8	5.8	5.8	5.7	5.7	5.9	5.8	5.9	5.8	5.9	6.2	6.0	6.2	7.0
Not in labor force	58,521	58,623	58,728	58,784	58,917	58,511	58,673	58,519	58,780	58,937	58,810	58,791	58,951	59,322	59,182
Men, 20 years and over															
Civilian noninstitutional population[1]	67,006	68,293	67,997	68,123	68,227	68,319	68,417	68,522	68,667	68,804	68,940	69,047	69,140	69,238	69,329
Civilian labor force	53,464	54,486	54,239	54,288	54,370	54,579	54,597	54,735	54,760	54,709	54,781	54,855	55,038	54,996	55,114
Employed	51,212	52,264	52,049	52,158	52,201	52,325	52,311	52,453	52,443	52,374	52,478	52,279	52,531	52,300	51,868
Agriculture	2,361	2,350	2,295	2,301	2,305	2,327	2,375	2,377	2,371	2,438	2,427	2,387	2,435	2,394	2,320
Nonagricultural industries	48,852	49,913	49,754	49,857	49,896	49,998	49,936	50,076	50,072	49,936	50,051	49,892	50,096	49,906	49,548
Unemployed	2,252	2,223	2,190	2,130	2,169	2,254	2,286	2,282	2,317	2,335	2,303	2,577	2,507	2,696	3,246
Unemployment rate	4.2	4.1	4.0	3.9	4.0	4.1	4.2	4.2	4.2	4.3	4.2	4.7	4.6	4.9	5.9
Not in labor force	13,541	13,807	13,758	13,835	13,857	13,740	13,820	13,787	13,907	14,095	14,159	14,192	14,102	14,242	14,215
Women, 20 years and over															
Civilian noninstitutional population[1]	75,489	76,860	76,532	76,670	76,784	76,897	77,006	77,124	77,308	77,426	77,542	77,656	77,766	77,876	77,981
Civilian labor force	37,416	38,910	38,415	38,619	38,653	39,033	39,304	39,239	39,362	39,445	39,659	39,878	39,857	39,751	40,137
Employed	35,180	36,698	36,216	36,411	36,457	36,873	37,000	37,075	37,112	37,248	37,402	37,574	37,604	37,496	37,602
Agriculture	586	591	572	577	583	585	600	628	572	612	582	540	567	582	552
Nonagricultural industries	34,593	36,107	35,644	35,834	35,874	36,288	36,400	36,447	36,540	36,636	36,820	37,034	37,037	36,914	37,051
Unemployed	2,236	2,213	2,199	2,208	2,196	2,160	2,304	2,164	2,250	2,197	2,257	2,304	2,254	2,255	2,534
Unemployment rate	6.0	5.7	5.7	5.7	5.7	5.5	5.9	5.5	5.7	5.6	5.7	5.8	5.7	5.7	6.3
Not in labor force	38,073	37,949	38,117	38,051	38,131	37,864	37,702	37,885	37,946	37,981	37,883	37,778	37,909	38,125	37,844
Both sexes, 16 - 19 years															
Civilian noninstitutional population[1]	16,447	16,379	16,397	16,389	16,381	16,387	16,377	16,367	16,370	16,360	16,326	16,317	16,305	16,302	16,291
Civilian labor force	9,540	9,512	9,544	9,491	9,453	9,481	9,227	9,520	9,473	9,498	9,559	9,497	9,365	9,346	9,168
Employed	7,981	7,984	7,989	7,926	7,994	7,986	7,693	7,976	7,919	7,986	8,032	7,952	7,818	7,859	7,683
Agriculture	395	356	348	368	355	355	340	359	351	335	350	344	325	381	370
Nonagricultural industries	7,586	7,628	7,641	7,558	7,639	7,631	7,353	7,617	7,568	7,651	7,682	7,608	7,493	7,478	7,313
Unemployed	1,559	1,528	1,555	1,565	1,459	1,495	1,534	1,544	1,554	1,512	1,527	1,545	1,547	1,487	1,485
Unemployment rate	16.3	16.1	16.3	16.5	15.4	15.8	16.6	16.2	16.4	15.9	16.0	16.3	16.5	15.9	16.2
Not in labor force	6,907	6,867	6,853	6,898	6,928	6,906	7,150	6,847	6,897	6,862	6,767	6,820	6,940	6,956	7,123
White															
Civilian noninstitutional population[1]	139,580	141,614	141,123	141,331	141,492	141,661	141,822	141,981	142,296	142,461	142,645	142,806	142,951	143,115	143,254
Civilian labor force	88,456	90,602	89,996	90,120	90,215	90,659	90,759	91,082	91,147	91,242	91,579	91,852	91,977	91,821	92,083
Employed	83,836	86,025	85,497	85,632	85,775	86,120	85,976	86,425	86,454	86,571	86,894	86,995	87,081	86,822	86,385
Unemployed	4,620	4,577	4,499	4,488	4,440	4,539	4,783	4,657	4,693	4,671	4,685	4,857	4,896	4,999	5,698
Unemployment rate	5.2	5.1	5.0	5.0	4.9	5.0	5.3	5.1	5.1	5.1	5.1	5.4	5.3	5.4	6.2
Not in labor force	51,124	51,011	51,230	51,313	51,213	51,107	51,161	50,900	51,149	51,219	51,066	50,954	50,975	51,294	51,171
Black and other															
Civilian noninstitutional population[1]	19,361	19,918	19,802	19,850	19,901	19,943	19,979	20,032	20,079	20,128	20,163	20,214	20,261	20,301	20,346
Civilian labor force	11,964	12,306	12,191	12,219	12,260	12,386	12,343	12,404	12,512	12,391	12,432	12,453	12,362	12,266	12,319
Employed	10,537	10,920	10,767	10,816	10,887	11,023	10,982	11,063	11,076	11,044	11,024	10,979	10,937	10,823	10,771
Unemployed	1,427	1,386	1,424	1,403	1,373	1,363	1,361	1,341	1,436	1,347	1,408	1,474	1,424	1,443	1,548
Unemployment rate	11.9	11.3	11.7	11.5	11.2	11.0	11.0	10.8	11.5	10.9	11.3	11.8	11.5	11.8	12.6
Not in labor force	7,397	7,612	7,627	7,674	7,629	7,579	7,639	7,284	7,567	7,737	7,731	7,761	7,899	8,035	8,027

[1] As in table 1, population figures are not seasonally adjusted.

NOTE: The monthly data in this table have been revised to reflect seasonal experience through 1979.

3. Selected employment indicators, seasonally adjusted

[In thousands]

Selected categories	Annual average		1979									1980			
	1978	1979	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
CHARACTERISTIC															
Total employed, 16 years and over	94,373	96,945	96,254	96,495	96,652	97,184	97,004	97,504	97,474	97,608	97,912	97,804	97,953	97,656	97,154
Men	55,491	56,499	56,294	56,372	56,477	56,570	56,408	56,714	56,629	56,580	56,734	56,486	56,732	56,601	55,998
Women	38,882	40,446	39,960	40,123	40,175	40,614	40,596	40,790	40,845	41,028	41,178	41,318	41,221	41,051	41,156
Married men, spouse present	38,988	39,090	38,910	39,045	39,079	39,176	39,180	39,198	39,124	38,845	38,924	38,749	38,955	38,745	38,342
Married women, spouse present	21,981	22,724	22,376	22,547	22,684	22,908	22,880	22,937	22,919	22,940	23,027	23,111	23,178	23,202	23,080
OCCUPATION															
White-collar workers	47,205	49,342	49,061	49,136	49,192	49,566	49,883	49,816	49,738	49,912	49,911	50,313	50,448	50,302	50,405
Professional and technical	14,245	15,050	15,091	15,100	15,010	15,067	15,068	15,141	15,057	15,131	15,272	15,337	15,444	15,397	15,542
Managers and administrators, except farm	10,105	10,516	10,398	10,427	10,534	10,612	10,918	10,659	10,639	10,617	10,535	10,608	10,971	10,755	10,745
Salesworkers	5,951	6,163	6,084	6,101	6,103	6,183	6,145	6,181	6,261	6,362	6,346	6,452	6,185	6,113	5,988
Clerical workers	16,904	17,613	17,488	17,508	17,545	17,704	17,752	17,835	17,781	17,802	17,758	17,915	17,848	18,037	18,129
Blue-collar workers	31,531	32,066	31,705	31,904	31,992	32,051	31,849	32,209	32,205	32,110	32,302	31,882	31,754	31,670	31,127
Craft and kindred workers	12,386	12,880	12,703	12,820	12,944	12,876	12,761	12,993	13,001	12,925	13,041	12,814	12,728	12,767	12,773
Operatives, except transport	10,875	10,909	10,770	10,756	10,804	10,984	10,909	10,964	10,967	10,963	11,042	10,678	10,661	10,579	10,408
Transport equipment operatives	3,541	3,612	3,564	3,644	3,605	3,627	3,604	3,617	3,593	3,628	3,635	3,616	3,571	3,558	3,483
Nonfarm laborers	4,729	4,665	4,668	4,685	4,639	4,564	4,575	4,635	4,644	4,594	4,584	4,774	4,795	4,767	4,463
Service workers	12,839	12,834	12,807	12,772	12,805	12,786	12,821	12,859	12,937	12,899	12,970	12,979	13,080	12,981	13,034
Farmworkers	2,798	2,703	2,659	2,628	2,679	2,678	2,707	2,722	2,695	2,718	2,694	2,660	2,764	2,733	2,658
MAJOR INDUSTRY AND CLASS OF WORKER															
Agriculture:															
Wage and salary workers	1,419	1,413	1,379	1,424	1,423	1,419	1,384	1,399	1,381	1,475	1,451	1,428	1,417	1,449	1,370
Self-employed workers	1,607	1,580	1,553	1,519	1,539	1,558	1,614	1,642	1,602	1,622	1,596	1,554	1,648	1,600	1,591
Unpaid family workers	316	304	291	283	291	291	310	325	313	310	310	293	283	300	281
Nonagricultural industries:															
Wage and salary workers	84,253	86,540	86,105	86,232	86,309	86,454	86,421	86,912	86,982	87,020	87,384	87,578	87,419	87,221	86,741
Government	15,287	15,369	15,359	15,616	15,318	15,393	15,279	15,407	15,423	15,358	15,397	15,414	15,540	15,622	15,669
Private industries	68,966	71,171	70,746	70,616	70,991	71,061	71,142	71,505	71,559	71,662	71,987	72,163	71,879	71,599	71,072
Private households	1,363	1,240	1,172	1,195	1,235	1,219	1,211	1,313	1,261	1,211	1,228	1,132	1,178	1,115	1,123
Other industries	67,603	69,931	69,574	69,421	69,756	69,842	69,931	70,192	70,298	70,451	70,759	71,031	70,702	70,484	69,949
Self-employed workers	6,305	6,652	6,483	6,608	6,629	6,752	6,680	6,731	6,812	6,781	6,737	6,752	6,899	6,825	6,813
Unpaid family workers	472	465	485	480	474	519	450	449	430	417	409	379	397	376	363
PERSONS AT WORK[1]															
Nonagricultural industries	85,693	88,133	86,808	87,785	87,749	88,769	88,855	88,723	88,638	88,617	89,180	89,454	88,985	88,585	87,660
Full-time schedules	70,543	72,647	71,859	72,496	72,243	72,915	73,053	73,159	73,204	72,997	73,137	73,223	73,110	72,749	71,807
Part time for economic reasons	3,216	3,281	3,279	3,283	3,284	3,274	3,298	3,167	3,315	3,392	3,519	3,513	3,406	3,418	3,816
Usually work full time	1,249	1,325	1,287	1,273	1,322	1,334	1,401	1,273	1,354	1,413	1,491	1,549	1,380	1,463	1,709
Usually work part time	1,967	1,956	1,992	2,010	1,962	1,940	1,897	1,894	1,961	1,979	2,028	1,964	2,026	1,955	2,107
Part time for noneconomic reasons	11,934	12,205	11,670	12,006	12,222	12,580	12,504	12,397	12,119	12,228	12,524	12,718	12,469	12,418	12,037

[1] Excludes persons "with a job but not at work" during the survey period for such reasons as vacation, illness, or industrial disputes.

NOTE: The monthly data in this table have been revised to reflect seasonal experience through 1979.

4. Selected unemployment indicators, seasonally adjusted

[Unemployment rates]

Selected categories	Annual average		1979									1980			
	1978	1979	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
CHARACTERISTIC															
Total, 16 years and over	6.0	5.8	5.8	5.8	5.7	5.7	5.9	5.8	5.9	5.8	5.9	6.2	6.0	6.2	7.0
Men, 20 years and over	4.2	4.1	4.0	3.9	4.0	4.1	4.2	4.2	4.2	4.3	4.2	4.7	4.6	4.9	5.9
Women, 20 years and over	6.0	5.7	5.7	5.7	5.7	5.5	5.9	5.5	5.7	5.8	5.7	5.8	5.7	5.7	6.3
Both sexes, 16 – 19 years	16.3	16.1	16.3	16.5	15.4	15.8	16.6	16.2	16.4	15.9	16.0	16.3	16.5	15.9	16.2
White, total	5.2	5.1	5.0	5.0	4.9	5.0	5.3	5.1	5.1	5.1	5.1	5.4	5.3	5.4	6.2
Men, 20 years and over	3.7	3.6	3.5	3.4	3.5	3.6	3.7	3.7	3.7	3.7	3.7	4.1	4.0	4.4	5.3
Women, 20 years and over	5.2	5.0	5.0	5.0	4.9	4.8	5.2	4.8	5.0	4.9	5.0	5.1	5.2	4.9	5.5
Both sexes, 16 – 19 years	13.9	13.9	13.9	14.2	13.2	13.8	14.8	14.3	14.1	13.9	13.9	14.0	13.8	13.8	14.6
Black and other, total	11.9	11.3	11.7	11.5	11.2	11.0	11.0	10.8	11.5	10.9	11.3	11.8	11.5	11.8	12.6
Men, 20 years and over	8.6	8.4	8.6	8.4	8.1	8.4	8.1	8.0	8.6	8.4	8.6	9.6	9.2	9.3	10.9
Women, 20 years and over	10.6	10.1	10.5	10.0	10.4	10.0	10.3	9.8	10.2	9.5	10.0	10.0	9.0	10.5	11.4
Both sexes, 16 – 19 years	36.3	33.5	34.3	36.1	33.5	31.5	32.6	32.3	35.1	32.8	34.3	34.6	37.9	33.0	29.8
Married men, spouse present	2.8	2.7	2.7	2.5	2.7	2.8	2.9	2.9	2.9	2.9	2.8	3.4	3.1	3.4	4.1
Married women, spouse present	5.5	5.1	5.2	5.2	5.1	4.9	5.3	4.8	5.2	4.8	5.0	5.2	5.4	5.3	5.7
Women who head families	8.5	8.3	8.3	8.6	9.0	8.1	7.9	7.7	8.4	8.4	8.4	9.2	8.5	8.7	9.3
Full-time workers	5.5	5.3	5.3	5.2	5.2	5.3	5.4	5.3	5.4	5.4	5.4	5.7	5.6	5.8	6.6
Part-time workers	9.0	8.7	8.7	9.3	8.6	8.3	8.8	8.4	8.9	8.3	8.5	8.7	8.9	8.3	8.9
Unemployed 15 weeks and over	1.4	1.2	1.2	1.2	1.1	1.0	1.1	1.1	1.2	1.1	1.2	1.3	1.2	1.3	1.6
Labor force time lost[1]	6.5	6.3	6.4	6.3	6.3	6.4	6.4	6.2	6.4	6.4	6.4	6.7	6.6	6.8	7.5
OCCUPATION															
White-collar workers	3.5	3.3	3.3	3.2	3.4	3.3	3.5	3.3	3.4	3.2	3.3	3.4	3.4	3.3	3.7
Professional and technical	2.6	2.4	2.3	2.1	2.5	2.5	2.5	2.4	2.7	2.4	2.3	2.2	2.3	2.3	2.4
Managers and administrators, except farm	2.1	2.1	2.3	2.2	2.1	2.0	2.3	2.2	2.2	1.9	2.0	1.9	2.2	2.4	2.6
Salesworkers	4.1	3.9	4.0	4.0	4.4	3.5	4.0	3.8	3.8	3.7	3.8	4.4	4.5	4.0	4.7
Clerical workers	4.9	4.6	4.5	4.5	4.6	4.5	4.9	4.5	4.7	4.4	4.6	4.8	4.7	4.5	5.1
Blue-collar workers	6.9	6.9	6.9	6.8	6.6	6.8	7.3	7.1	7.2	7.5	7.2	8.0	7.7	8.0	9.7
Craft and kindred workers	4.6	4.5	4.4	4.2	4.3	4.4	4.7	4.3	4.6	4.9	4.4	4.9	4.8	5.4	6.7
Operatives, except transport	8.1	8.4	8.5	8.2	7.7	8.3	8.9	9.0	9.1	9.0	9.0	9.9	9.2	9.3	11.6
Transport equipment operatives	5.2	5.4	5.9	5.4	5.7	5.1	6.2	6.1	5.6	5.2	5.0	6.9	6.7	6.6	8.9
Nonfarm laborers	10.7	10.8	10.6	11.1	10.6	11.0	11.3	11.0	10.7	12.2	12.2	12.3	12.0	13.0	14.1
Service workers	7.4	7.1	7.3	7.2	7.2	7.1	7.1	6.7	6.6	6.6	6.6	6.9	6.9	7.1	8.0
Farmworkers	3.8	3.8	3.4	3.6	3.2	4.2	3.9	4.1	4.3	4.5	4.3	4.4	3.9	4.0	5.0
INDUSTRY															
Nonagricultural private wage and salary workers[2]	5.9	5.7	5.7	5.7	5.6	5.7	6.0	5.8	5.9	5.8	5.8	6.2	6.0	6.2	7.1
Construction	10.6	10.2	10.5	10.0	10.0	10.0	10.1	9.6	9.9	10.2	10.3	10.8	10.5	13.0	15.1
Manufacturing	5.5	5.5	5.3	5.4	5.4	5.7	5.9	6.0	6.0	5.9	5.9	6.7	6.4	6.5	7.9
Durable goods	4.9	5.0	4.7	4.4	4.9	5.4	5.4	5.3	5.5	5.6	5.5	6.7	6.3	6.4	8.3
Nondurable goods	6.3	6.4	6.3	6.9	6.3	6.2	6.8	7.1	6.8	6.3	6.4	6.8	6.7	6.7	7.4
Transportation and public utilities	3.7	3.7	3.0	3.6	3.1	3.8	3.7	4.0	3.8	4.2	4.1	4.4	4.4	3.8	4.6
Wholesale and retail trade	6.9	6.5	6.6	6.4	6.7	6.3	6.5	6.4	6.4	6.5	6.4	6.6	6.4	6.3	7.0
Finance and service industries	5.1	4.9	4.8	4.9	4.7	4.9	5.2	4.7	4.9	4.6	4.7	4.6	4.6	4.9	5.1
Government workers	3.9	3.7	3.7	3.6	3.6	3.6	3.7	3.3	4.0	3.6	3.6	3.8	4.0	4.2	4.4
Agricultural wage and salary workers	8.8	9.1	8.7	9.3	7.8	9.7	9.9	10.0	9.9	10.1	9.4	10.3	9.2	10.2	11.9

[1] Aggregate hours lost by the unemployed and persons on part time for economic reasons as a percent of potentially available labor force hours.

[2] Includes mining, not shown separately.

NOTE: The monthly data in this table have been revised to reflect seasonal experience through 1979.

5. Unemployment rates, by sex and age, seasonally adjusted

Sex and age	Annual average		1979									1980			
	1978	1979	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
Total, 16 years and over	6.0	5.8	5.8	5.8	5.7	5.7	5.9	5.8	5.9	5.8	5.9	6.2	6.0	6.2	7.0
16 to 19 years	16.3	16.1	16.3	16.5	15.4	15.8	16.6	16.2	16.4	15.9	16.0	16.3	16.5	15.9	16.2
16 to 17 years	19.3	18.1	18.7	18.9	17.5	17.3	18.5	16.9	18.4	17.3	18.0	19.0	18.7	17.4	18.7
18 to 19 years	14.2	14.6	14.3	15.0	14.4	14.5	15.4	15.6	15.0	14.7	14.5	14.0	15.1	14.7	14.4
20 to 24 years	9.5	9.0	8.6	8.9	8.9	9.1	9.3	9.2	9.6	8.8	9.8	10.1	9.5	9.7	11.4
25 years and over	4.0	3.9	4.0	3.9	3.9	3.9	4.0	3.9	4.0	4.0	3.8	4.2	4.1	4.4	5.0
25 to 54 years	4.2	4.1	4.2	4.0	4.1	4.0	4.2	4.1	4.2	4.3	4.1	4.4	4.5	4.7	5.4
55 years and over	3.2	3.0	3.1	3.1	2.9	3.2	3.1	2.9	3.0	2.7	2.7	3.5	2.8	2.8	3.4
Men, 16 years and over	5.2	5.1	5.1	5.0	4.9	5.1	5.2	5.2	5.2	5.2	5.2	5.7	5.5	5.7	6.7
16 to 19 years	15.7	15.8	16.0	16.1	14.5	15.4	16.3	16.1	15.7	15.8	15.6	16.2	15.6	14.8	16.1
16 to 17 years	19.2	17.9	17.9	18.9	16.8	16.1	18.0	16.7	17.1	17.8	17.9	19.0	18.0	15.9	18.3
18 to 19 years	13.2	14.2	14.1	14.0	14.0	14.8	15.1	15.3	14.4	14.0	13.6	13.9	14.1	14.0	14.2
20 to 24 years	9.1	8.6	8.0	8.2	8.3	8.8	8.8	8.8	9.5	8.4	9.4	10.4	9.9	10.4	12.3
25 years and over	3.3	3.3	3.3	3.1	3.2	3.3	3.4	3.3	3.4	3.5	3.2	3.7	3.6	3.9	4.7
25 to 54 years	3.4	3.4	3.3	3.2	3.2	3.4	3.5	3.6	3.5	3.8	3.4	3.8	3.8	4.2	5.0
55 years and over	3.1	2.9	3.0	2.8	3.1	3.3	3.1	2.8	2.8	2.6	2.6	3.5	2.6	2.7	3.4
Women, 16 years and over	7.2	6.8	6.9	6.9	6.8	6.6	7.0	6.6	6.9	6.6	6.8	6.8	6.8	6.8	7.3
16 to 19 years	17.0	16.4	16.6	16.9	16.5	16.2	17.0	16.4	17.2	16.1	16.4	16.3	17.6	17.3	16.3
16 to 17 years	19.5	18.3	19.6	18.8	18.3	18.6	19.0	17.2	19.8	16.7	18.0	19.1	19.5	19.2	19.1
18 to 19 years	15.3	15.0	14.5	16.0	14.9	14.2	15.7	15.9	15.6	15.5	15.5	14.2	16.2	15.6	14.6
20 to 24 years	10.1	9.6	9.4	9.7	9.7	9.4	9.8	9.6	9.7	9.3	10.2	9.8	9.1	9.0	10.2
25 years and over	5.1	4.8	4.9	4.9	4.8	4.7	4.9	4.6	4.9	4.7	4.7	4.9	4.9	5.0	5.5
25 to 54 years	5.4	5.2	5.3	5.2	5.2	5.0	5.3	5.0	5.2	5.0	5.1	5.2	5.4	5.5	6.0
55 years and over	3.3	3.2	3.2	3.6	2.8	3.1	3.2	2.9	3.4	2.9	2.9	3.4	3.0	2.9	3.4

6. Unemployed persons, by reason for unemployment, seasonally adjusted

[Numbers in thousands]

Reason for unemployment	1979									1980			
	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
NUMBER OF UNEMPLOYED													
Lost last job	2,520	2,356	2,449	2,526	2,680	2,632	2,731	2,729	2,728	2,988	2,907	3,047	3,611
On layoff	839	725	816	797	915	855	929	987	944	1,019	1,031	1,129	1,424
Other job losers	1,681	1,631	1,633	1,729	1,765	1,777	1,802	1,742	1,784	1,969	1,876	1,918	2,188
Left last job	847	940	857	846	875	825	835	845	800	779	813	788	926
Reentered labor force	1,778	1,767	1,753	1,762	1,788	1,760	1,762	1,698	1,771	1,797	1,784	1,803	1,967
Seeking first job	800	824	781	726	745	801	804	736	858	811	827	805	743
PERCENT DISTRIBUTION													
Total unemployed	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Job losers	42.4	40.0	41.9	43.1	44.0	43.7	44.5	45.4	44.3	46.9	45.9	47.3	49.8
On layoff	14.1	12.3	14.0	13.6	15.0	14.2	15.2	16.4	15.3	16.0	16.3	17.5	19.6
Other job losers	28.3	27.7	28.0	29.5	29.0	29.5	29.4	29.0	29.0	30.9	29.6	29.8	30.2
Job leavers	14.2	16.0	14.7	14.4	14.4	13.7	13.6	14.1	13.0	12.2	12.8	12.2	12.8
Reentrants	29.9	30.0	30.0	30.1	29.4	29.2	28.7	28.3	28.8	28.2	28.2	28.0	27.1
New entrants	13.5	14.0	13.4	12.4	12.2	13.3	13.1	12.3	13.9	12.7	13.1	12.5	10.3
UNEMPLOYED AS A PERCENT OF THE CIVILIAN LABOR FORCE													
Job losers	2.5	2.3	2.4	2.5	2.6	2.5	2.6	2.6	2.6	2.9	2.8	2.9	3.5
Job leavers	.8	.9	.8	.8	.8	.8	.8	.8	.8	.7	.8	.8	.9
Reentrants	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.7	1.7	1.7	1.7	1.9
New entrants	.8	.8	.8	.7	.7	.8	.8	.7	.8	.8	.8	.8	.7

7. Duration of unemployment, seasonally adjusted

[Numbers in thousands]

Weeks of unemployment	Annual average		1979									1980			
	1978	1979	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
Less than 5 weeks	2,793	2,869	2,876	2,823	2,880	2,820	3,168	2,778	2,955	2,919	2,916	3,184	2,995	2,995	3,309
5 to 14 weeks	1,875	1,892	1,884	1,919	1,808	1,934	1,738	2,035	1,963	1,869	1,906	1,907	2,081	2,160	2,381
15 weeks and over	1,379	1,202	1,223	1,212	1,152	1,067	1,185	1,152	1,195	1,191	1,230	1,334	1,286	1,363	1,629
15 to 26 weeks	746	684	687	705	656	615	658	644	678	660	711	795	790	776	953
27 weeks and over	633	518	536	507	496	452	527	508	517	531	519	539	496	587	676
Average (mean) duration, in weeks	11.9	10.8	11.0	10.9	10.5	10.1	10.7	10.7	10.5	10.6	10.5	10.5	10.7	11.0	11.3

NOTE: The monthly data in these tables have been revised to reflect seasonal experience through 1979.

EMPLOYMENT, HOURS, AND EARNINGS DATA FROM ESTABLISHMENT SURVEYS

EMPLOYMENT, HOURS, AND EARNINGS DATA in this section are compiled from payroll records reported monthly on a voluntary basis to the Bureau of Labor Statistics and its cooperating State agencies by 162,000 establishments representing all industries except agriculture. In most industries, the sampling probabilities are based on the size of the establishment; most large establishments are therefore in the sample. (An establishment is not necessarily a firm; it may be a branch plant, for example, or warehouse.) Self-employed persons and others not on a regular civilian payroll are outside the scope of the survey because they are excluded from establishment records. This largely accounts for the difference in employment figures between the household and establishment surveys.

LABOR TURNOVER DATA in this section are compiled from personnel records reported monthly on a voluntary basis to the Bureau of Labor Statistics and its cooperating State agencies. A sample of 40,000 establishments represents all industries in the manufacturing and mining sectors of the economy.

Definitions

Employed persons are all persons who received pay (including holiday and sick pay) for any part of the payroll period including the 12th of the month. Persons holding more than one job (about 5 percent of all persons in the labor force) are counted in each establishment which reports them.

Production workers in manufacturing include blue-collar worker supervisors and all nonsupervisory workers closely associated with production operations. Those workers mentioned in tables 14–20 include production workers in manufacturing and mining; construction workers in construction; and nonsupervisory workers in transportation and public utilities, in wholesale and retail trade, in finance, insurance, and real estate, and in service industries. These groups account for about four-fifths of the total employment on private nonagricultural payrolls.

Earnings are the payments production or nonsupervisory workers receive during the survey period, including premium pay for overtime or late-shift work but excluding irregular bonuses and other special payments. **Real earnings** are earnings adjusted to eliminate the effects of price change. The **Hourly Earnings Index** is calculated from average hourly earnings data adjusted to exclude the effects of two types of changes that are unrelated to underlying wage-rate developments: fluctuations in overtime premiums in manufacturing (the only sector for which overtime data are available) and the effects of changes and seasonal factors in the proportion of workers in high-wage and low-wage industries. **Spendable earnings** are earnings from which estimated social security and Federal income taxes have been deducted. The Bureau of Labor Statistics computes spendable earnings from gross weekly earnings for only two illustrative cases: (1) a worker with no dependents and (2) a married worker with three dependents.

Hours represent the average weekly hours of production or nonsupervisory workers for which pay was received and are different from standard or scheduled hours. **Overtime hours** represent the portion of gross average weekly hours which were in excess of regular hours and for which overtime premiums were paid.

Labor turnover is the movement of all wage and salary workers from one employment status to another. **Accession rates** indicate the average number of persons added to a payroll in a given period per 100 employees; **separation rates** indicate the average number dropped from a payroll per 100 employees. Although month-to-month changes in employment can be calculated from the labor turnover data, the results are not comparable with employment data from the employment and payroll survey. The labor turnover survey measures changes during the calendar month while the employment and payroll survey measures changes from midmonth to midmonth.

Notes on the data

Establishment data collected by the Bureau of Labor Statistics are periodically adjusted to comprehensive counts of employment (called "benchmarks"). The latest complete adjustment was made with the release of September 1979 data, published in the November 1979 issue of the *Review*. Consequently, data published in the *Review* prior to that issue are not necessarily comparable to current data. Complete comparable historical unadjusted and seasonally adjusted data are published in a Supplement to Employment and Earnings (unadjusted data from April 1977 through June 1979 and seasonally adjusted data from January 1974 through June 1979) and in *Employment and Earnings, United States, 1909–78*, BLS Bulletin 1312–11 (for prior periods).

Data on recalls were shown for the first time in tables 12 and 13 in the January 1978 issue of the *Review*. For a detailed discussion of the recalls series, along with historical data, see "New Series on Recalls from the Labor Turnover Survey," *Employment and Earnings*, December 1977, pp. 10–19.

A comprehensive discussion of the differences between household and establishment data on employment appears in Gloria P. Green, "Comparing employment estimates from household and payroll surveys," *Monthly Labor Review*, December 1969, pp. 9–20. See also *BLS Handbook of Methods for Surveys and Studies*, Bulletin 1910 (Bureau of Labor Statistics, 1976).

The formulas used to construct the spendable average weekly earnings series reflect the latest provisions of the Federal income tax and social security tax laws. For the spendable average weekly earnings formulas for the years 1978–80, see *Employment and Earnings*, March 1980, pp. 10–11. Real earnings data are adjusted using the Consumer Price Index for Urban Wage Earners and Clerical Workers (CPI-W).

8. Employment by industry, 1950–79

[Nonagricultural payroll data, in thousands]

Year	Total	Mining	Construction	Manufacturing	Transportation and public utilities	Wholesale and retail trade	Wholesale trade	Retail trade	Finance, insurance, and real estate	Services	Government		
											Total	Federal	State and local
1950	45,197	901	2,364	15,241	4,034	9,386	2,635	6,751	1,888	5,357	6,026	1,928	4,098
1951	47,819	929	2,637	16,393	4,226	9,742	2,727	7,015	1,956	5,547	6,389	2,302	4,087
1952	48,793	898	2,668	16,632	4,248	10,004	2,812	7,192	2,035	5,699	6,609	2,420	4,188
1953	50,202	866	2,659	17,549	4,290	10,247	2,854	7,393	2,111	5,835	6,645	2,305	4,340
1954	48,990	791	2,646	16,314	4,084	10,235	2,867	7,368	2,200	5,969	6,751	2,188	4,563
1955	50,641	792	2,839	16,882	4,141	10,535	2,926	7,610	2,298	6,240	6,914	2,187	4,727
1956	52,369	822	3,039	17,243	4,244	10,858	3,018	7,840	2,389	6,497	7,278	2,209	5,069
1957	52,853	828	2,962	17,174	4,241	10,886	3,028	7,858	2,438	6,708	7,616	2,217	5,399
1958	51,324	751	2,817	15,945	3,976	10,750	2,980	7,770	2,481	6,765	7,839	2,191	5,648
1959[1]	53,268	732	3,004	16,675	4,011	11,127	3,082	8,045	2,549	7,087	8,083	2,233	5,850
1960	54,189	712	2,926	16,796	4,004	11,391	3,143	8,248	2,629	7,378	8,353	2,270	6,083
1961	53,999	672	2,859	16,326	3,903	11,337	3,133	8,204	2,688	7,620	8,594	2,279	6,315
1962	55,549	650	2,948	16,853	3,906	11,566	3,198	8,368	2,754	7,982	8,890	2,340	6,550
1963	56,653	635	3,010	16,995	3,903	11,778	3,248	8,530	2,830	8,277	9,225	2,358	6,868
1964	58,283	634	3,097	17,274	3,951	12,160	3,337	8,823	2,911	8,660	9,596	2,348	7,248
1965	60,765	632	3,232	18,062	4,036	12,716	3,466	9,250	2,977	9,036	10,074	2,378	7,696
1966	63,901	627	3,317	19,214	4,158	13,245	3,597	9,648	3,058	9,498	10,784	2,564	8,220
1967	65,803	613	3,248	19,447	4,268	13,606	3,689	9,917	3,185	10,045	11,391	2,719	8,672
1968	67,897	606	3,350	19,781	4,318	14,099	3,779	10,320	3,337	10,567	11,839	2,737	9,102
1969	70,384	619	3,575	20,167	4,442	14,705	3,907	10,798	3,512	11,169	12,195	2,758	9,437
1970	70,880	623	3,588	19,367	4,515	15,040	3,993	11,047	3,645	11,548	12,554	2,731	9,823
1971	71,214	609	3,704	18,623	4,476	15,352	4,001	11,351	3,772	11,797	12,881	2,696	10,185
1972	73,675	628	3,889	19,151	4,541	15,949	4,113	11,836	3,908	12,276	13,334	2,684	10,649
1973	76,790	642	4,097	20,154	4,656	16,607	4,277	12,329	4,046	12,857	13,732	2,663	11,068
1974	78,265	697	4,020	20,077	4,725	16,987	4,433	12,554	4,148	13,441	14,170	2,724	11,446
1975	76,945	752	3,525	18,323	4,542	17,060	4,415	12,645	4,165	13,892	14,686	2,748	11,937
1976	79,382	779	3,576	18,997	4,582	17,755	4,546	13,209	4,271	14,551	14,871	2,733	12,138
1977	82,423	813	3,851	19,682	4,713	18,516	4,708	13,808	4,467	15,303	15,079	2,727	12,352
1978	86,446	851	4,271	20,476	4,927	19,499	4,957	14,542	4,727	16,220	15,476	2,753	12,723
1979	89,482	957	4,644	20,972	5,154	20,137	5,170	14,966	4,963	17,043	15,612	2,773	12,839

[1] Data include Alaska and Hawaii beginning in 1959.

9. Employment by State

[Nonagricultural payroll data, in thousands]

State	Mar. 1979	Feb. 1980	Mar. 1980 p	State	Mar. 1979	Feb. 1980	Mar. 1980 p
Total	88,981.4	89,979.4	81,897.0				
Alabama	1,348.4	1,364.1	1,362.4	Montana	271.1	276.8	279.3
Alaska	158.4	161.4	163.6	Nebraska	616.2	617.9	624.0
Arizona	970.0	1,002.5	1,005.9	Nevada	374.4	391.1	394.9
Arkansas	742.9	746.8	754.3	New Hampshire	366.1	376.6	. . .
California	9,521.9	9,728.2	9,787.4	New Jersey	2,978.9	2,996.0	3,016.8
Colorado	1,192.8	1,237.7	1,246.4	New Mexico	452.0	466.7	470.5
Connecticut	1,378.0	1,397.7	1,404.7	New York	7,064.8	7,104.3	7,140.3
Delaware	250.2	254.6	255.7	North Carolina	2,349.7	2,395.4	2,412.1
District of Columbia	602.8	611.6	613.6	North Dakota	233.8	240.7	243.0
Florida	3,380.5	3,527.8	3,547.8	Ohio	4,442.8	4,405.2	4,448.3
Georgia	2,101.4	2,132.1	2,141.3	Oklahoma	1,068.3	1,106.9	1,119.9
Hawaii	395.4	407.4	411.7	Oregon	1,027.4	1,048.3	1,053.2
Idaho	329.8	328.5	328.3	Pennsylvania	4,749.6	4,7[illegible]	4,768.2
Illinois	4,745.7	4,700.0	4,718.6	Rhode Island	394.5	390.5	392.5
Indiana	2,236.2	2,195.9	2,207.3	South Carolina	1,162.0	1,186.1	1,193.6
Iowa	1,115.3	1,118.8	1,124.6	South Dakota	233.7	233.8	234.6
Kansas	938.0	944.5	953.1	Tennessee	1,757.9	1,773.4	1,786.6
Kentucky	1,222.2	1,214.3	1,226.5	Texas	5,509.7	5,723.3	5,741.7
Louisiana	1,489.4	1,511.8	1,518.6	Utah	538.9	563.5	568.3
Maine	399.5	407.7	406.9	Vermont	194.1	201.0	200.9
Maryland	1,596.7	1,599.3	1,614.7	Virginia	2,060.9	2,087.5	2,094.9
Massachusetts	2,553.9	2,616.0	2,631.6	Washington	1,540.8	1,594.6	1,605.3
Michigan	3,642.8	3,495.5	. . .	West Virginia	633.6	629.3	629.0
Minnesota	1,715.7	1,765.0	1,776.1	Wisconsin	1,905.9	1,959.6	1,965.8
Mississippi	827.3	835.3	836.9	Wyoming	190.6	207.5	210.7
Missouri	1,982.6	1,990.0	1,993.2				

10. Employment by industry division and major manufacturing group

[Nonagricultural payroll data, in thousands]

Industry division and group	Annual average		1979									1980			
	1978	1979	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.[p]	Apr.[p]
TOTAL	86,446	89,482	88,820	89,671	90,541	89,618	89,673	90,211	90,678	90,902	91,009	89,285	89,417	89,942	90,111
MINING	851	957	932	944	968	976	986	980	982	984	984	982	986	995	1,007
CONSTRUCTION	4,271	4,644	4,413	4,662	4,881	4,993	5,048	4,984	4,976	4,879	4,711	4,350	4,261	4,303	4,412
MANUFACTURING	20,476	20,972	20,907	20,988	21,234	20,965	20,996	21,192	21,094	20,966	20,902	20,699	20,648	20,711	20,462
Production workers	14,714	15,010	15,002	15,061	15,240	14,946	14,960	15,172	15,082	14,954	14,891	14,674	14,615	14,668	14,431
Durable goods	12,246	12,690	12,697	12,739	12,877	12,712	12,598	12,805	12,737	12,661	12,649	12,525	12,523	12,575	12,342
Production workers	8,786	9,053	9,105	9,129	9,223	9,031	8,907	9,116	9,058	8,983	8,971	8,825	8,813	8,860	8,632
Lumber and wood products	752.4	758.4	748.8	763.8	783.2	776.8	780.0	776.3	771.3	748.9	729.2	709.2	710.6	706.7	673.7
Furniture and fixtures	491.1	487.3	487.8	483.9	484.2	475.5	483.5	485.3	487.6	488.7	486.9	484.4	480.7	480.2	474.4
Stone, clay, and glass products	698.0	710.8	706.6	718.6	733.1	727.1	728.2	723.6	721.0	712.9	699.6	680.8	677.5	683.1	680.4
Primary metal industries	1,212.7	1,243.9	1,259.0	1,258.6	1,274.3	1,260.7	1,244.5	1,244.3	1,225.1	1,216.7	1,204.4	1,201.6	1,199.4	1,198.2	1,193.5
Fabricated metal products	1,673.4	1,727.2	1,723.7	1,727.8	1,749.0	1,715.7	1,716.1	1,735.3	1,738.3	1,738.2	1,730.4	1,703.8	1,706.5	1,710.4	1,681.2
Machinery, except electrical	2,319.2	2,462.5	2,468.0	2,463.6	2,491.2	2,485.1	2,467.1	2,496.4	2,447.2	2,440.9	2,455.8	2,522.5	2,520.8	2,526.5	2,515.7
Electric and electronic equipment	1,999.5	2,108.7	2,086.1	2,095.2	2,128.2	2,111.7	2,089.5	2,136.1	2,143.7	2,146.3	2,153.1	2,144.5	2,138.3	2,149.2	2,136.4
Transportation equipment	1,991.7	2,048.3	2,082.2	2,091.8	2,077.9	2,027.7	1,933.2	2,051.0	2,040.9	2,009.7	2,043.4	1,943.6	1,950.4	1,974.2	1,843.4
Instruments and related products	653.5	690.4	688.5	686.5	698.8	692.9	695.3	692.7	695.4	695.9	699.8	698.9	701.2	705.0	702.4
Miscellaneous manufacturing	454.0	452.4	448.0	448.9	457.4	438.6	460.6	463.8	466.9	462.8	446.4	435.9	437.2	441.4	440.5
Nondurable goods	8,230	8,283	8,210	8,249	8,357	8,253	8,398	8,387	8,357	8,305	8,253	8,174	8,125	8,136	8,120
Production workers	5,928	5,957	5,897	5,932	6,017	5,915	6,053	6,056	6,024	5,971	5,920	5,849	5,802	5,808	5,799
Food and kindred products	1,721.2	1,716.3	1,657.3	1,669.6	1,716.6	1,737.8	1,810.0	1,814.1	1,766.8	1,725.0	1,695.9	1,650.5	1,634.9	1,630.2	1,617.1
Tobacco manufactures	69.6	66.2	62.5	61.9	62.1	62.1	69.0	72.2	71.9	64.8	66.7	65.1	63.4	60.9	58.7
Textile mill products	900.2	891.9	890.4	892.5	900.4	875.5	890.4	888.9	889.8	893.9	893.5	887.4	887.9	890.8	891.8
Apparel and other textile products	1,332.5	1,313.1	1,323.7	1,327.5	1,333.1	1,278.7	1,308.9	1,309.1	1,317.0	1,306.2	1,292.0	1,284.4	1,305.9	1,315.0	1,307.0
Paper and allied products	700.9	714.1	710.8	712.7	724.6	719.6	723.3	718.5	717.7	715.9	714.0	711.8	710.0	711.0	708.3
Printing and publishing	1,193.1	1,242.9	1,231.0	1,234.7	1,243.4	1,245.8	1,245.4	1,246.1	1,254.5	1,265.6	1,272.0	1,269.5	1,274.0	1,276.0	1,274.7
Chemicals and allied products	1,096.3	1,112.7	1,106.7	1,110.9	1,126.6	1,123.0	1,121.2	1,114.9	1,115.0	1,115.2	1,115.6	1,113.9	1,113.0	1,118.0	1,120.5
Petroleum and coal products	208.7	213.8	210.8	212.9	216.8	218.0	218.3	218.1	218.1	217.2	214.9	213.1	159.1	156.6	179.2
Rubber and miscellaneous plastics products	751.9	767.5	772.0	777.0	779.4	767.4	765.8	762.0	762.6	757.6	747.5	742.2	738.3	738.7	723.0
Leather and leather products	255.6	243.8	245.1	249.2	253.7	224.7	245.8	243.1	243.1	243.2	240.7	236.1	238.3	239.1	239.2
TRANSPORTATION AND PUBLIC UTILITIES	4,927	5,154	4,989	5,125	5,231	5,200	5,210	5,242	5,244	5,255	5,254	5,149	5,142	5,155	5,150
WHOLESALE AND RETAIL TRADE	19,499	20,137	19,957	20,119	20,222	20,118	20,137	20,260	20,314	20,580	20,932	20,224	20,041	20,111	20,235
WHOLESALE TRADE	4,957	5,170	5,112	5,146	5,211	5,208	5,211	5,206	5,235	5,251	5,234	5,211	5,221	5,243	5,224
RETAIL TRADE	14,542	14,966	14,845	14,973	15,011	14,910	14,926	15,054	15,079	15,329	15,698	15,013	14,820	14,868	15,011
FINANCE, INSURANCE, AND REAL ESTATE	4,727	4,963	4,900	4,936	5,003	5,032	5,053	5,002	5,013	5,029	5,041	5,040	5,051	5,072	5,093
SERVICES	16,220	17,043	16,897	17,039	17,239	17,314	17,312	17,225	17,292	17,281	17,270	17,111	17,294	17,452	17,564
GOVERNMENT	15,476	15,612	15,825	15,858	15,763	15,020	14,931	15,326	15,763	15,928	15,915	15,730	15,994	16,143	16,188
Federal	2,753	2,773	2,750	2,773	2,824	2,838	2,844	2,751	2,756	2,760	2,770	2,763	2,803	2,867	2,944
State and local	12,723	12,839	13,075	13,085	12,939	12,182	12,087	12,575	13,007	13,168	13,145	12,967	13,191	13,276	13,244

11. Employment by industry division and major manufacturing group, seasonally adjusted

[Nonagricultural payroll data, in thousands]

Industry division and group	1979									1980			
	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.^{p}	Apr.^{p}
TOTAL	89,036	89,398	89,626	89,713	89,762	89,803	89,982	90,100	90,241	90,652	90,845	90,799	90,320
MINING	940	944	949	956	968	973	979	983	991	1,000	1,009	1,010	1,016
CONSTRUCTION	4,559	4,648	4,662	4,688	4,674	4,671	4,694	4,714	4,783	4,893	4,831	4,698	4,558
MANUFACTURING	21,066	21,059	21,063	21,079	20,957	20,949	20,899	20,836	20,881	20,890	20,892	20,869	20,615
Production workers	15,134	15,112	15,096	15,090	14,956	14,957	14,894	14,829	14,865	14,848	14,826	14,822	14,556
Durable goods	12,752	12,739	12,760	12,786	12,714	12,737	12,650	12,587	12,615	12,601	12,655	12,658	12,395
Production workers	9,146	9,119	9,123	9,124	9,044	9,066	8,972	8,908	8,931	8,894	8,926	8,934	8,672
Lumber and wood products	761	762	757	753	752	758	760	751	740	737	740	729	685
Furniture and fixtures	490	487	485	488	484	480	482	483	483	484	481	481	477
Stone, clay, and glass products	714	715	715	711	710	708	709	704	706	708	709	704	687
Primary metal industries	1,260	1,254	1,257	1,256	1,245	1,236	1,226	1,223	1,208	1,208	1,210	1,205	1,195
Fabricated metal products	1,732	1,730	1,737	1,730	1,714	1,716	1,723	1,726	1,725	1,712	1,724	1,722	1,690
Machinery, except electrical	2,466	2,471	2,484	2,500	2,492	2,496	2,455	2,438	2,444	2,512	2,511	2,516	2,513
Electric and electronic equipment	2,101	2,106	2,124	2,131	2,092	2,117	2,125	2,125	2,140	2,149	2,147	2,160	2,151
Transportation equipment	2,084	2,077	2,057	2,073	2,079	2,086	2,025	1,994	2,019	1,938	1,980	1,984	1,845
Instruments and related products	689	688	693	694	695	692	696	694	698	700	703	707	705
Miscellaneous manufacturing	455	449	451	450	451	448	449	449	452	453	450	450	447
Nondurable goods	8,314	8,320	8,303	8,293	8,243	8,212	8,249	8,249	8,266	8,289	8,237	8,231	8,220
Production workers	5,988	5,993	5,973	5,966	5,912	5,891	5,922	5,921	5,934	5,954	5,900	5,888	5,884
Food and kindred products	1,728	1,725	1,720	1,707	1,696	1,691	1,707	1,710	1,715	1,707	1,705	1,698	1,686
Tobacco manufactures	69	70	69	68	64	65	65	60	62	64	65	65	65
Textile mill products	892	893	892	892	886	884	887	889	893	891	891	893	894
Apparel and other textile products	1,325	1,324	1,312	1,324	1,302	1,294	1,299	1,292	1,297	1,309	1,312	1,312	1,308
Paper and allied products	717	714	715	718	717	714	715	714	713	718	717	718	714
Printing and publishing	1,234	1,236	1,242	1,250	1,247	1,245	1,252	1,262	1,263	1,273	1,278	1,279	1,277
Chemicals and allied products	1,111	1,114	1,119	1,116	1,111	1,110	1,113	1,114	1,119	1,123	1,121	1,122	1,125
Petroleum and coal products	213	213	212	212	213	215	217	217	217	219	163	160	181
Rubber and miscellaneous plastics products	781	784	775	777	764	751	751	749	745	745	744	744	732
Leather and leather products	244	247	247	229	243	243	243	242	242	240	241	240	238
TRANSPORTATION AND PUBLIC UTILITIES	5,024	5,130	5,190	5,169	5,194	5,180	5,218	5,229	5,223	5,212	5,210	5,212	5,186
WHOLESALE AND RETAIL TRADE	20,088	20,129	20,116	20,122	20,126	20,169	20,243	20,308	20,254	20,428	20,521	20,498	20,367
WHOLESALE TRADE	5,138	5,156	5,180	5,182	5,185	5,190	5,209	5,235	5,218	5,248	5,274	5,280	5,250
RETAIL TRADE	14,950	14,973	14,936	14,940	14,941	14,979	15,034	15,073	15,036	15,180	15,247	15,218	15,117
FINANCE, INSURANCE, AND REAL ESTATE	4,915	4,936	4,958	4,972	5,003	4,997	5,018	5,039	5,056	5,081	5,092	5,103	5,108
SERVICES	16,880	16,954	17,051	17,092	17,141	17,191	17,257	17,298	17,357	17,442	17,522	17,540	17,546
GOVERNMENT	15,564	15,598	15,637	15,635	15,699	15,673	15,674	15,693	15,696	15,706	15,768	15,849	15,924
Federal	2,758	2,770	2,788	2,785	2,813	2,762	2,770	2,771	2,771	2,791	2,823	2,884	2,952
State and local	12,806	12,828	12,849	12,850	12,886	12,911	12,904	12,922	12,925	12,915	12,945	12,965	12,972

12. Labor turnover rates in manufacturing, 1977 to date

[Per 100 employees]

Year	Annual average	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
							Total accessions						
1977	4.0	3.7	3.7	4.0	3.8	4.6	4.9	4.3	5.3	4.6	3.9	3.1	2.4
1978	4.1	3.8	3.2	3.8	4.0	4.7	4.9	4.4	5.4	4.9	4.3	3.3	2.4
1979	3.9	4.0	3.4	3.8	3.9	4.7	4.8	4.3	4.9	4.4	4.1	2.9	2.2
1980	...	3.8	3.3	p3.4	...	...	...	...	...	...	...	...	...
							New hires						
1977	2.8	2.2	2.1	2.6	2.7	3.5	3.7	3.0	4.0	3.5	3.0	2.2	1.8
1978	3.1	2.5	2.2	2.7	2.9	3.6	3.9	3.3	4.2	3.9	3.5	2.6	1.7
1979	2.9	2.8	2.5	2.8	2.9	3.6	3.8	3.1	3.7	3.4	3.1	2.2	1.5
1980	...	2.4	2.2	p2.3	...	...	...	...	...	...	...	...	...
							Recalls						
1977	.9	1.2	1.3	1.1	.9	.8	.8	.9	1.0	.8	.6	.6	.6
1978	.7	1.0	.7	.8	.8	.8	.7	.8	.9	.7	.6	.5	.5
1979	.7	.9	.7	.7	.7	.8	.7	.9	.8	.8	.7	.5	.5
1980	...	1.1	.9	p.9	...	...	...	...	...	...	...	...	...
							Total separations						
1977	3.8	3.9	3.4	3.4	3.4	3.5	3.5	4.3	5.1	4.9	3.8	3.4	3.4
1978	3.9	3.6	3.1	3.5	3.6	3.7	3.8	4.1	5.3	4.8	4.1	3.5	3.4
1979	4.0	3.8	3.2	3.6	3.6	3.8	3.9	4.3	5.7	4.7	4.2	3.8	3.5
1980	...	4.1	3.5	3.7	...	...	...	...	...	...	...	...	...
							Quits						
1977	1.8	1.4	1.3	1.6	1.7	1.9	1.9	1.9	3.1	2.8	1.9	1.5	1.2
1978	2.1	1.5	1.4	1.8	2.0	2.1	2.2	2.1	3.5	3.1	2.3	1.7	1.3
1979	2.0	1.8	1.6	1.9	2.0	2.1	2.1	2.0	3.3	2.7	2.1	1.6	1.1
1980	...	1.6	1.5	p1.5	...	...	...	...	...	...	...	...	...
							Layoffs						
1977	1.1	1.7	1.4	1.0	.9	.8	.8	1.5	1.0	1.1	1.1	1.1	1.5
1978	.9	1.2	.9	.9	.8	.7	.7	1.0	.8	.8	.9	1.0	1.4
1979	1.1	1.1	.8	.8	.9	.7	.8	1.4	1.3	1.1	1.2	1.5	1.7
1980	...	1.6	.12	p1.3	...	...	...	...	...	...	...	...	...

13. Labor turnover rates in manufacturing, by major industry group

[Per 100 employees]

Major industry group	Accession rates									Separation rates								
	Total			New hires			Recalls			Total			Quits			Layoffs		
	Mar. 1979	Feb. 1980	Mar. 1980p	Mar. 1979	Feb. 1980	Mar. 1980p	Mar. 1979	Feb. 1980	Mar. 1980p	Mar. 1979	Feb. 1980	Mar. 1980p	Mar. 1979	Feb. 1980	Mar. 1980p	Mar. 1979	Feb. 1980	Mar. 1980p
MANUFACTURING	3.8	3.3	3.4	2.8	2.2	2.3	0.7	0.9	0.9	3.6	3.5	3.7	1.9	1.5	1.5	0.8	1.2	1.3
Seasonally adjusted	4.0	4.0	3.5	3.1	2.9	2.5	...	...	...	3.9	4.2	4.1	2.1	2.1	1.7	.9	1.3	1.5
Durable goods	3.6	3.0	3.2	2.7	1.9	2.0	.6	.8	.9	3.3	3.2	3.6	1.7	1.2	1.3	.7	1.2	1.5
Lumber and wood products	5.8	4.6	4.3	4.4	2.9	2.8	1.3	1.6	1.3	6.1	5.5	6.5	3.4	2.2	2.2	1.6	2.5	3.3
Furniture and fixtures	4.9	3.8	3.9	4.3	3.0	3.1	.5	.7	.6	5.5	4.0	4.4	3.4	2.2	2.4	.9	.8	.9
Stone, clay, and glass products	4.9	3.4	3.8	2.9	1.8	2.0	1.8	1.4	1.6	3.7	3.9	3.7	1.8	1.3	1.3	1.0	1.8	1.7
Primary metal industries	2.6	2.3	2.7	1.8	1.0	1.1	.5	1.1	1.2	2.2	2.6	2.7	.9	.6	.6	.4	1.1	1.3
Fabricated metal products	3.7	3.4	3.5	3.0	2.3	2.2	.6	.9	1.1	3.8	3.7	4.0	2.0	1.5	1.5	.9	1.4	1.7
Machinery, except electrical	2.8	2.3	2.5	2.4	1.8	1.8	.2	.3	.4	2.6	2.4	2.7	1.4	1.0	1.1	.3	.6	.9
Electric and electronic equipment	3.5	2.8	2.9	2.5	1.9	2.1	.5	.4	.4	3.1	2.8	2.9	1.7	1.2	1.3	.5	.7	.7
Transportation equipment	3.4	3.0	...	2.3	1.4	...	.7	1.0	...	2.7	3.5	...	1.1	.8	...	.8	1.8	...
Instruments and related products	2.7	2.8	3.0	2.3	2.3	2.6	.2	.3	.2	2.5	2.4	2.7	1.5	1.3	1.4	.4	.3	.5
Miscellaneous manufacturing	5.2	4.5	4.7	3.8	2.7	2.8	1.2	1.6	1.6	5.1	4.5	4.9	2.5	1.8	1.9	1.5	1.8	2.0
Nondurable goods	4.1	3.7	3.9	2.9	2.5	2.7	.9	1.0	.9	4.2	3.8	3.8	2.3	1.8	1.9	1.1	1.2	1.1
Food and kindred products	5.3	4.4	5.0	3.5	2.7	3.0	1.6	1.5	1.7	5.5	5.1	4.9	2.7	2.1	2.1	1.9	2.2	2.0
Tobacco manufacturers	2.2	2.0	...	1.0	.8	...	.8	.8	...	4.8	5.1	...	.8	1.0	...	3.1	3.2	...
Textile mill products	4.5	3.9	4.3	3.5	3.0	3.4	.6	.6	.6	4.8	4.0	4.1	2.1	2.3	2.5	.6	.7	.5
Apparel and other products	5.2	5.7	5.3	3.6	3.7	3.8	1.4	1.7	1.3	5.7	5.0	5.0	3.2	2.7	2.9	1.7	1.5	1.3
Paper and allied products	2.7	2.1	2.5	1.8	1.4	1.5	.7	.5	.8	2.6	2.5	2.8	1.3	.9	1.0	.7	.9	1.1
Printing and publishing	3.3	3.1	3.1	2.7	2.5	2.6	.5	.4	.4	3.1	3.0	2.9	2.0	1.8	1.7	.5	.6	.6
Chemicals and allied products	1.8	1.6	1.7	1.4	1.2	1.3	.3	.2	.3	1.5	1.5	1.5	.7	.6	.7	.3	.3	.3
Petroleum and coal products	2.3	1.8	2.0	1.7	1.2	1.4	.5	.4	.5	1.8	1.8	1.8	.7	.7	.6	.5	.3	.6
Rubber and miscellaneous plastics products	4.5	4.0	3.9	3.7	2.7	2.7	.5	1.1	.9	4.8	4.6	4.6	2.8	1.9	2.0	.8	1.6	1.6
Leather and leather products	6.3	6.0	6.6	4.2	4.1	4.6	1.7	1.6	1.6	6.7	6.0	6.3	4.1	3.1	3.3	1.6	2.0	2.0

14. Hours and earnings, by industry division, 1949–79

[Gross averages, production or nonsupervisory workers on nonagricultural payrolls]

Year	Average weekly earnings	Average weekly hours	Average hourly earnings	Average weekly earnings	Average weekly hours	Average hourly earnings	Average weekly earnings	Average weekly hours	Average hourly earnings	Average weekly earnings	Average weekly hours	Average hourly earnings
	Total private			Mining			Construction			Manufacturing		
1949	$50.24	39.4	$1.275	$82.33	36.3	$1.717	$67.56	37.7	$1.792	$53.88	39.1	$1.378
1950	53.13	39.8	1.335	67.16	37.9	1.772	69.68	37.4	1.863	58.32	40.5	1.440
1951	57.86	39.9	1.45	74.11	38.4	1.93	76.96	38.1	2.02	63.34	40.6	1.56
1952	60.65	39.9	1.52	77.59	38.6	2.01	82.86	38.9	2.13	66.75	40.7	1.64
1953	63.76	39.6	1.61	83.03	38.8	2.14	86.41	37.9	2.28	70.47	40.5	1.74
1954	64.52	39.1	1.65	82.60	38.6	2.14	88.91	37.2	2.39	70.49	39.6	1.78
1955	67.72	39.6	1.71	89.54	40.7	2.20	90.90	37.1	2.45	75.30	40.7	1.86
1956	70.74	39.3	1.80	95.06	40.8	2.33	96.38	37.5	2.57	78.78	40.4	1.95
1957	73.33	38.8	1.89	98.25	40.1	2.45	100.27	37.0	2.71	81.19	39.8	2.04
1958	75.08	38.5	1.95	96.08	38.9	2.47	103.78	36.8	2.82	82.32	39.2	2.10
1959[1]	78.78	39.0	2.02	103.68	40.5	2.56	108.41	37.0	2.93	88.26	40.3	2.19
1960	80.67	38.6	2.09	105.04	40.4	2.60	112.67	36.7	3.07	89.72	39.7	2.26
1961	82.60	38.6	2.14	106.92	40.5	2.64	118.08	36.9	3.20	92.34	39.8	2.32
1962	85.91	38.7	2.22	110.70	41.0	2.70	122.47	37.0	3.31	96.56	40.4	2.39
1963	88.46	38.8	2.28	114.40	41.6	2.75	127.19	37.3	3.41	99.23	40.5	2.45
1964	91.33	38.7	2.36	117.74	41.9	2.81	132.06	37.2	3.55	102.97	40.7	2.53
1965	95.45	38.8	2.46	123.52	42.3	2.92	138.38	37.4	3.70	107.53	41.2	2.61
1966	98.82	38.6	2.56	130.24	42.7	3.05	146.26	37.6	3.89	112.19	41.4	2.71
1967	101.84	38.0	2.68	135.89	42.6	3.19	154.95	37.7	4.11	114.49	40.6	2.82
1968	107.73	37.8	2.85	142.71	42.6	3.35	164.49	37.3	4.41	122.51	40.7	3.01
1969	114.61	37.7	3.04	154.80	43.0	3.60	181.54	37.9	4.79	129.51	40.6	3.19
1970	119.83	37.1	3.23	164.40	42.7	3.85	195.45	37.3	5.24	133.33	39.8	3.35
1971	127.31	36.9	3.45	172.14	42.4	4.06	211.67	37.2	5.69	142.44	39.9	3.57
1972	136.90	37.0	3.70	189.14	42.6	4.44	221.19	36.5	6.06	154.71	40.5	3.82
1973	145.39	36.9	3.94	201.40	42.4	4.75	235.89	36.8	6.41	166.46	40.7	4.09
1974	154.76	36.5	4.24	219.14	41.9	5.23	249.25	36.6	6.81	176.80	40.0	4.42
1975	163.53	36.1	4.53	249.31	41.9	5.95	266.08	36.4	7.31	190.79	39.5	4.83
1976	175.45	36.1	4.86	273.90	42.4	6.46	283.73	36.8	7.71	209.32	40.1	5.22
1977	189.00	36.0	5.25	301.20	43.4	6.94	295.65	36.5	8.10	228.90	40.3	5.68
1978	203.70	35.8	5.69	332.11	43.3	7.67	318.32	36.8	8.65	249.27	40.4	6.17
1979	219.91	35.7	6.16	364.64	43.0	8.48	341.69	36.9	9.26	268.94	40.2	6.69
	Transportation and public utilities			Wholesale and retail trade			Finance, insurance, and real estate			Services		
1949	....	....	....	$42.93	40.5	$1.060	$47.63	37.8	$1.260	....	....	....
1950	....	....	....	44.55	40.5	1.100	50.52	37.7	1.340	....	....	....
1951	....	....	....	47.79	40.5	1.18	54.67	37.7	1.45	....	....	....
1952	....	....	....	49.20	40.0	1.23	57.08	37.8	1.51	....	....	....
1953	....	....	....	51.35	39.5	1.30	59.57	37.7	1.58	....	....	....
1954	....	....	....	53.33	39.5	1.35	62.04	37.6	1.65	....	....	....
1955	....	....	....	55.16	39.4	1.40	63.92	37.6	1.70	....	....	....
1956	....	....	....	57.48	39.1	1.47	65.68	36.9	1.78	....	....	....
1957	....	....	....	59.60	38.7	1.54	67.53	36.7	1.84	....	....	....
1958	....	....	....	61.76	38.6	1.60	70.12	37.1	1.89	....	....	....
1959[1]	....	....	....	64.41	38.8	1.66	72.74	37.3	1.95	....	....	....
1960	....	....	....	66.01	38.6	1.71	75.14	37.2	2.02	....	....	....
1961	....	....	....	67.41	38.3	1.76	77.12	36.9	2.09	....	....	....
1962	....	....	....	69.91	38.2	1.83	80.94	37.3	2.17	....	....	....
1963	....	....	....	72.01	38.1	1.89	84.38	37.5	2.25	....	....	....
1964	$118.78	41.1	$2.89	74.66	37.9	1.97	85.79	37.3	2.30	$70.03	36.1	$1.94
1965	125.14	41.3	3.03	76.91	37.7	2.04	88.91	37.2	2.39	73.60	35.9	2.05
1966	128.13	41.2	3.11	79.39	37.1	2.14	92.13	37.3	2.47	77.04	35.5	2.17
1967	130.82	40.5	3.23	82.35	36.6	2.25	95.72	37.1	2.58	80.38	35.1	2.29
1968	138.85	40.6	3.42	87.00	36.1	2.41	101.75	37.0	2.75	83.97	34.7	2.42
1969	147.74	40.7	3.63	91.39	35.7	2.56	108.70	37.1	2.93	90.57	34.7	2.61
1970	155.93	40.5	3.85	96.02	35.3	2.72	112.67	36.7	3.07	96.66	34.4	2.81
1971	168.82	40.1	4.21	101.09	35.1	2.88	117.85	36.6	3.22	103.06	33.9	3.04
1972	187.86	40.4	4.65	106.45	34.9	3.05	122.98	36.6	3.36	110.85	33.9	3.27
1973	203.31	40.5	5.02	111.76	34.6	3.23	129.20	36.6	3.53	117.29	33.8	3.47
1974	217.48	40.2	5.41	119.02	34.2	3.48	137.61	36.5	3.77	126.00	33.6	3.75
1975	233.44	39.7	5.88	126.45	33.9	3.73	148.19	36.5	4.06	134.67	33.5	4.02
1976	256.71	39.8	6.45	133.79	33.7	3.97	155.43	36.4	4.27	143.52	33.3	4.31
1977	278.90	39.9	6.99	142.52	33.3	4.28	165.26	36.4	4.54	153.45	33.0	4.65
1978	302.80	40.0	7.57	153.64	32.9	4.67	178.36	36.4	4.90	163.67	32.8	4.99
1979	325.58	39.9	8.16	164.96	32.6	5.06	191.66	36.3	5.28	175.27	32.7	5.36

[1] Data include Alaska and Hawaii beginning in 1959.

15. Weekly hours, by industry division and major manufacturing group

[Gross averages, production or nonsupervisory workers on private nonagricultural payrolls]

Industry division and group	Annual Average		1979									1980			
	1978	1979	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.^{p}	Apr.^{p}
TOTAL PRIVATE	35.8	35.7	35.1	35.5	35.9	36.0	36.0	35.8	35.7	35.6	35.9	35.1	35.2	35.2	35.1
MINING	43.3	43.0	42.6	42.8	43.3	41.7	43.1	43.5	43.7	43.7	43.9	43.4	43.2	43.4	43.0
CONSTRUCTION	36.8	36.9	35.5	37.2	37.9	37.7	38.0	37.9	37.6	36.5	37.1	35.1	35.5	36.1	36.6
MANUFACTURING	40.4	40.2	38.9	40.1	40.4	39.9	40.0	40.3	40.3	40.4	40.9	39.8	39.8	39.8	39.4
Overtime hours	3.6	3.3	2.5	3.3	3.4	3.2	3.3	3.6	3.4	3.4	3.4	3.0	2.9	3.0	2.7
Durable goods	41.1	40.8	39.3	40.8	41.0	40.4	40.4	40.8	40.8	40.8	41.6	40.3	40.3	40.4	39.9
Overtime hours	3.8	3.5	2.6	3.6	3.6	3.4	3.4	3.6	3.5	3.5	3.5	3.1	3.0	3.1	2.7
Lumber and wood products	39.8	39.5	39.1	39.6	40.2	39.4	39.9	40.1	39.8	38.8	39.2	38.1	38.5	38.3	37.3
Furniture and fixtures	39.3	38.6	37.5	38.2	38.8	38.0	38.6	39.0	39.3	39.2	39.9	38.4	38.9	38.4	38.1
Stone, clay, and glass products	41.6	41.5	41.1	41.9	42.1	41.5	41.7	41.7	41.7	41.7	41.8	40.1	40.1	40.6	40.3
Primary metal industries	41.8	41.4	41.7	41.4	41.6	41.3	40.8	41.3	40.9	40.7	40.9	40.7	40.7	40.6	40.2
Fabricated metal products	41.0	40.8	38.8	40.7	41.0	40.3	40.5	40.8	41.0	41.0	41.9	40.6	40.4	40.6	40.1
Machinery except electrical	42.0	41.8	40.3	41.7	42.0	41.2	41.3	41.9	41.6	41.9	42.8	41.5	41.5	41.6	41.1
Electric and electronic equipment	40.3	40.3	38.8	40.2	40.5	39.6	39.7	40.5	40.3	40.9	41.3	40.2	40.2	40.0	39.5
Transportation equipment	42.2	41.2	37.9	41.6	41.3	40.9	40.5	40.7	41.3	40.6	42.6	40.1	40.4	40.5	40.3
Instruments and related products	40.9	40.8	40.0	40.8	40.7	40.3	40.3	40.7	40.8	41.4	41.6	41.0	40.7	40.6	40.4
Miscellaneous manufacturing	38.8	38.9	37.6	38.5	39.0	38.7	38.9	39.3	39.3	39.6	39.7	39.1	38.8	38.8	38.3
Nondurable goods	39.4	39.3	38.2	39.1	39.4	39.2	39.4	39.6	39.4	39.6	39.9	39.0	38.9	39.0	38.7
Overtime hours	3.2	3.1	2.5	2.9	3.0	3.0	3.2	3.5	3.2	3.3	3.2	2.9	2.8	2.9	2.7
Food and kindred products	39.7	39.9	39.0	39.6	39.8	40.1	40.3	40.6	40.0	40.2	40.3	39.5	39.0	39.1	38.9
Tobacco manufactures	38.1	38.0	37.6	38.9	39.0	36.1	37.6	39.1	38.8	39.0	39.5	37.4	36.9	37.7	37.4
Textile mill products	40.4	40.3	38.6	40.1	40.6	39.9	40.3	40.8	40.8	41.3	41.5	40.9	40.8	40.9	39.5
Apparel and other textile products	35.6	35.2	33.9	35.1	35.6	35.4	35.6	35.4	35.5	35.6	35.9	35.2	35.5	35.4	35.3
Paper and allied products	42.9	42.6	41.6	42.4	42.8	42.5	42.6	42.7	42.6	42.9	43.5	42.6	42.4	42.3	42.4
Printing and publishing	37.6	37.5	36.8	37.3	37.4	37.4	37.9	37.9	37.5	37.9	38.1	37.2	37.0	37.2	36.7
Chemicals and allied products	41.9	41.8	41.9	41.8	41.8	41.7	41.8	41.8	41.7	42.1	42.2	41.7	41.6	41.8	41.6
Petroleum and coal products	43.8	43.8	43.9	43.7	43.4	44.1	43.6	44.7	44.1	44.8	43.4	38.1	39.6	40.1	41.8
Rubber and miscellaneous plastics products	40.9	40.5	39.4	40.5	40.7	40.2	40.0	40.5	40.5	40.3	40.7	40.3	38.9	39.9	39.5
Leather and leather products	37.1	36.5	35.3	36.4	37.1	36.9	36.6	36.8	36.5	36.8	37.3	36.7	36.8	36.4	36.1
TRANSPORTATION AND PUBLIC UTILITIES	40.0	39.9	39.0	39.6	40.0	40.0	40.3	39.9	39.9	40.2	40.0	39.5	39.7	39.7	39.6
WHOLESALE AND RETAIL TRADE	32.9	32.6	32.5	32.4	32.9	33.3	33.2	32.7	32.5	32.4	32.9	31.9	31.9	32.0	31.9
WHOLESALE TRADE	38.8	38.6	38.6	38.9	39.0	39.0	38.9	38.8	38.9	38.9	39.1	38.5	38.4	38.4	38.4
RETAIL TRADE	31.0	30.7	30.6	30.4	31.0	31.5	31.4	30.7	30.4	30.4	31.0	29.8	29.8	29.9	29.8
FINANCE, INSURANCE, AND REAL ESTATE	36.4	36.3	36.4	36.1	36.2	36.4	36.2	36.3	36.3	36.4	36.4	36.3	36.4	36.5	36.3
SERVICES	32.8	32.7	32.5	32.5	32.9	33.3	33.2	32.7	32.6	32.6	32.6	32.5	32.5	32.5	32.5

16. Weekly hours, by industry division and major manufacturing group, seasonally adjusted

[Gross averages, production or nonsupervisory workers on private nonagricultural payrolls]

Industry division and group	1979									1980			
	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar. p	Apr. p
TOTAL PRIVATE	35.3	35.7	35.6	35.6	35.6	35.7	35.6	35.7	35.7	35.7	35.5	35.4	35.3
MINING	42.9	42.8	43.0	41.6	43.2	43.1	43.1	43.2	43.9	44.4	43.7	43.5	43.3
CONSTRUCTION	35.5	37.1	37.2	36.8	37.2	37.5	36.6	36.8	37.1	37.6	36.7	36.2	36.6
MANUFACTURING	39.1	40.2	40.1	40.2	40.1	40.2	40.2	40.1	40.2	40.3	40.1	39.8	39.6
Overtime hours	2.7	3.5	3.4	3.3	3.2	3.2	3.2	3.3	3.2	3.2	3.1	3.1	2.8
Durable goods	39.5	40.9	40.7	40.7	40.7	40.7	40.8	40.6	40.7	40.8	40.6	40.4	40.1
Overtime hours	2.7	3.8	3.6	3.5	3.3	3.3	3.3	3.4	c3.2	3.3	3.1	3.2	2.8
Lumber and wood products	39.1	39.4	39.4	39.3	39.5	39.7	39.4	38.9	39.0	39.5	39.1	38.6	37.3
Furniture and fixtures	38.1	38.5	38.5	38.4	38.3	38.6	38.8	38.9	39.0	39.0	39.0	38.5	38.7
Stone, clay, and glass products	41.2	41.7	41.6	41.4	41.3	41.5	41.3	41.5	41.6	41.3	41.0	40.8	40.4
Primary metal industries	41.8	41.4	41.2	41.3	41.0	41.0	41.1	40.7	40.6	40.8	40.8	40.7	40.3
Fabricated metal products	39.1	40.7	40.7	40.8	40.6	40.7	40.9	40.7	41.0	40.9	40.8	40.6	40.4
Machinery, except electrical	40.5	42.0	42.0	41.9	41.6	41.9	41.6	41.6	41.6	41.7	41.5	41.4	41.3
Electric and electronic equipment	39.0	40.4	40.3	40.2	39.8	40.3	40.3	40.6	40.5	40.4	40.4	40.0	39.7
Transportation equipment	37.9	41.5	40.8	40.9	41.7	40.6	41.3	40.6	41.0	41.0	40.9	40.5	40.3
Instruments and related products	40.3	40.8	40.6	40.7	40.5	40.6	40.7	41.0	40.8	41.5	40.9	40.5	40.7
Miscellaneous manufacturing	37.6	38.6	38.9	39.3	39.1	39.1	39.1	39.1	39.2	39.5	39.2	38.6	38.3
Nondurable goods	38.6	39.2	39.2	39.2	39.2	39.3	39.3	39.4	39.4	39.5	39.4	39.1	38.9
Overtime hours	2.7	3.0	3.0	3.0	3.0	3.1	3.0	3.2	3.1	3.1	3.0	3.1	2.9
Food and kindred products	39.6	39.8	39.8	39.8	39.7	40.0	39.9	40.0	39.9	40.0	39.6	39.5	39.5
Tobacco manufactures	37.6	38.9	37.6	38.5	38.0	38.6	38.3	37.8	38.8	38.5	37.7	37.6	37.4
Textile mill products	38.8	40.0	40.1	40.1	40.1	40.6	40.8	41.1	41.0	41.7	41.1	40.8	39.7
Apparel and other textile products	34.2	35.2	35.2	35.5	35.3	35.3	35.3	35.3	35.6	35.9	36.0	35.4	35.6
Paper and allied products	41.8	42.6	42.5	42.5	42.6	42.4	42.6	42.7	42.9	42.8	42.9	42.5	42.6
Printing and publishing	37.1	37.4	37.4	37.5	37.7	37.5	37.4	37.6	37.4	37.8	37.4	37.2	37.0
Chemicals and allied products	41.7	41.9	41.7	41.9	42.0	41.7	41.7	41.9	41.7	42.0	41.9	41.8	41.4
Petroleum and coal products	43.9	43.7	43.3	43.6	43.7	44.1	43.7	44.4	43.5	36.6	40.4	40.3	41.8
Rubber and miscellaneous plastics products	39.7	40.9	40.7	40.6	40.2	40.3	40.3	40.0	39.9	40.6	39.9	39.8	39.8
Leather and leather products	35.6	36.1	36.4	36.6	36.5	37.0	36.5	36.7	36.9	37.2	37.3	36.8	36.4
TRANSPORTATION AND PUBLIC UTILITIES	39.2	39.8	39.8	39.7	39.9	39.9	39.9	40.2	39.8	39.9	39.8	39.9	39.8
WHOLESALE AND RETAIL TRADE	32.8	32.6	32.6	32.6	32.5	32.6	32.6	32.7	32.6	32.5	32.3	32.3	32.1
WHOLESALE TRADE	38.7	39.0	38.8	38.8	38.7	38.7	38.8	38.9	38.9	38.8	38.7	38.5	38.5
RETAIL TRADE	30.9	30.6	30.6	30.6	30.5	30.7	30.6	30.7	30.6	30.5	30.3	30.3	30.1
FINANCE, INSURANCE, AND REAL ESTATE	36.5	36.1	36.2	36.3	36.1	36.4	36.2	36.5	36.4	36.2	36.4	36.6	36.4
SERVICES	32.7	32.7	32.7	32.8	32.7	32.7	32.6	32.7	32.9	32.7	32.7	32.7	32.7

c = corrected.

17. Hourly earnings, by industry division and major manufacturing group

[Gross averages, production or nonsupervisory workers on private nonagricultural payrolls]

Industry division and group	Annual average		1979									1980			
	1978	1979	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.ᵖ	Apr.ᵖ
TOTAL PRIVATE	$5.69	$6.16	$6.03	$6.09	$6.12	$6.16	$6.19	$6.31	$6.32	$6.35	$6.39	$6.42	$6.46	$6.51	$6.51
MINING	7.67	8.48	8.54	8.45	8.49	8.52	8.48	8.57	8.57	8.70	8.73	8.85	8.88	8.94	9.00
CONSTRUCTION	8.65	9.26	9.02	9.14	9.13	9.24	9.32	9.51	9.49	9.50	9.57	9.47	9.60	9.64	9.60
MANUFACTURING	6.17	6.69	6.54	6.63	6.66	6.71	6.69	6.80	6.82	6.86	6.97	6.95	6.99	7.06	7.07
Durable goods	6.58	7.12	6.95	7.07	7.11	7.15	7.12	7.24	7.25	7.29	7.41	7.30	7.45	7.53	7.54
Lumber and wood products	5.60	6.08	5.90	5.97	6.16	6.23	6.23	6.32	6.24	6.23	6.25	6.22	6.34	6.35	6.28
Furniture and fixtures	4.68	5.06	4.94	4.97	5.05	5.04	5.10	5.18	5.20	5.23	5.27	5.27	5.34	5.39	5.40
Stone, clay, and glass products	6.32	6.84	6.73	6.78	6.85	6.89	6.90	6.98	7.00	7.07	7.10	7.05	7.13	7.25	7.32
Primary metal industries	8.20	8.97	8.92	8.83	8.91	9.04	9.10	9.16	9.10	9.26	9.28	9.30	9.44	9.44	9.54
Fabricated metal products	6.34	6.82	6.62	6.77	6.81	6.80	6.83	6.93	6.96	6.99	7.12	7.06	7.12	7.21	7.21
Machinery, except electrical	6.77	7.33	7.10	7.25	7.34	7.35	7.35	7.48	7.45	7.51	7.65	7.67	7.71	7.77	7.80
Electric and electronic equipment	5.82	6.31	6.11	6.21	6.25	6.27	6.36	6.46	6.48	6.51	6.64	6.67	6.71	6.78	6.81
Transportation equipment	7.91	8.53	8.26	8.56	8.53	8.55	8.44	8.59	8.67	8.68	8.90	8.78	8.84	9.02	8.98
Instruments and related products	5.71	6.17	6.03	6.11	6.11	6.16	6.14	6.21	6.32	6.39	6.49	6.57	6.58	6.61	6.65
Miscellaneous manufacturing	4.69	5.04	4.96	5.00	4.99	5.03	5.04	5.07	5.12	5.15	5.22	5.31	5.33	5.38	5.41
Nondurable goods	5.53	6.00	5.90	5.91	5.94	6.03	6.04	6.11	6.14	6.21	6.26	6.28	6.27	6.30	6.36
Food and kindred products	5.80	6.27	6.19	6.22	6.22	6.28	6.28	6.33	6.36	6.51	6.56	6.62	6.64	6.68	6.73
Tobacco manufactures	6.13	6.69	6.80	6.83	6.82	6.83	6.59	6.54	6.43	7.01	7.04	7.13	7.41	7.62	7.77
Textile mill products	4.30	4.66	4.48	4.52	4.54	4.65	4.77	4.82	4.83	4.86	4.87	4.90	4.90	4.92	4.94
Apparel and other textile products	3.94	4.24	4.19	4.20	4.21	4.23	4.21	4.28	4.32	4.32	4.39	4.45	4.46	4.49	4.47
Paper and allied products	6.52	7.12	6.92	6.96	7.05	7.17	7.22	7.32	7.34	7.42	7.48	7.48	7.51	7.53	7.60
Printing and publishing	6.50	6.91	6.72	6.83	6.88	6.90	6.94	7.04	7.06	7.09	7.17	7.20	7.25	7.29	7.31
Chemicals and allied products	7.01	7.59	7.50	7.47	7.53	7.60	7.65	7.73	7.82	7.87	7.91	7.96	7.99	8.00	8.09
Petroleum and coal products	8.63	9.37	9.44	9.39	9.32	9.39	9.35	9.51	9.49	9.57	9.49	9.48	9.40	9.25	9.81
Rubber and miscellaneous plastics products	5.52	5.96	5.82	5.90	5.91	5.95	5.94	6.03	6.12	6.14	6.21	6.25	6.25	6.28	6.28
Leather and leather products	3.89	4.23	4.18	4.18	4.19	4.19	4.22	4.29	4.31	4.34	4.36	4.46	4.48	4.51	4.55
TRANSPORTATION AND PUBLIC UTILITIES	7.57	8.16	7.88	7.94	8.03	8.23	8.32	8.45	8.45	8.52	8.55	8.56	8.59	8.63	8.69
WHOLESALE AND RETAIL TRADE	4.67	5.06	5.00	5.00	5.02	5.05	5.06	5.13	5.15	5.18	5.18	5.34	5.36	5.39	5.37
WHOLESALE TRADE	5.88	6.39	6.30	6.29	6.34	6.39	6.41	6.51	6.51	6.57	6.68	6.72	6.76	6.82	6.83
RETAIL TRADE	4.20	4.53	4.49	4.49	4.50	4.51	4.52	4.58	4.59	4.62	4.61	4.78	4.78	4.79	4.77
FINANCE, INSURANCE, AND REAL ESTATE	4.90	5.28	5.23	5.22	5.22	5.29	5.29	5.38	5.37	5.42	5.49	5.55	5.62	5.69	5.68
SERVICES	4.99	5.36	5.29	5.27	5.27	5.29	5.30	5.45	5.48	5.54	5.60	5.65	5.70	5.73	5.73

18. Hourly Earnings Index for production or nonsupervisory workers on private nonagricultural payrolls, by industry division

[Seasonally adjusted data: 1967 = 100]

Industry	1979									1980				Mar. 1980 to Apr. 1980	Apr. 1979 to Apr. 1980
	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.ᵖ	Apr.ᵖ		
TOTAL PRIVATE (in current dollars)	226.8	227.5	229.0	230.9	232.2	234.3	234.9	237.3	239.5	240.5	242.6	245.1	245.6	0.2	8.3
Mining	264.1	262.7	264.9	266.9	265.6	266.1	268.0	271.6	273.2	274.0	275.5	278.8	281.3	.9	6.5
Construction	218.1	220.4	220.4	222.1	223.1	224.4	224.0	225.8	227.6	225.1	229.8	231.2	231.2	.0	6.0
Manufacturing	231.0	232.3	233.9	235.4	236.9	238.7	240.0	242.1	244.3	245.3	248.1	250.3	252.2	.8	9.2
Transportation and public utilities	241.7	243.7	246.4	251.3	252.6	255.6	255.8	258.9	260.7	261.2	262.7	265.7	266.7	.4	10.3
Wholesale and retail trade	220.9	221.0	222.6	223.8	225.4	227.0	227.4	229.5	231.3	234.7	235.5	237.6	237.0	−.2	7.3
Finance, insurance, and real estate	207.5	207.0	208.0	210.8	211.5	214.4	213.1	216.2	218.5	218.6	221.2	226.1	225.0	−.5	8.5
Services	225.0	224.3	225.7	227.0	228.4	231.5	232.3	234.7	237.7	238.0	239.9	242.8	242.7	.0	7.9
TOTAL PRIVATE (in constant dollars)	107.0	106.3	105.8	105.6	105.1	104.9	104.1	104.1	103.8	102.8	102.3	101.9	(¹)	(¹)	(¹)

[1] Not available.

19. Weekly earnings, by industry division and major manufacturing group

[Gross averages, production or nonsupervisory workers on private nonagricultural payrolls]

Industry division and group	Annual average		1979									1980			
	1978	1979	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.ᵖ	Apr.ᵖ
TOTAL PRIVATE	$203.70	$219.91	$211.65	$216.20	$219.71	$221.76	$222.84	$225.90	$225.62	$226.06	$229.40	$225.34	$227.39	$229.15	$228.50
MINING	332.11	364.64	363.80	361.66	367.62	355.28	365.49	372.80	374.51	380.19	383.25	384.09	383.02	387.10	387.00
CONSTRUCTION	318.32	341.69	320.21	340.01	346.03	348.35	354.16	360.43	356.82	346.75	355.05	332.40	340.80	348.00	351.36
MANUFACTURING	249.27	268.94	254.41	265.86	269.06	267.73	267.60	274.04	274.85	277.14	285.07	277.01	278.20	280.99	278.56
Durable goods	270.44	290.50	273.14	288.46	291.51	288.86	287.65	295.39	295.80	297.43	308.26	297.82	300.24	304.21	300.85
Lumber and wood products	222.88	240.16	230.69	236.41	247.63	245.46	248.58	253.43	248.35	241.72	245.00	236.96	244.09	243.21	234.24
Furniture and fixtures	183.92	195.32	185.25	189.85	195.94	191.52	196.86	202.02	204.36	205.02	210.27	202.37	204.52	206.98	205.74
Stone, clay, and glass products	262.91	283.86	276.60	284.08	288.39	285.94	287.73	291.07	291.90	294.82	296.78	282.71	285.91	294.35	295.00
Primary metal industries	342.76	371.36	371.96	365.56	370.66	373.35	371.28	378.31	372.19	376.88	379.55	378.51	384.21	383.26	383.51
Fabricated metal products	259.94	278.26	256.86	275.54	279.21	274.04	276.62	282.74	285.36	286.59	298.33	286.64	287.65	292.73	289.12
Machinery except electrical	284.34	306.39	286.13	302.33	308.28	302.82	303.56	313.41	309.92	314.67	327.42	318.31	319.07	323.23	320.58
Electric and electronic equipment	234.55	254.29	237.07	249.64	253.13	248.29	252.49	261.63	261.14	266.26	274.23	268.13	269.74	271.20	269.00
Transportation equipment	333.80	351.44	313.05	356.10	352.29	349.70	341.82	349.61	358.07	354.14	379.14	352.08	357.14	365.31	361.89
Instruments and related products	233.54	251.74	241.20	249.29	248.68	248.25	247.44	252.75	257.86	264.55	269.98	269.37	267.81	268.37	268.66
Miscellaneous manufacturing	181.97	196.06	186.50	192.50	194.61	194.66	196.06	199.25	201.22	203.94	207.23	207.62	206.80	208.74	207.20
Nondurable goods	217.88	235.80	225.38	231.08	234.04	236.38	237.98	241.96	241.92	245.92	249.77	244.92	243.90	245.70	246.13
Food and kindred products	230.26	250.17	241.41	246.31	247.56	251.83	253.08	257.00	254.40	261.70	264.37	261.49	258.96	261.19	261.80
Tobacco manufactures	233.55	254.22	255.68	265.69	265.98	246.56	247.78	255.71	249.48	273.39	278.08	266.66	273.43	287.27	290.60
Textile mill products	173.72	187.80	172.93	181.25	184.32	185.54	192.23	196.66	197.06	200.72	202.11	200.41	199.92	201.23	195.13
Apparel and other textile products	140.26	149.25	142.04	147.42	149.88	149.74	149.88	151.51	153.36	153.79	157.60	156.64	153.33	158.95	157.79
Paper and allied products	279.71	303.31	287.87	295.10	302.74	304.73	307.57	312.56	312.68	318.32	325.38	318.05	318.42	318.52	322.24
Printing and publishing	244.40	259.13	247.30	254.76	257.31	258.06	263.03	266.82	264.75	268.71	273.18	267.84	268.25	271.19	268.28
Chemicals and allied products	293.72	317.26	314.25	312.25	314.75	316.92	319.77	323.11	326.09	331.33	333.80	331.93	332.38	334.40	336.54
Petroleum and coal products	376.27	410.41	414.42	410.34	404.49	414.10	407.66	425.10	418.51	428.74	411.87	342.23	372.24	370.93	410.06
Rubber and miscellaneous plastics products	225.77	241.38	229.31	238.95	240.54	239.19	237.60	244.22	247.86	247.44	252.75	251.88	249.38	250.57	248.06
Leather and leather products	144.32	154.40	147.55	152.15	155.45	154.61	154.45	157.87	157.32	159.71	162.63	163.68	164.86	164.16	164.26
TRANSPORTATION AND PUBLIC UTILITIES	302.80	326.38	307.32	314.42	321.20	329.20	335.30	337.16	337.16	342.50	342.00	338.12	341.02	342.61	344.12
WHOLESALE AND RETAIL TRADE	153.64	164.96	162.50	162.00	165.16	168.17	167.99	167.75	167.38	167.83	170.42	170.35	170.98	172.48	171.30
WHOLESALE TRADE	228.14	247.93	243.18	244.68	247.26	249.21	249.35	252.59	253.24	255.57	261.19	258.72	258.58	261.89	262.27
RETAIL TRADE	130.20	139.07	137.39	136.50	139.50	142.07	141.93	140.61	139.54	140.45	142.91	142.44	142.44	143.22	142.15
FINANCE, INSURANCE, AND REAL ESTATE	178.36	191.66	190.37	188.44	188.96	192.56	191.50	195.29	194.93	197.29	199.84	201.47	204.57	207.69	206.18
SERVICES	163.67	175.27	171.93	171.28	173.38	176.16	175.96	178.22	178.65	180.60	183.68	183.63	185.25	186.23	186.23

20. Gross and spendable weekly earnings, in current and 1967 dollars, 1960 to date

[Averages for production or nonsupervisory workers on private nonagricultural payrolls]

Year and month	Private nonagricultural workers						Manufacturing workers					
	Gross average weekly earnings		Spendable average weekly earnings				Gross average weekly earnings		Spendable average weekly earnings			
			Worker with no dependents		Married worker with 3 dependents				Worker with no dependents		Married worker with 3 dependents	
	Current dollars	1967 dollars	Current dollars	1967 dollars	Current dollars	1967 dollars	Current dollars	1967 dollars	Current dollars	1967 dollars	Current dollars	1967 dollars
1960	$80.67	$90.95	$65.59	$73.95	$72.96	$82.25	$89.72	$101.15	$72.57	$81.82	$80.11	$90.32
1961	82.60	92.19	67.08	74.87	74.48	83.13	92.34	103.06	74.60	83.26	82.18	91.72
1962	85.91	94.82	69.56	76.78	76.99	84.98	96.56	106.58	77.86	85.94	85.53	94.40
1963	88.46	96.47	71.05	77.48	78.56	85.67	99.23	108.21	79.51	86.71	87.25	95.15
1964	91.33	98.31	75.04	80.78	82.57	88.88	102.97	110.84	84.40	90.85	92.18	99.22
1965	95.45	101.01	79.32	83.94	86.63	91.67	107.53	113.79	89.08	94.26	96.78	102.41
1966	98.82	101.67	81.29	83.63	88.66	91.21	112.19	115.42	91.45	94.08	99.33	102.19
1967	101.84	101.84	83.38	83.38	90.86	90.86	114.49	114.49	92.97	92.97	100.93	100.93
1968	107.73	103.39	86.71	83.21	95.28	91.44	122.51	117.57	97.70	93.76	106.75	102.45
1969	114.61	104.38	90.96	82.84	99.99	91.07	129.51	117.95	101.90	92.81	111.44	101.49
1970	119.83	103.04	96.21	82.73	104.90	90.20	133.33	114.64	106.32	91.42	115.58	99.38
1971	127.31	104.95	103.80	85.57	112.43	92.69	142.44	117.43	114.97	94.78	124.24	102.42
1972	136.90	109.26	112.19	89.54	121.68	97.11	154.71	123.47	125.34	100.03	135.57	108.20
1973	145.39	109.23	117.51	88.29	127.38	95.70	166.46	125.06	132.57	99.60	143.50	107.81
1974	154.76	104.78	124.37	84.20	134.61	91.14	176.80	119.70	140.19	94.92	151.56	102.61
1975	163.53	101.45	132.49	82.19	145.65	90.35	190.79	118.36	151.61	94.05	166.29	103.16
1976	175.45	102.90	143.30	84.05	155.87	91.42	209.32	122.77	167.83	98.43	181.32	106.35
1977	189.00	104.13	155.19	85.50	169.93	93.63	228.90	126.12	183.80	101.27	200.06	110.23
1978	203.70	104.30	165.39	84.69	180.71	92.53	249.27	127.63	197.40	101.08	214.87	110.02
1979	219.91	101.02	178.00	81.76	194.82	89.49	268.94	123.54	212.43	97.58	232.07	106.60
1979: April	211.65	99.93	171.98	81.20	188.39	88.95	254.41	120.12	202.32	95.52	221.05	104.37
May	216.20	100.89	175.29	81.80	191.93	89.56	265.86	124.06	210.04	98.14	229.74	107.20
June	219.71	101.30	177.85	82.00	194.67	89.75	269.06	124.05	212.51	97.98	232.17	107.04
July	221.76	101.08	179.35	81.75	196.26	89.45	267.73	122.03	211.61	96.45	231.16	105.36
August	222.84	100.60	180.13	81.32	197.11	88.99	267.60	120.81	211.52	95.49	231.06	104.32
September	225.90	100.98	182.36	81.52	199.42	89.15	274.04	122.50	215.89	96.51	235.94	105.47
October	225.62	100.01	182.16	80.74	199.21	88.30	274.85	121.83	216.44	95.94	236.56	104.86
November	226.06	99.32	182.48	80.18	199.54	87.67	277.14	121.77	217.99	95.78	238.30	104.70
December	229.40	99.74	184.84	80.37	202.08	87.86	285.07	123.94	223.38	97.12	244.31	106.22
1980: January	225.34	96.59	181.96	77.99	199.00	85.30	277.01	118.74	217.91	93.40	238.20	102.10
February	227.39	96.15	183.44	77.56	200.55	84.80	278.20	117.63	218.71	92.48	239.10	101.10
March	229.15	95.52	184.67	76.98	201.89	84.16	280.99	117.13	220.61	91.96	241.22	100.55
April p	228.50	(1)	184.21	(1)	201.39	(1)	278.56	(1)	218.96	(1)	239.37	(1)

[1] Not available.

NOTE: The earnings expressed in 1967 dollars have been adjusted for changes in price level as measured by the Bureau's Consumer Price Index for Urban Wage Earners and Clerical Workers.

These series are described in "The Spendable Earnings Series: A Technical Note on its Calculation," **Employment and Earnings and Monthly Report on the Labor Force**, February 1969, pp. 6–13. See also "Spendable Earnings Formulas, 1978–80," **Employment and Earnings**, March 1980, pp. 10–11.

UNEMPLOYMENT INSURANCE DATA

UNEMPLOYMENT INSURANCE DATA are compiled monthly by the Employment and Training Administration of the U.S. Department of Labor from records of State and Federal unemployment insurance claims filed and benefits paid. Railroad unemployment insurance data are prepared by the U.S. Railroad Retirement Board.

Definitions

Data for **all programs** represent an unduplicated count of insured unemployment under the State, Ex-Servicemen, and UCFE programs, and the Railroad Insurance Act.

Under both State and Federal unemployment insurance programs for civilian employees, insured workers must report the completion of at least 1 week of unemployment before they are defined as unemployed. Persons not covered by unemployment insurance (about one-third of the labor force) and those who have exhausted or not yet earned benefit rights are excluded from the scope of the survey. **Initial claims** are notices filed by persons in unemployment insurance programs to indicate they are out of work and wish to begin receiving compensation. A claimant who continued to be unemployed a full week is then counted in the insured unemployment figure. The **rate of insured unemployment** expresses the number of insured unemployed as a percent of the average insured employment in a 12-month period.

An **application** for benefits is filed by a railroad worker at the beginning of his first period of unemployment in a benefit year; no application is required for subsequent periods in the same year. **Number of payments** are payments made in 14-day registration periods. The **average amount of benefit payment** is an average for all compensable periods, not adjusted for recovery of overpayments or settlement of underpayments. However, **total benefits** paid have been adjusted.

21. Unemployment insurance and employment service operations

[All items except average benefits amounts are in thousands]

Item	1979										1980		
	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
All programs:													
Insured unemployment	2,921	2,610	2,230	2,119	2,409	2,377	2,164	2,236	2,559	3,047	3,740	3,730	3,852
State unemployment insurance program:[1]													
Initial claims[2]	1,396	1,589	1,309	1,400	1,978	1,546	1,219	1,641	1,827	2,263	2,837	1,818	......
Insured unemployment (average weekly volume)	2,750	2,440	2,070	1,981	2,300	2,245	2,024	2,057	2,384	2,864	3,537	3,518	3,356
Rate of insured unemployment	3.6	3.1	2.6	2.5	2.8	2.7	2.4	2.4	2.8	3.4	4.1	4.1	3.9
Weeks of unemployment compensated	11,105	8,856	8,442	7,197	7,989	8,830	6,993	7,638	8,107	9,171	13,792	12,804	......
Average weekly benefit amount for total unemployment	$90.28	$89.25	$88.37	$87.25	$86.40	$88.56	$89.07	$90.59	$92.39	$94.54	$96.40	$98.14	......
Total benefits paid	$975,641	$777,699	$725,229	$610,269	$665,687	$767,025	$806,095	$673,965	$728,370	$843,869	$1,283,946	$1,229,084	......
Unemployment compensation for ex-servicemen:[3]													
Initial claims[1]	21	20	20	24	28	29	23	26	24	24	25	21	......
Insured unemployment (average weekly volume)	52	48	45	45	51	52	52	52	54	56	60	58	63
Weeks of unemployment compensated	241	207	214	193	216	234	211	236	232	233	299	255	......
Total benefits paid	$22,794	$19,617	$20,440	$18,623	$20,965	$23,861	$19,634	$23,325	$23,093	$23,093	$29,635	$25,414	......
Unemployment compensation for Federal civilian employees:[4]													
Initial claims	12	12	12	13	16	13	13	18	15	15	19	11	......
Insured unemployment (average weekly volume)	33	27	24	23	25	25	25	28	29	31	34	32	30
Weeks of unemployment compensated	143	112	108	91	96	107	91	109	118	118	150	129	......
Total benefits paid	$13,168	$10,345	$9,330	$8,341	$8,802	$9,829	$8,453	$10,093	$11,063	$11,047	$14,118	$12,387	......
Railroad unemployment insurance:													
Applications	5	3	3	9	15	8	13	11	10	11	22	7	5
Insured unemployment (average weekly volume)	23	18	10	8	11	12	21	18	20	19	40	39	30
Number of payments	23	40	29	13	29	26	32	51	36	41	60	71	68
Average amount of benefit payment	$204.72	$195.55	$177.39	$183.13	$190.10	$195.61	$189.08	$189.61	$183.38	$197.22	$199.01	$208.73	$210.79
Total benefits paid	$10,538	$7,276	$5,681	$3,314	$3,699	$3,767	$5,747	$8,003	$6,462	$8,085	$14,967	$14,573	$13,[illegible]34
Employment service:[5]													
New applications and renewals	8,059	9,180	10,452	11,907	13,186	14,479	15,525	1,855	......	4,378	......	......	9,553
Nonfarm placements	1,891	2,291	2,816	3,051	3,482	3,935	4,349	458	......	1,044	......	......	1,816

[1] Initial claims and State insured unemployment include data under the program for Puerto Rican sugarcane workers.

[2] Includes interstate claims for the Virgin Islands. Excludes transition claims under State programs.

[3] Excludes data on claims and payments made jointly with other programs.

[4] Includes the Virgin Islands. Excludes data on claims and payments made jointly with State programs.

[5] Cumulative total for fiscal year (October 1 - September 30).

NOTE: Data for Puerto Rico included. Dashes indicate data not available.

PRICE DATA

PRICE DATA are gathered by the Bureau of Labor Statistics from retail and primary markets in the United States. Price indexes are given in relation to a base period (1967 = 100, unless otherwise noted).

Definitions

The Consumer Price Index is a monthly statistical measure of the average change in prices in a fixed market basket of goods and services. Effective with the January 1978 index, the Bureau of Labor Statistics began publishing CPI's for two groups of the population. One index, a new CPI for All Urban Consumers, covers 80 percent of the total noninstitutional population; and the other index, a revised CPI for Urban Wage Earners and Clerical Workers, covers about half the new index population. The All Urban Consumers index includes, in addition to wage earners and clerical workers, professional, managerial, and technical workers, the self-employed, short-term workers, the unemployed, retirees, and others not in the labor force.

The CPI is based on prices of food, clothing, shelter, fuel, drugs, transportation fares, doctor's and dentist's fees, and other goods and services that people buy for day-to-day living. The quantity and quality of these items is kept essentially unchanged between major revisions so that only price changes will be measured. Prices are collected from over 18,000 tenants, 24,000 retail establishments, and 18,000 housing units for property taxes in 85 urban areas across the country. All taxes directly associated with the purchase and use of items are included in the index. Because the CPI's are based on the expenditures of two population groups in 1972–73, they may not accurately reflect the experience of individual families and single persons with different buying habits.

Though the CPI is often called the "Cost-of-Living Index," it measures only price change, which is just one of several important factors affecting living costs. Area indexes do not measure differences in the level of prices among cities. They only measure the average change in prices for each area since the base period.

Producer Price Indexes measure average changes in prices received in primary markets of the United States by producers of commodities in all stages of processing. The sample used for calculating these indexes contains about 2,800 commodities and about 10,000 quotations per month selected to represent the movement of prices of all commodities produced in the manufacturing, agriculture, forestry, fishing, mining, gas and electricity, and public utilities sectors. The universe includes all commodities produced or imported for sale in commercial transactions in primary markets in the United States.

Producer Price Indexes can be organized by stage of processing or by commodity. The stage of processing structure organizes products by degree of fabrication (that is, finished goods, intermediate or semifinished goods, and crude materials). The commodity structure organizes products by similarity of end-use or material composition.

To the extent possible, prices used in calculating Producer Price Indexes apply to the first significant commercial transaction in the United States, from the production or central marketing point. Price data are generally collected monthly, primarily by mail questionnaire. Most prices are obtained directly from producing companies on a voluntary and confidential basis. Prices generally are reported for the Tuesday of the week containing the 13th day of the month.

In calculating Producer Price Indexes, price changes for the various commodities are averaged together with implicit quantity weights representing their importance in the total net selling value of all commodities as of 1972. The detailed data are aggregated to obtain indexes for stage of processing groupings, commodity groupings, durability of product groupings, and a number of special composite groupings.

Price indexes for the output of selected SIC industries measure average price changes in commodities produced by particular industries, as defined in the *Standard Industrial Classification Manual 1972* (Washington, U.S. Office of Management and Budget, 1972). These indexes are derived from several price series, combined to match the economic activity of the specified industry and weighted by the value of shipments in the industry. They use data from comprehensive industrial censuses conducted by the U.S. Bureau of the Census and the U.S. Department of Agriculture.

Notes on the data

Beginning with the May 1978 issue of the *Review*, regional CPI's cross classified by population size, were introduced. These indexes will enable users in local areas for which an index is not published to get a better approximation of the CPI for their area by using the appropriate population size class measure for their region. The cross-classified indexes will be published bimonthly. (See table 24.)

For further details about the new and the revised indexes and a comparison of various aspects of these indexes with the old unrevised CPI, see *Facts About the Revised Consumer Price Index*, a pamphlet in the Consumer Price Index Revision 1978 series. See also *The Consumer Price Index: Concepts and Content Over the Years*. Report 517, revised edition (Bureau of Labor Statistics, May 1978).

For interarea comparisons of living costs at three hypothetical standards of living, see the family budget data published in the *Handbook of Labor Statistics, 1977*, Bulletin 1966 (Bureau of Labor Statistics, 1977), tables 122–133. Additional data and analysis on price changes are provided in the *CPI Detailed Report* and *Producer Prices and Price Indexes*, both monthly publications of the Bureau.

As of January 1976, the Wholesale Price Index (as it was then called) incorporated a revised weighting structure reflecting 1972 values of shipments. From January 1967 through December 1975, 1963 values of shipments were used as weights.

For a discussion of the general method of computing consumer, producer, and industry price indexes, see *BLS Handbook of Methods for Surveys and Studies*, Bulletin 1910 (Bureau of Labor Statistics, 1976), chapters 13–15. See also John F. Early, "Improving the measurement of producer price change," *Monthly Labor Review*, April 1978, pp. 7–15. For industry prices, see also Bennett R. Moss, "Industry and Sector Price Indexes," *Monthly Labor Review*, August 1965, pp. 974–82.

22. Consumer Price Index for Urban Wage Earners and Clerical Workers, annual averages and changes, 1967–79

[1967 = 100]

Year	All items		Food and beverages		Housing		Apparel and upkeep		Transportation		Medical care		Entertainment		Other goods and services	
	Index	Percent change	Index	Percent change	Index	Percent change	Index	Percent change	Index	Percent change	Index	Percent change	Index	Percent change	Index	Percent change
1967	100.0	...	100.0	...	100.0	...	100.0	...	100.0	...	100.0	...	100.0	...	100.0	...
1968	104.2	4.2	103.6	3.6	104.0	4.0	105.4	5.4	103.2	3.2	106.1	6.1	105.7	5.7	105.2	5.2
1969	109.8	5.4	108.8	5.0	110.4	6.2	111.5	5.8	107.2	3.9	113.4	6.9	111.0	5.0	110.4	4.9
1970	116.3	5.9	114.7	5.4	118.2	7.1	116.1	4.1	112.7	5.1	120.6	6.3	116.7	5.1	116.8	5.8
1971	121.3	4.3	118.3	3.1	123.4	4.4	119.8	3.2	118.6	5.2	128.4	6.5	122.9	5.3	122.4	4.8
1972	125.3	3.3	123.2	4.1	128.1	3.8	122.3	2.1	119.9	1.1	132.5	3.2	126.5	2.9	127.5	4.2
1973	133.1	6.2	139.5	13.2	133.7	4.4	126.8	3.7	123.8	3.3	137.7	3.9	130.0	2.8	132.5	3.9
1974	147.7	11.0	158.7	13.8	148.8	11.3	136.2	7.4	137.7	11.2	150.5	9.3	139.8	7.5	142.0	7.2
1975	161.2	9.1	172.1	8.4	164.5	10.6	142.3	4.5	150.6	9.4	168.6	12.0	152.2	8.9	153.9	8.4
1976	170.5	5.8	177.4	3.1	174.6	6.1	147.6	3.7	165.5	9.9	184.7	9.5	159.8	5.0	162.7	5.7
1977	181.5	6.5	188.0	6.0	186.5	6.8	154.2	4.5	177.2	7.1	202.4	9.6	167.7	4.9	172.2	5.8
1978	195.3	7.6	206.2	9.7	202.6	8.6	159.5	3.4	185.8	4.9	219.4	8.4	176.2	5.1	183.2	6.4
1979	217.7	11.5	228.7	10.9	227.5	12.3	166.4	4.3	212.8	14.5	240.1	9.4	187.6	6.5	196.3	7.2

23. Consumer Price Index for All Urban Consumers and revised CPI for Urban Wage Earners and Clerical Workers, U.S. city average—general summary and groups, subgroups, and selected items

[1967 = 100 unless otherwise specified]

General summary	All Urban Consumers							Urban Wage Earners and Clerical Workers (revised)						
	1979				1980			1979				1980		
	Mar.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Mar.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
All items	209.1	225.4	227.5	229.9	233.2	236.4	239.8	209.3	225.6	227.6	230.0	233.3	236.5	239.9
Food and beverages	224.4	232.1	233.1	235.5	237.5	238.6	241.0	225.1	232.3	233.1	235.7	237.8	239.0	241.2
Housing	217.6	237.7	240.8	243.6	247.3	250.5	254.5	217.5	237.7	240.7	243.6	247.3	250.5	254.4
Apparel and upkeep	164.3	171.0	171.7	172.2	171.0	171.9	176.0	164.2	170.8	171.3	171.4	169.8	171.5	175.1
Transportation	198.1	222.7	224.9	227.7	233.5	239.6	243.7	198.7	223.4	225.7	228.3	234.1	240.2	244.3
Medical care	233.9	245.9	248.0	250.7	253.9	257.9	260.2	233.7	247.2	249.1	251.7	254.9	258.7	260.9
Entertainment	184.8	192.0	192.8	193.4	195.3	197.8	200.6	184.0	191.4	192.0	192.3	193.9	196.2	199.5
Other goods and services	192.8	202.3	202.9	204.0	206.3	208.1	208.9	192.6	201.4	202.0	203.0	206.0	207.7	208.3
Commodities	200.5	215.6	217.4	219.4	222.4	225.2	228.0	200.9	215.8	217.4	219.4	222.3	225.3	228.1
Commodities less food and beverages	187.0	204.9	206.9	208.8	212.0	215.5	218.4	187.0	205.0	206.9	208.7	212.0	215.7	218.7
Nondurables less food and beverages	187.8	214.9	216.6	219.0	224.6	231.8	237.5	188.4	216.6	218.1	220.5	226.3	234.1	239.8
Durables	184.9	196.0	198.4	199.8	201.3	202.1	203.0	184.5	194.8	196.9	198.2	199.6	200.3	201.2
Services	225.1	243.6	246.2	249.3	253.1	256.8	261.3	225.1	244.0	246.7	249.6	253.6	257.3	261.7
Rent, residential	171.3	181.4	182.1	182.9	184.1	185.6	186.6	171.2	181.2	181.9	182.7	183.9	185.5	186.4
Household services less rent	253.7	280.7	284.6	289.2	295.1	300.2	307.3	254.3	282.3	286.3	291.1	297.2	302.4	309.6
Transportation services	206.7	218.5	221.5	224.2	226.8	229.6	233.4	207.4	218.6	221.5	224.0	226.6	229.3	232.7
Medical care services	251.8	265.3	267.6	270.7	274.4	279.0	281.5	251.3	266.8	268.8	271.8	275.6	279.8	282.2
Other services	195.0	205.7	206.5	207.1	209.0	211.1	212.9	195.0	206.4	207.3	207.4	209.3	211.4	213.5
Special indexes:														
All items less food	203.8	221.8	224.1	226.4	229.9	233.5	237.1	203.7	222.0	224.2	226.4	230.0	233.7	237.3
All items less mortgage interest costs	204.1	218.3	219.8	221.7	224.3	227.1	229.8	204.5	218.7	220.1	222.0	224.7	227.6	230.2
Commodities less food	185.9	203.4	205.4	207.2	210.4	213.8	216.7	185.9	203.5	205.4	207.1	210.3	214.0	216.9
Nondurables less food	185.7	211.3	212.9	215.2	220.5	227.3	232.6	186.3	212.9	214.4	216.7	222.1	229.4	234.8
Nondurables less food and apparel	200.0	234.8	236.8	240.1	248.6	258.2	264.1	200.5	236.3	238.2	241.5	250.2	260.1	266.3
Nondurables	206.9	224.5	225.8	228.2	232.0	236.3	240.3	207.6	225.3	226.5	229.0	232.9	237.4	241.4
Services less rent	235.0	255.1	258.2	261.6	266.1	270.2	275.4	235.0	255.7	258.8	262.1	266.7	270.8	275.9
Services less medical care	220.8	239.6	242.3	245.3	249.2	252.7	257.4	220.8	239.9	242.6	245.5	249.5	253.1	257.7
Domestically produced farm foods	220.7	224.1	224.5	227.5	229.2	229.1	231.2	221.0	224.0	224.4	227.5	229.0	229.2	231.0
Selected beef cuts	253.4	257.3	256.5	263.2	265.7	267.2	270.2	255.6	259.1	259.2	265.2	268.1	270.3	272.3
Energy	241.2	307.5	307.8	313.7	327.9	344.6	355.0	241.7	310.2	310.7	317.0	331.5	348.7	359.6
All items less energy	206.9	219.2	221.4	223.6	225.9	228.0	230.8	207.1	218.8	221.0	223.0	225.3	227.3	230.0
All items less food and energy	200.4	213.6	216.1	218.1	220.6	222.8	225.7	200.2	213.0	215.4	217.3	219.6	221.8	224.6
Commodities less food and energy	180.3	189.6	191.4	192.6	193.7	194.9	196.5	180.0	188.7	190.4	191.4	192.4	193.5	195.1
Energy commodities	239.5	329.0	332.5	340.0	361.5	385.0	398.5	240.0	330.2	333.8	341.5	362.8	388.4	400.3
Services less energy	223.7	241.3	244.6	247.6	251.6	255.2	259.6	223.7	241.7	245.1	248.0	252.2	255.7	260.0
Purchasing power of the consumer dollar, 1967 = $1	$0.478	$0.444	$0.440	$0.435	$0.429	$0.423	$0.417	$0.478	$0.443	$0.439	$0.435	$0.429	$0.423	$0.417

23. Continued—Consumer Price Index—U.S. city average

[1967=100 unless otherwise specified]

General summary	All Urban Consumers							Urban Wage Earners and Clerical Workers (revised)						
	1979				1980			1979				1980		
	Mar.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Mar.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
FOOD AND BEVERAGES	224.4	232.1	233.1	235.5	237.5	238.6	241.0	225.1	232.3	233.1	235.7	237.8	239.0	241.2
Food	230.4	238.2	239.1	241.7	243.8	244.9	247.3	231.1	238.3	239.1	241.8	244.0	245.2	247.5
Food at home	229.9	235.4	236.0	238.7	240.6	241.3	243.6	230.0	234.8	235.4	238.3	240.1	241.1	243.1
Cereals and bakery products	213.5	227.0	228.7	231.6	234.2	236.8	238.6	214.1	227.9	229.7	232.3	234.7	237.4	239.3
Cereals and cereal products (12/77 = 100)	113.7	120.8	121.1	122.9	125.0	125.8	126.6	113.9	121.4	122.1	123.8	126.1	127.2	127.7
Flour and prepared flour mixes (12/77 = 100)	114.9	124.0	122.8	123.8	125.7	125.7	126.6	115.2	125.0	124.6	125.1	126.9	127.3	127.5
Cereal (12/77 = 100)	114.1	119.2	119.7	122.8	123.7	124.9	126.0	114.4	119.3	119.9	122.9	124.2	125.5	126.6
Rice, pasta, and cornmeal (12/77 = 100)	112.2	120.4	121.6	122.2	126.4	127.4	127.6	112.1	120.8	122.7	123.9	127.9	129.2	129.4
Bakery products (12/77 = 100)	112.7	119.9	121.0	122.4	123.5	125.1	126.1	113.1	120.3	121.3	122.7	123.6	125.1	126.2
White bread	187.0	202.5	204.5	207.4	208.6	210.7	212.0	187.6	202.3	203.9	206.6	207.4	209.7	212.1
Other breads (12/77 = 100)	112.6	120.5	121.3	123.3	123.8	124.6	125.6	114.2	123.8	124.2	126.0	126.9	127.5	129.3
Fresh biscuits, rolls, and muffins (12/77 = 100)	113.1	119.4	121.2	123.1	124.8	126.2	127.0	112.4	118.7	120.8	122.3	123.1	124.3	124.9
Fresh cakes and cupcakes (12/77 = 100)	110.5	117.6	119.4	120.3	121.7	122.8	124.4	110.6	118.1	119.1	120.1	120.8	122.2	123.2
Cookies (12/77 = 100)	113.5	116.6	117.1	117.8	119.7	122.8	124.4	114.6	118.3	118.4	119.6	121.5	124.0	125.6
Crackers and bread and cracker products (12/77 = 100)	112.1	115.0	114.5	116.2	117.5	119.9	120.2	112.5	115.0	116.1	116.3	118.4	121.0	121.8
Fresh sweetrolls, coffeecake, and donuts (12/77 = 100)	110.7	118.9	119.9	121.5	122.2	123.8	125.0	112.4	120.7	121.9	123.4	124.1	125.4	126.2
Frozen and refrigerated bakery products and fresh pies, tarts, and turnovers (12/77 = 100)	113.8	122.5	123.7	124.8	125.7	127.2	127.9	112.3	118.8	120.8	121.4	122.5	123.8	124.0
Meats, poultry, fish, and eggs	237.0	230.3	230.2	235.5	238.0	236.2	237.8	236.9	229.7	230.0	235.1	237.5	236.4	237.1
Meats, poultry, and fish	241.7	235.9	235.2	239.8	243.0	242.6	243.8	241.5	235.3	235.0	239.2	242.5	242.8	243.0
Meats	244.2	238.6	237.4	242.3	244.1	244.1	245.7	243.9	238.1	237.3	241.8	243.7	244.3	245.0
Beef and veal	252.1	256.2	255.5	262.2	264.6	266.2	268.1	254.2	257.5	257.7	263.7	266.7	268.9	270.8
Ground beef other than canned	264.6	263.4	264.2	271.2	271.4	273.3	275.3	264.4	265.8	266.0	273.0	272.7	276.2	278.7
Chuck roast	270.8	263.3	263.1	268.1	274.7	277.7	286.2	279.3	268.3	273.1	274.2	283.6	288.7	293.4
Round roast	228.0	230.3	229.1	238.1	241.9	244.5	244.2	230.1	233.0	232.7	240.5	245.1	245.8	244.5
Round steak	236.5	242.2	241.9	247.5	249.8	252.3	254.2	234.4	239.4	239.7	246.2	249.4	250.5	251.1
Sirloin steak	233.4	250.4	247.0	250.8	250.9	251.1	254.3	233.0	249.6	247.4	253.5	253.5	253.0	256.0
Other beef and veal (12/77 = 100)	141.7	147.1	146.3	150.2	151.8	152.2	153.6	143.1	147.0	146.6	149.9	151.9	152.8	153.7
Pork	233.4	204.3	201.0	205.0	206.4	202.8	202.6	232.2	204.7	201.5	205.6	206.8	204.1	203.0
Bacon	227.9	190.5	186.3	193.6	194.5	190.1	187.6	229.2	194.4	188.7	195.8	195.3	193.8	189.4
Pork chops	223.6	195.1	188.8	187.8	192.1	189.7	190.7	224.1	194.9	188.1	189.1	194.8	191.0	190.5
Ham other than canned (12/77 = 100)	108.0	94.8	95.9	102.5	99.1	95.7	95.8	106.8	94.0	95.4	100.9	96.5	95.2	94.7
Sausage	265.4	257.6	254.5	256.5	256.6	255.1	257.6	260.5	258.1	255.8	258.3	260.3	257.0	259.8
Canned ham	236.7	218.2	214.8	218.9	220.8	219.5	219.3	235.8	215.8	214.6	219.1	219.3	218.9	217.4
Other pork (12/77 = 100)	132.2	115.2	112.9	112.6	116.2	114.3	113.6	130.8	115.1	112.7	112.7	116.2	114.6	113.7
Other meats	233.9	240.7	242.0	243.0	243.2	244.7	245.8	231.3	238.0	238.5	239.5	239.3	240.9	241.5
Frankfurters	234.5	236.8	238.9	239.3	239.0	242.7	244.6	232.7	237.7	237.2	238.7	239.5	242.1	242.8
Bologne, liverwurst, and salami (12/77 = 100)	129.0	134.2	133.4	134.4	134.1	135.6	135.5	127.8	130.7	130.4	130.8	130.5	132.3	132.2
Other lunchmeats (12/77 = 100)	120.7	120.3	121.6	121.5	121.2	120.7	121.8	118.0	118.8	119.5	119.4	118.7	118.6	118.8
Lamb and organ meats (12/77 = 100)	125.4	137.7	138.3	140.0	141.6	142.4	142.3	126.7	138.8	139.8	141.7	142.5	143.4	144.3
Poultry	189.9	170.3	171.6	176.2	187.8	182.6	180.7	188.1	168.3	170.1	173.9	184.3	118.1	177.4
Fresh whole chicken	191.5	159.7	166.7	175.2	191.1	183.6	179.5	187.7	157.7	163.3	169.8	183.8	178.9	172.5
Fresh and frozen chicken parts (12/77 = 100)	121.6	110.1	110.8	112.3	120.7	116.8	116.8	121.6	108.4	110.7	111.8	118.7	117.0	116.3
Other poultry (12/77 = 100)	123.0	120.3	115.9	116.9	119.3	118.8	118.2	122.2	119.8	116.0	117.4	120.1	119.4	117.7
Fish and seafood	294.0	311.5	312.2	312.6	316.7	320.4	322.6	292.6	306.5	307.5	308.1	315.4	317.9	320.2
Canned fish and seafood (12/77 = 100)	108.3	115.2	116.8	117.1	118.5	120.3	120.4	107.9	114.5	116.0	116.5	118.4	119.7	119.5
Fresh and frozen fish and seafood (12/77 = 100)	114.2	120.7	120.1	120.2	121.9	123.0	124.3	113.7	118.1	117.8	118.5	121.2	122.0	123.5
Eggs	181.3	161.3	170.1	185.9	178.2	157.2	164.5	182.0	160.3	169.6	186.6	177.0	156.7	164.3
Dairy products	201.5	213.3	216.0	216.9	218.4	219.5	220.3	202.3	214.0	216.3	217.4	218.9	219.8	221.1
Fresh milk and cream (12/77 = 100)	113.8	120.3	121.9	122.7	123.2	123.7	124.1	114.2	120.4	121.8	122.6	123.2	123.6	124.2
Fresh whole milk	186.5	197.6	200.4	201.2	202.3	203.2	204.0	187.4	197.4	199.7	200.9	201.8	202.7	203.8
Other fresh milk and cream (12/77 = 100)	113.6	119.2	120.6	122.0	122.1	122.7	122.7	113.3	119.8	121.1	122.2	122.8	123.0	123.1
Processed dairy products (12/77 = 100)	114.0	120.9	122.3	122.5	123.8	124.5	125.1	114.5	121.7	123.0	123.3	124.5	125.1	126.2
Butter	194.5	213.3	214.4	214.0	216.9	218.3	218.3	196.2	216.6	217.1	216.6	219.8	220.9	220.9
Cheese (12/77 = 100)	114.6	121.0	122.7	122.6	123.5	124.2	124.9	114.6	121.1	122.5	122.7	123.6	124.4	125.5
Ice cream and related products (12/77 = 100)	113.4	120.4	121.4	122.6	124.0	124.6	125.1	114.8	121.9	123.4	124.3	125.6	125.6	127.2
Other dairy products (12/77 = 100)	111.0	116.4	117.8	117.9	119.8	120.9	121.6	111.6	116.9	118.2	118.3	120.4	121.3	121.9
Fruits and vegetables	225.9	232.0	229.5	230.2	229.8	228.3	232.4	225.4	230.2	226.7	228.3	227.2	225.9	230.1
Fresh fruits and vegetables	230.5	235.5	230.1	230.1	227.2	223.1	229.9	230.9	233.6	226.7	228.5	224.9	220.6	227.4
Fresh fruits	226.2	260.4	242.7	234.9	233.6	235.8	245.4	223.2	260.6	238.3	233.3	232.7	234.7	245.4
Apples	219.1	212.7	207.2	221.8	230.4	239.6	250.2	213.7	212.9	207.7	220.2	230.1	237.6	249.0
Bananas	194.7	206.6	209.0	225.2	221.9	238.5	243.9	192.3	199.7	206.5	222.0	219.5	234.6	240.8
Oranges	261.4	306.7	293.9	256.7	236.2	231.1	238.1	252.0	290.3	283.3	249.5	231.3	228.4	240.9
Other fresh fruits (12/77 = 100)	115.5	143.9	127.5	121.1	122.5	121.4	127.4	115.8	149.7	125.7	121.6	122.7	121.3	126.9
Fresh vegetables	234.6	212.2	218.4	225.7	221.2	211.2	215.5	237.9	209.4	216.4	224.2	217.9	207.9	211.3
Potatoes	200.1	191.1	195.7	207.0	203.8	203.3	203.3	201.0	183.8	191.7	199.6	200.9	199.8	200.3
Lettuce	281.3	282.9	244.2	227.5	197.6	198.7	208.3	293.2	264.2	239.0	231.3	130.2	191.7	203.8
Tomatoes	182.7	194.4	225.3	227.9	216.7	184.9	201.4	187.7	194.1	225.4	224.8	213.2	184.3	197.2
Other fresh vegetables (12/77 = 100)	136.6	114.0	119.1	128.0	132.0	125.1	125.4	137.1	112.5	118.9	128.1	130.5	123.9	123.0
Processed fruits and vegetables	222.7	230.1	231.0	232.3	234.7	236.2	237.2	221.3	228.3	228.6	230.0	231.8	233.9	235.0
Processed fruits (12/77 = 100)	115.9	120.4	121.2	121.8	122.9	123.4	123.9	115.9	120.3	121.1	121.3	122.4	123.6	123.9
Frozen fruit and fruit juices (12/77 = 100)	114.1	116.3	116.6	116.8	117.2	117.6	117.7	114.4	115.2	115.7	115.9	116.5	117.8	116.5
Fruit juices and other than frozen (12/77 = 100)	113.3	119.8	122.1	123.6	125.1	126.0	127.2	113.4	120.7	122.4	123.4	124.5	126.3	127.4
Canned and dried fruits (12/77 = 100)	120.3	124.6	124.2	124.2	125.3	125.5	125.5	118.8	124.0	124.0	123.5	124.8	125.3	125.9
Processed vegetables (12/77 = 100)	107.9	110.8	110.9	111.7	113.0	114.0	114.6	107.0	109.8	109.4	110.5	111.2	112.2	113.0
Frozen vegetables (12/77 = 100)	107.1	110.2	110.2	110.6	111.9	113.0	112.6	106.5	110.2	109.6	110.8	111.4	111.7	111.9

23. Continued—Consumer Price Index—U.S. city average

[1967=100 unless otherwise specified]

General summary	All Urban Consumers							Urban Wage Earners and Clerical Workers (revised)						
	1979				1980			1979				1980		
	Mar.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Mar.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
FOOD AND BEVERAGES — Continued														
Food — Continued														
Food at home — Continued														
Fruits and vegetables — Continued														
Cut corn and canned beans except lima (12/77=100)	111.6	113.6	113.4	114.4	114.5	115.2	116.0	111.0	111.9	111.8	113.0	112.7	113.4	115.4
Other canned and dried vegetables (12/77=100)	106.4	109.9	110.0	110.9	112.9	113.9	114.8	105.2	108.5	108.1	109.1	110.4	111.9	112.3
Other foods at home	262.4	278.0	279.6	281.1	283.5	288.0	292.0	262.2	276.5	278.3	279.9	282.6	287.3	290.9
Sugar and sweets	272.1	283.1	283.2	284.6	289.8	297.5	313.5	272.4	282.2	281.9	284.1	289.6	297.1	314.1
Candy and chewing gum (12/77=100)	115.0	119.9	120.1	120.1	121.3	122.4	123.8	115.3	119.6	119.8	119.9	121.2	122.2	123.9
Sugar and artificial sweeteners (12/77=100)	114.5	119.0	116.2	117.2	122.2	131.5	153.0	114.8	116.9	116.2	117.6	122.7	131.6	153.8
Other sweets (12/77=100)	109.5	115.9	116.4	117.5	118.7	119.5	120.4	108.7	114.8	114.6	116.6	117.5	118.5	119.3
Fats and oils (12/77=100)	219.5	231.9	232.3	233.0	233.9	235.9	236.8	219.8	231.9	232.8	233.7	234.9	236.5	236.8
Margarine	235.5	244.4	246.2	247.7	248.3	247.9	248.8	234.6	244.9	246.7	247.8	248.8	247.9	248.3
Nondairy substitutes and peanut butter (12/77=100)	110.0	115.1	115.1	115.7	115.3	116.4	117.9	110.3	114.6	115.0	115.8	116.1	117.2	118.5
Other fats, oils, and salad dressings (12/77=100)	113.0	121.1	121.0	121.1	121.9	123.6	123.7	113.4	121.0	121.3	121.5	122.3	123.8	123.4
Nonalcoholic beverages	347.1	372.1	374.3	375.4	378.5	384.5	387.1	346.9	368.2	370.7	372.3	375.6	383.0	384.4
Cola drinks, excluding diet cola	233.8	246.4	247.5	247.2	249.5	255.9	259.3	232.9	242.0	243.6	243.4	246.5	253.6	255.4
Carbonated drinks, including diet cola (12/77=100)	113.8	118.5	118.4	118.7	119.9	122.3	123.5	111.6	116.1	115.6	116.4	116.4	120.2	121.1
Roasted coffee	348.3	432.4	438.1	440.7	443.2	439.6	437.6	349.8	424.4	430.8	435.3	440.1	436.8	432.3
Freeze dried and instant coffee	332.7	366.5	370.2	374.3	378.2	382.2	381.7	332.1	365.3	369.3	372.9	376.8	380.4	380.3
Other noncarbonated drinks (12/77=100)	112.5	114.8	115.7	116.3	116.8	118.3	118.6	111.3	113.5	114.8	115.5	116.2	117.5	118.1
Other prepared foods	202.9	213.4	215.3	217.4	218.8	221.8	224.1	203.0	213.4	215.7	217.2	219.1	221.7	224.0
Canned and packaged soup (12/77=100)	109.2	113.4	114.3	115.9	116.5	118.1	118.0	109.1	113.3	114.8	116.3	116.8	117.9	117.6
Frozen prepared foods (12/77=100)	113.9	123.1	124.5	125.6	126.0	126.6	128.2	113.9	122.0	122.9	123.9	125.1	125.5	127.1
Snacks (12/77=100)	112.0	119.6	120.4	121.3	121.8	123.4	124.1	112.4	120.6	121.7	122.2	122.8	124.7	125.3
Seasonings, olives, pickles, and relish (12/77=100)	114.8	118.8	118.9	120.1	121.4	123.6	124.9	113.5	117.6	118.2	119.0	121.1	123.1	124.0
Other condiments (12/77=100)	110.7	115.8	116.8	119.5	120.8	123.7	126.0	111.1	117.0	118.5	120.2	121.4	124.6	126.6
Miscellaneous prepared foods (12/77=100)	112.2	117.2	119.0	118.9	119.6	120.7	122.2	112.4	116.7	118.6	118.7	119.7	120.5	122.2
Other canned and packaged prepared foods (12/77=100)	112.7	116.7	117.7	118.6	119.4	121.2	122.2	112.7	116.9	118.0	118.6	119.5	120.3	122.0
Food away from home	236.0	249.6	251.3	253.4	256.1	258.3	260.9	237.9	251.3	252.7	255.1	258.0	260.1	262.7
Lunch (12/77=100)	115.2	121.3	122.3	123.3	124.6	125.9	127.0	116.4	122.2	123.2	124.0	125.7	126.7	127.6
Dinner (12/77=100)	114.2	121.6	122.4	123.4	124.8	125.8	127.0	114.6	122.4	123.0	124.2	125.6	126.8	128.1
Other meals and snacks (12/77=100)	113.7	119.5	120.2	121.4	122.5	123.2	124.9	114.9	120.5	120.9	122.5	123.7	124.4	126.2
Alcoholic beverages	169.2	176.0	177.4	178.0	179.3	180.4	181.7	169.6	176.9	178.0	178.7	179.7	181.1	182.8
Alcoholic beverages at home (12/77=100)	109.9	114.6	115.6	116.0	116.8	117.4	118.2	110.8	115.7	116.5	117.0	117.6	118.3	119.3
Beer and ale	166.1	175.1	176.9	177.8	179.0	179.9	182.0	166.6	175.2	176.9	177.6	178.8	179.9	181.7
Whiskey	124.8	129.4	130.7	130.8	131.6	132.6	132.8	126.1	131.0	131.9	132.0	132.9	133.8	134.4
Wine	190.8	198.0	198.1	199.1	201.6	202.5	204.1	194.2	202.5	201.5	204.0	203.8	206.1	208.4
Other alcoholic beverages (12/77=100)	104.4	105.9	107.0	106.9	107.1	107.3	107.4	103.8	105.9	106.2	106.4	106.4	106.7	107.2
Alcoholic beverages away from home (12/77=100)	112.4	115.9	116.4	116.8	118.0	119.2	120.0	110.0	114.2	114.9	115.2	115.9	117.6	119.1
HOUSING	217.6	237.7	240.8	243.6	247.3	250.5	254.5	217.5	237.7	240.7	243.6	247.3	250.5	254.4
Shelter	228.0	251.5	255.9	259.4	264.0	267.2	271.6	228.5	252.4	256.9	260.4	265.1	268.3	272.7
Rent, residential	171.3	181.4	182.1	182.9	184.1	185.6	186.6	171.2	181.2	181.9	182.7	183.9	185.5	186.4
Other rental costs	226.3	241.6	243.1	244.9	251.1	255.7	258.6	226.3	241.3	242.6	244.4	251.1	255.6	258.6
Lodging while out of town	237.4	254.2	256.2	258.4	267.0	272.8	276.8	236.7	253.0	254.6	256.9	266.1	271.6	275.7
Tenants' insurance (12/77=100)	106.4	114.1	114.6	115.1	116.2	117.8	118.6	106.6	114.7	115.0	115.5	116.8	118.5	119.3
Homeownership	248.2	276.7	282.4	286.9	292.5	296.3	302.0	249.2	278.3	284.1	288.7	294.6	298.4	304.0
Home purchase	212.7	233.4	237.3	239.9	242.1	243.0	244.0	212.7	233.6	237.7	240.2	242.3	243.0	243.8
Financing, taxes, and insurance	287.7	330.5	340.1	348.3	359.8	367.7	379.9	289.5	333.5	343.5	351.6	363.4	371.6	384.1
Property insurance	299.8	319.9	320.8	323.1	327.7	333.7	335.7	300.0	321.9	322.6	324.5	328.8	335.2	337.4
Property taxes	181.1	185.1	185.1	186.0	186.7	188.2	188.2	182.5	186.5	186.6	187.4	188.2	189.9	189.9
Contracted mortgage interest cost	344.2	408.1	423.1	435.3	452.8	464.0	483.0	344.5	408.8	424.2	436.1	453.7	465.0	484.1
Mortgage interest rates	159.2	172.0	175.4	178.3	183.7	187.5	194.4	159.2	172.0	175.6	178.4	183.8	187.8	194.8
Maintenance and repairs	247.5	264.7	266.4	268.3	270.6	273.7	278.8	248.4	265.3	266.5	268.9	271.9	274.4	278.2
Maintenance and repair services	267.8	287.0	288.8	290.4	293.2	297.1	303.2	269.3	289.4	290.3	292.8	295.9	299.3	303.5
Maintenance and repair commodities	200.1	212.5	214.0	216.6	217.6	218.9	221.4	201.5	211.9	213.6	215.8	218.4	219.5	222.3
Paint and wallpaper, supplies, tools, and equipment (12/77=100)	109.7	117.4	118.8	121.6	122.5	123.5	125.0	111.1	116.6	118.1	120.3	122.2	122.3	123.6
Lumber, awnings, glass, and masonry (12/77=100)	108.7	116.0	115.5	115.4	115.9	115.8	117.6	110.6	116.2	117.2	118.1	118.6	119.3	119.9
Plumbing, electrical, heating, and cooling supplies (12/77=100)	105.7	112.8	113.4	114.7	114.7	115.3	116.4	106.7	113.8	114.0	114.5	117.0	117.9	119.3
Miscellaneous supplies and equipment (12/77=100)	106.2	113.3	113.8	114.3	115.4	116.4	117.0	106.9	111.9	112.2	112.3	113.2	114.5	118.2
Fuel and other utilities	225.9	252.9	252.0	255.1	258.6	263.8	268.0	226.0	253.4	252.4	255.7	259.2	264.4	268.7
Fuels	264.0	310.3	307.0	311.8	318.0	327.1	333.9	263.7	310.1	306.9	311.8	318.1	327.0	333.9
Fuel oil, coal, and bottled gas	339.5	470.8	477.4	488.0	514.0	539.1	553.4	340.0	471.7	478.2	489.0	515.1	540.3	554.1
Fuel oil	346.4	491.2	497.2	507.3	534.4	561.9	577.9	346.9	491.9	497.7	508.1	534.9	562.5	577.9
Other fuels (6/78 = 100)	99.3	118.5	121.7	126.0	132.7	136.6	138.3	99.2	118.8	122.2	128.6	133.7	137.9	138.5
Gas (piped) and electricity	244.0	272.5	267.3	270.8	273.0	278.8	284.0	243.6	272.2	267.1	270.7	273.0	278.5	283.9
Electricity	208.7	228.7	221.5	224.7	226.6	233.8	237.9	208.9	228.8	221.5	224.9	226.8	233.9	238.1
Utility (piped) gas	286.2	329.1	328.9	332.6	335.1	336.8	343.9	284.3	327.4	327.8	331.1	333.8	335.4	342.6

23. Continued—Consumer Price Index—U.S. city average

[1967 = 100 unless otherwise specified]

General summary	All Urban Consumers							Urban Wage Earners and Clerical Workers (revised)						
	1979				1980			1979				1980		
	Mar.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Mar.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
HOUSING—Continued														
Fuel and other utilities—Continued														
Other utilities and public services	158.8	158.8	161.0	161.9	161.5	161.3	161.9	158.9	158.9	160.9	161.8	161.5	161.4	161.9
Telephone services	132.1	131.2	133.3	134.3	133.4	132.8	133.2	132.1	131.3	133.3	134.2	133.4	132.8	133.1
Local charges (12/77 = 100)	100.4	98.7	101.8	103.2	102.6	102.7	103.3	100.5	98.8	101.8	103.2	102.6	102.7	103.2
Interstate toll calls (12/77 = 100)	98.3	98.4	98.4	98.4	97.7	97.4	97.4	98.3	98.4	98.4	98.4	97.7	97.5	97.5
Intrastate toll calls (12/77 = 100)	100.7	101.7	101.5	101.5	100.8	98.8	98.7	100.6	101.5	101.3	101.3	100.6	98.7	98.6
Water and sewerage maintenance	240.7	245.6	247.1	247.2	250.0	252.3	253.9	241.2	245.8	247.2	247.3	250.5	253.0	254.7
Household furnishings and operations	187.4	193.3	195.1	195.8	196.9	199.0	201.3	186.3	191.7	193.2	193.9	194.9	196.8	199.2
Housefurnishings	161.2	165.2	166.6	166.9	167.6	169.3	171.5	160.8	164.4	165.5	165.9	166.5	167.9	170.4
Textile housefurnishings	172.3	177.8	178.9	178.6	176.7	182.9	187.2	174.3	177.2	178.4	177.3	175.3	181.2	185.3
Household linens (12/77 = 100)	105.8	107.7	108.8	108.3	105.4	110.1	113.9	105.5	107.4	108.3	107.2	106.0	109.8	113.2
Curtains, drapes, slipcovers, and sewing materials (12/77 = 100)	109.1	114.2	114.4	114.6	115.1	118.2	119.7	112.4	114.1	114.5	114.4	113.2	116.6	118.2
Furniture and bedding	174.1	180.0	182.2	182.8	184.0	185.2	189.2	173.7	180.3	182.1	182.7	183.6	184.3	187.9
Bedroom furniture (12/77 = 100)	110.1	116.4	117.7	118.3	119.1	120.5	122.5	109.7	114.8	115.9	116.0	116.8	117.5	119.2
Sofas (12/77 = 100)	105.1	107.3	107.9	108.2	108.2	108.5	110.9	104.8	109.6	111.7	111.6	110.6	110.3	112.7
Living room chairs and tables (12/77 = 100)	103.3	106.2	107.7	108.1	108.9	110.0	110.8	104.7	107.5	108.6	109.2	109.4	111.2	111.9
Other furniture (12/77 = 100)	112.4	115.0	116.8	117.1	118.1	118.3	122.6	111.2	114.7	115.3	115.9	117.8	117.5	121.3
Appliances including TV and sound equipment	134.8	138.9	137.5	137.5	137.8	138.3	138.8	134.5	135.7	136.2	136.9	137.2	137.8	139.0
Television and sound equipment (12/77 = 100)	103.8	104.9	105.0	105.3	105.3	105.4	105.7	103.3	104.1	104.4	104.8	104.9	104.9	105.5
Television	103.0	103.4	103.6	103.6	103.7	103.7	104.0	102.0	102.0	102.4	102.2	102.2	102.3	102.9
Sound equipment (12/77 = 100)	105.6	107.4	107.4	107.8	107.8	108.1	108.3	105.5	106.9	107.1	108.0	108.2	108.2	108.7
Household appliances	154.0	156.0	158.2	157.9	158.5	159.4	160.2	153.8	155.6	156.2	157.1	157.7	158.8	160.7
Refrigerators and home freezer	151.7	155.3	156.0	156.7	156.7	156.5	157.9	155.2	157.9	158.1	159.0	159.4	159.7	161.4
Laundry equipment (12/77 = 100)	108.2	112.1	113.1	113.6	114.1	115.0	116.8	108.0	111.3	112.2	112.8	113.8	114.7	116.6
Other household appliances (12/77 = 100)	108.8	109.8	110.8	109.9	110.5	111.3	111.2	107.4	107.2	107.6	108.2	108.6	109.5	110.7
Stoves, dishwashers, vacuums, and sewing machines (12/77 = 100)	109.3	109.0	109.7	108.6	110.0	110.8	110.9	108.4	106.9	107.1	108.1	109.2	110.5	111.1
Office machines, small electric appliances, and air conditioners (12/77 = 100)	108.2	110.7	112.1	111.4	111.1	112.0	111.6	106.2	107.6	108.2	108.3	107.8	108.4	110.2
Other household equipment (12/77 = 100)	108.6	111.2	112.4	113.0	114.6	115.9	117.3	107.7	110.8	111.6	111.8	113.3	114.4	116.0
Floor and window coverings, infants' laundry cleaning and outdoor equipment (12/77 = 100)	108.6	109.8	111.1	111.7	113.1	114.5	116.4	103.5	105.5	107.7	107.4	108.9	109.4	110.8
Clocks, lamps, and decor items (12/77 = 100)	105.3	108.6	110.0	110.1	111.6	112.7	114.9	105.8	107.1	108.2	107.3	109.4	109.8	112.3
Tableware, serving pieces, and nonelectric kitchenware (12/77 = 100)	112.3	115.4	116.8	117.2	119.9	121.4	122.6	110.7	114.7	115.2	115.2	117.3	118.9	120.8
Lawn equipment, power tools, and other hardware (12/77 = 100)	105.9	108.5	109.0	110.3	110.6	111.7	112.2	107.6	111.0	111.1	112.5	113.0	114.2	115.0
Housekeeping supplies	218.4	224.8	228.3	229.2	231.1	235.0	238.0	218.1	223.9	226.7	227.2	228.8	232.8	235.5
Soaps and detergents	210.3	217.9	220.6	221.2	224.1	228.9	232.1	209.0	216.3	218.2	219.7	222.2	226.5	230.0
Other laundry and cleaning products (12/77 = 100)	109.0	113.7	114.1	114.7	116.1	117.2	117.0	109.1	113.5	113.7	114.5	115.6	117.1	116.9
Cleansing and toilet tissue, paper towels and napkins (12/77 = 100)	115.1	117.2	119.2	120.5	120.6	121.2	123.9	115.2	117.9	119.6	120.9	121.8	123.4	125.8
Stationery, stationery supplies, and gift wrap (12/77 = 100)	106.8	109.5	111.3	111.9	111.6	112.7	113.8	106.1	108.6	109.2	109.3	109.0	112.3	113.6
Miscellaneous household products (12/77 = 100)	110.3	114.3	115.6	116.9	117.7	119.4	120.9	109.0	112.7	114.1	114.7	115.0	116.6	118.3
Lawn and garden supplies (12/77 = 100)	108.5	110.0	113.8	112.5	114.4	119.4	121.4	110.0	108.8	113.2	109.9	111.3	113.3	114.0
Housekeeping services	242.9	254.6	256.6	258.1	260.0	261.6	263.6	241.6	253.9	255.9	257.5	259.2	261.1	262.7
Postage	257.3	257.3	257.3	257.3	257.3	257.3	257.3	257.2	257.2	257.2	257.2	257.2	257.2	257.2
Moving, storage, freight, household laundry, and drycleaning services (12/77 = 100)	111.5	118.8	120.4	121.2	122.9	124.2	125.4	111.7	119.7	121.2	122.3	123.3	124.6	126.1
Appliance and furniture repair (12/77 = 100)	107.6	112.3	112.9	113.4	114.0	114.7	115.8	106.7	112.1	112.9	113.4	114.4	115.5	116.0
APPAREL AND UPKEEP	164.3	171.0	171.7	172.2	171.0	171.9	176.0	164.2	170.8	171.3	171.4	169.8	171.5	175.1
Apparel commodities	159.2	165.2	165.9	166.1	164.3	165.1	169.2	159.3	165.3	165.7	165.7	163.6	165.2	168.7
Apparel commodities less footwear	157.1	162.3	162.9	163.0	161.1	161.8	166.2	157.3	162.4	162.7	162.6	160.2	161.9	165.7
Men's and boys'	158.7	164.2	165.4	165.4	162.8	162.7	165.6	159.4	164.4	165.3	165.0	162.4	162.9	166.0
Men's (12/77 = 100)	100.3	103.5	104.3	104.3	102.6	102.3	104.3	101.2	103.8	104.5	104.2	102.3	102.4	104.4
Suits, sport coats, and jackets (12/77 = 100)	97.6	101.6	101.2	100.9	98.8	98.2	99.9	98.3	99.1	98.7	96.8	94.9	94.4	96.4
Coats and jackets (12/77 = 100)	94.4	97.8	98.1	98.0	95.5	93.6	96.9	99.0	99.5	99.7	99.1	95.6	92.2	96.9
Furnishings and special clothing (12/77 = 100)	105.2	109.9	112.4	112.3	112.2	112.7	115.0	104.2	109.1	110.0	109.9	109.3	111.1	113.2
Shirts (12/77 = 100)	104.0	108.5	109.7	110.5	108.6	109.3	111.9	104.4	108.3	109.4	111.5	108.3	109.4	112.0
Dungarees, jeans, and trousers (12/77 = 100)	99.5	99.5	100.5	100.4	98.2	97.7	98.7	101.7	102.8	104.0	103.4	102.2	102.2	102.7
Boys' (12/77 = 100)	101.4	106.3	106.6	106.6	105.6	106.3	107.5	100.4	105.3	105.6	105.8	104.7	105.9	107.5
Coats, jackets, sweaters, and shirts (12/77 = 100)	96.8	103.9	103.2	102.4	99.3	99.9	102.5	95.0	103.8	103.4	103.1	99.8	101.9	105.0
Furnishings (12/77 = 100)	105.7	110.8	111.5	111.9	111.5	110.9	112.0	105.5	110.1	109.7	110.2	109.7	109.5	110.7
Suits, trousers, sport coats, and jackets (12/77 = 100)	103.4	106.5	107.4	107.8	108.2	109.5	109.8	102.6	104.7	105.8	106.2	106.6	107.7	108.2
Women's and girls'	151.8	155.5	155.1	154.6	151.5	151.1	155.5	151.2	154.8	154.5	153.5	149.9	151.3	154.9
Women's (12/77 = 100)	101.5	103.4	103.0	102.8	100.8	100.8	103.8	101.8	103.3	103.0	102.3	100.1	101.4	103.7
Coats and jackets	169.3	173.9	173.3	170.0	166.4	163.1	167.6	175.5	174.1	172.4	167.9	165.0	162.4	167.0
Dresses	164.3	167.2	164.3	165.3	161.3	160.6	169.3	158.7	159.1	156.8	155.7	150.0	151.2	157.5
Separates and sportswear (12/77 = 100)	100.0	99.6	99.2	98.6	96.1	97.1	99.8	98.6	100.4	100.7	99.5	97.1	99.2	101.0
Underwear, nightwear, and hosiery (12/77 = 100)	104.2	106.6	108.1	108.2	108.6	110.2	111.0	104.8	107.9	108.9	108.3	109.1	110.6	111.5
Suits (12/77 = 100)	92.2	97.1	95.2	95.8	91.0	89.2	91.6	97.5	99.9	97.5	96.1	94.0	96.8	100.2
Girls (12/77 = 100)	98.3	103.6	103.9	102.8	100.5	98.9	101.8	95.3	101.5	101.7	101.4	97.9	97.3	100.1
Coats, jackets, dresses, and suits (12/77 = 100)	99.3	102.8	102.2	100.3	97.5	95.7	98.9	95.2	97.9	97.5	97.7	91.9	92.6	95.7
Separates and sportswear (12/77 = 100)	94.4	102.5	103.6	102.6	99.9	98.2	100.0	91.4	103.5	104.3	102.9	99.8	98.1	99.8
Underwear, nightwear, hosiery, and accessories (12/77 = 100)	103.8	106.7	107.2	107.3	106.7	105.6	108.4	102.5	103.9	104.2	104.4	104.4	103.5	107.8

23. Continued—Consumer Price Index—U.S. city average

[1967 = 100 unless otherwise specified]

General summary	All Urban Consumers							Urban Wage Earners and Clerical Workers (revised)						
	1979				1980			1979				1980		
	Mar.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Mar.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
APPAREL AND UPKEEP – Continued														
Apparel commodities – Continued														
Apparel commodities less footwear – Continued														
Infants' and toddlers'	216.1	224.8	226.3	227.1	224.9	226.6	231.4	217.7	228.7	228.7	230.5	229.1	232.7	237.3
Other apparel commodities	166.6	175.5	177.8	180.9	184.4	191.4	199.9	168.9	178.7	179.8	182.9	185.5	191.8	197.8
Sewing materials and notions (12/77 = 100)	102.5	102.2	100.8	102.4	103.2	106.3	107.1	101.4	100.8	99.7	100.8	101.2	105.7	107.2
Jewelry and luggage (12/77 = 100)	109.9	118.3	121.0	123.1	126.1	131.2	138.6	112.8	122.3	123.8	126.2	128.4	132.3	137.3
Footwear	171.6	182.6	183.8	184.3	183.7	184.6	187.0	107.4	181.9	183.2	183.8	183.3	183.9	186.3
Men's (12/77 = 100)	109.2	116.7	117.7	117.3	117.8	118.3	119.0	109.2	118.0	119.1	119.4	119.3	119.4	120.9
Boys' and girls' (12/77 = 100)	107.3	113.0	114.0	115.8	117.3	117.9	119.5	106.4	113.0	114.5	114.7	116.9	118.0	119.5
Womens' (12/77 = 100)	106.4	113.5	113.9	113.8	111.6	112.1	114.2	105.0	111.1	111.2	111.8	109.4	109.5	110.9
Apparel services	200.0	212.5	214.2	216.6	220.7	222.9	225.9	199.0	210.8	212.0	213.4	216.9	219.8	223.5
Laundry and drycleaning other than coin operated (12/77 = 100)	116.4	125.2	126.3	127.1	129.3	130.6	132.5	115.8	124.7	125.7	126.6	129.0	130.6	132.3
Other apparel services (12/77 = 100)	109.8	114.0	114.7	117.0	119.6	120.7	122.1	109.6	112.9	113.3	113.7	115.1	116.9	119.6
TRANSPORTATION	198.1	222.7	224.9	227.7	233.5	239.6	243.7	198.7	223.4	225.7	228.3	234.1	240.2	244.3
Private	198.1	223.1	225.0	227.5	233.5	239.8	244.0	198.5	223.7	225.7	228.2	234.1	240.4	244.6
New cars	162.7	167.5	170.6	171.7	173.9	175.3	175.0	162.4	167.4	170.9	171.7	174.1	175.4	175.4
Used cars	195.4	199.9	198.4	198.2	197.2	195.3	195.2	1945.4	199.9	198.4	198.3	197.2	195.3	195.2
Gasoline	220.6	303.8	306.9	313.9	334.6	357.6	370.9	221.2	305.2	308.3	315.6	335.9	359.0	372.7
Automobile maintenance and repair	236.3	249.1	250.8	252.6	255.1	258.2	260.9	236.8	249.4	251.1	253.4	256.2	259.2	261.7
Body work (12/77 = 100)	113.1	120.6	121.6	123.3	125.0	126.5	127.3	114.0	120.4	121.7	123.1	124.3	126.1	127.2
Automobile drive train, brake, and miscellaneous mechanical repair (12/77 = 100)	113.0	119.4	120.1	120.6	121.8	123.2	124.1	113.9	120.2	120.8	121.8	123.6	124.8	126.1
Maintenance and servicing (12/77 = 100)	112.3	117.5	118.4	119.2	120.2	121.3	123.1	111.6	117.3	118.2	119.3	120.4	121.3	122.8
Power plant repair (12/77 = 100)	111.5	117.8	118.5	119.2	120.4	122.5	123.5	111.8	118.0	118.6	119.6	120.9	123.1	124.0
Other private transportation	193.4	203.7	205.5	207.5	209.8	212.6	216.5	193.9	204.0	206.3	208.4	210.6	213.6	217.1
Other private transportation commodities	169.0	182.0	183.4	185.6	188.4	191.2	192.7	170.0	181.6	183.9	186.4	188.0	191.7	193.2
Motor oil, coolant, and other products (12/77 = 100)	107.8	115.9	117.4	118.1	120.9	123.9	126.4	107.4	115.9	118.1	119.3	122.4	124.0	126.1
Automobile parts and equipment (12/77 = 100)	109.4	117.9	118.7	120.3	121.9	123.5	124.3	110.3	117.6	119.0	120.6	121.4	123.9	124.7
Tires	150.7	160.7	161.5	163.8	165.8	168.5	170.1	151.3	161.1	163.0	165.7	166.3	170.6	172.5
Other parts and equipment (12/77 = 100)	110.2	121.8	123.0	124.4	126.6	127.3	127.2	112.2	120.0	121.5	122.4	124.0	125.0	124.4
Other private transportation services	201.8	211.4	213.4	215.3	217.6	220.4	225.0	202.2	211.9	214.3	216.3	218.7	221.5	225.7
Automobile insurance	223.4	233.8	233.9	235.3	237.1	240.2	244.0	223.5	233.7	233.9	235.2	236.8	239.7	243.8
Automobile finance charges (12/77 = 100)	112.6	120.4	124.6	127.2	129.9	132.1	137.4	112.0	119.4	124.1	126.5	129.4	131.3	135.2
Automobile rental, registration, and other fees (12/77 = 100)	105.3	107.9	108.3	108.5	109.1	109.8	110.8	105.6	108.6	108.9	109.2	109.8	110.9	111.6
State registration	143.9	144.0	144.1	144.1	144.2	145.2	145.3	143.7	143.9	144.0	144.0	144.1	145.3	145.5
Drivers' license (12/77 = 100)	104.5	104.5	104.5	104.5	104.7	104.8	104.7	104.3	104.2	104.2	104.2	104.5	104.5	104.4
Vehicle inspection (12/77 = 100)	112.0	114.6	115.6	117.5	117.5	119.0	119.7	112.8	115.5	116.5	118.3	118.3	119.7	120.2
Other vehicle related fees (12/77 = 100)	110.1	116.4	117.1	117.6	118.8	119.6	122.0	112.7	120.8	121.3	122.2	123.8	125.4	127.0
Public	191.5	209.1	216.5	223.0	226.8	229.5	232.1	192.1	207.3	214.0	219.1	221.9	223.9	226.1
Airline fare	191.8	220.6	232.1	245.5	251.1	255.4	259.9	191.4	220.7	232.4	245.8	251.0	255.2	259.3
Intercity bus fare	248.0	276.0	279.8	282.2	284.7	288.5	290.7	247.3	275.5	279.9	282.3	284.8	288.2	290.2
Intracity mass transit	186.8	191.3	195.6	196.4	198.5	199.7	200.8	186.6	191.0	195.1	195.7	196.7	197.6	198.6
Taxi fare	211.1	233.6	237.0	238.5	243.1	244.0	245.6	215.6	238.7	242.4	243.9	248.9	249.3	251.2
Intercity train fare	201.4	221.1	231.0	236.3	237.2	237.2	237.2	201.9	221.4	232.1	236.6	237.1	237.0	237.1
MEDICAL CARE	233.9	245.9	248.0	250.7	253.9	257.9	260.2	233.7	247.2	249.1	251.7	254.9	258.7	260.9
Medical care commodities	150.7	156.6	157.8	159.2	160.5	162.1	163.5	151.7	157.4	158.5	159.9	161.0	162.7	164.4
Prescription drugs	139.2	144.5	145.5	146.4	147.9	149.8	150.9	139.9	145.2	146.2	147.4	148.8	150.7	152.0
Anti-infective drugs (12/77 = 100)	109.7	113.5	113.9	114.6	115.8	117.2	117.9	110.5	114.8	115.5	116.8	118.2	119.8	120.1
Tranquilizers and sedatives (12/77 = 100)	112.6	115.8	117.1	118.4	119.9	121.3	122.2	112.8	115.6	116.9	118.3	119.7	121.0	122.2
Circulatories and diuretics (12/77 = 100)	106.8	109.7	111.0	111.4	112.4	113.4	113.3	108.2	110.6	111.6	112.3	113.0	114.2	114.7
Hormones, diabetic drugs, biologicals, and prescription and supplies (12/77 = 100)	116.1	122.5	123.2	123.8	126.0	128.7	130.0	115.5	122.2	122.6	123.1	124.8	127.8	129.6
Pain and symptom control drugs (12/77 = 100)	110.6	115.6	116.8	117.8	118.8	119.7	120.5	111.1	116.3	117.5	118.2	119.0	120.1	121.3
Supplements, cough and cold preparations, and respiratory agents (12/77 = 100)	107.9	111.3	111.9	112.1	112.6	113.7	115.5	109.1	112.6	112.8	113.7	114.2	115.2	116.5
Nonprescription drugs and medical supplies (12/77 = 100)	108.1	112.5	113.4	114.6	115.3	116.3	117.3	109.0	113.2	114.0	115.1	115.6	116.6	118.0
Eyeglasses (12/77 = 100)	105.5	110.2	110.9	110.9	111.5	112.9	114.1	106.1	110.0	110.4	110.5	111.4	112.6	114.5
Internal and respiratory over-the-counter drugs	166.8	173.7	175.4	177.9	179.1	180.4	182.2	168.5	175.2	176.6	178.5	179.0	180.8	183.0
Nonprescription medical equipment and supplies (12/77 = 100)	107.4	111.0	111.8	113.1	113.8	114.6	115.1	108.1	111.8	112.7	114.2	115.0	115.6	116.1
Medical care services	251.8	265.3	267.6	270.7	274.4	279.0	281.5	251.3	266.8	268.8	271.8	275.6	279.8	282.2
Professional services	221.7	231.6	233.0	235.9	238.9	242.9	245.3	222.7	234.9	235.9	238.3	241.7	245.5	247.8
Physicians' services	237.5	249.7	250.8	252.5	256.0	260.2	262.3	238.2	254.4	255.5	256.5	260.3	264.1	266.2
Dental services	210.3	218.5	220.7	224.5	227.4	231.5	234.1	212.2	221.2	222.7	226.1	229.5	233.4	235.7
Other professional services (12/77 = 100)	108.9	112.7	112.8	115.1	116.6	118.1	119.5	108.8	112.1	112.2	114.8	115.9	117.4	119.3
Other medical care services	288.2	306.2	309.5	312.8	317.4	322.7	325.3	286.1	305.9	308.3	313.0	317.3	322.1	324.4
Hospital and other medical services (12/77 = 100)	114.7	121.3	122.6	123.8	125.6	127.8	128.8	113.7	120.5	121.8	123.2	124.9	126.8	127.7
Hospital room	361.3	380.2	385.1	389.4	395.3	403.4	405.8	358.5	379.4	383.6	388.7	393.9	398.8	401.2
Other hospital and medical care services	113.9	120.8	122.0	122.9	124.7	126.5	127.8	112.7	119.5	120.8	122.1	123.8	125.9	126.9

23. Continued—Consumer Price Index—U.S. city average

[1967 = 100 unless otherwise specified]

General summary	All Urban Consumers							Urban Wage Earners and Clerical Workers (revised)						
	1979				1980			1979				1980		
	Mar.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Mar.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
ENTERTAINMENT	184.8	192.0	192.8	193.4	195.3	197.8	200.6	184.0	191.4	192.0	r192.3	193.9	196.2	199.5
Entertainment commodities	185.7	193.1	194.0	195.2	197.6	200.4	203.4	184.4	190.7	191.3	192.4	194.2	196.9	200.3
Reading materials (12/77 = 100)	108.6	113.8	114.5	115.1	116.7	117.4	119.4	108.3	113.3	114.2	114.8	116.2	117.0	119.1
Newspapers	209.7	217.7	222.4	223.5	226.8	227.7	232.4	209.3	217.4	222.2	223.3	226.4	227.3	232.0
Magazines, periodicals, and books (12/77 = 100)	110.9	117.2	116.0	116.8	118.1	119.2	120.8	110.9	117.2	115.8	116.6	117.8	118.9	120.7
Sporting goods and equipment (12/77 = 100)	106.6	111.2	111.7	112.2	113.8	115.9	117.2	104.4	106.7	106.9	107.7	108.6	110.8	112.4
Sport vehicles (12/77 = 100)	107.0	111.5	....	112.9	....	117.4	118.7	104.2	104.6	....	105.8	....	109.1	110.8
Indoor and warm weather sport equipment (12/77 = 100)	105.1	107.5	107.8	107.5	107.6	108.3	109.5	103.1	106.0	106.1	106.3	106.4	107.8	109.3
Bicycles	157.3	167.1	167.1	167.1	170.5	174.5	177.2	156.5	166.9	167.4	167.0	170.5	174.9	177.8
Other sporting goods and equipment (12/77 = 100)	104.9	110.0	110.3	111.0	111.8	112.4	112.9	103.8	109.6	110.2	111.3	111.9	112.6	113.4
Toys, hobbies, and other entertainment (12/77 = 100)	107.1	110.8	111.2	112.1	113.2	115.1	116.9	107.3	111.0	111.2	111.8	112.6	114.3	116.4
Toys, hobbies, and music equipment (12/77 = 100)	108.1	110.7	110.5	111.2	112.1	114.1	115.7	107.7	110.1	109.8	109.9	110.9	112.3	114.9
Photographic supplies and equipment (12/77 = 100)	106.3	109.4	109.9	109.7	110.8	114.1	118.2	105.8	109.3	109.6	110.1	111.2	114.2	116.9
Pet supplies and expense (12/77 = 100)	106.0	112.1	113.5	115.5	116.8	117.6	118.2	107.3	113.9	114.6	116.1	116.7	117.9	119.0
Entertainment services	183.9	190.8	191.5	191.1	192.5	194.5	197.0	184.3	193.5	194.3	r193.0	194.4	196.0	199.1
Fees for participant sports (12/77 = 100)	108.4	113.2	113.8	113.8	114.6	116.0	117.5	108.3	114.9	115.2	r115.0	115.6	116.3	118.8
Admissions (12/77 = 100)	112.3	115.7	116.1	116.6	117.9	118.3	119.1	111.7	116.8	117.3	117.8	119.4	119.7	120.2
Other entertainment services (12/77 = 100)	106.8	110.0	110.0	108.6	109.1	111.4	113.2	107.3	111.4	112.0	109.0	109.3	111.8	113.9
OTHER GOODS AND SERVICES	192.8	202.3	202.9	204.0	206.3	208.1	208.9	192.6	201.4	202.0	203.0	206.0	207.7	208.3
Tobacco products	185.8	191.3	191.5	192.1	196.7	198.1	198.4	185.8	191.2	191.4	192.1	197.1	198.3	198.6
Cigarettes	188.4	193.8	194.0	194.7	199.7	200.9	201.2	188.6	193.9	194.1	194.8	200.3	201.3	201.6
Other tobacco products and smoking accessories (12/77 = 100)	108.9	113.0	112.8	113.2	113.9	115.6	116.3	108.1	112.3	112.4	112.7	113.4	114.8	115.7
Personal care	192.1	199.8	200.9	203.0	204.2	206.5	208.1	191.5	199.4	200.5	202.3	204.4	206.6	207.7
Toilet goods and personal care appliances	186.1	192.5	193.1	195.8	196.4	198.6	200.2	185.9	191.6	192.4	194.5	196.2	198.3	199.6
Products for the hair, hairpieces and wigs (12/77 = 100)	105.9	111.9	112.2	113.0	114.2	116.1	116.6	105.3	111.1	111.4	112.4	114.0	114.9	114.9
Dental and shaving products (12/77 = 100)	110.6	114.1	115.6	117.3	117.8	118.6	119.2	109.3	112.7	113.9	114.7	115.3	118.8	118.4
Cosmetics, bath and nail preparations, manicure and eye makeup implements (12/77 = 100)	108.6	110.7	111.4	113.0	112.9	114.2	115.1	107.9	110.1	110.2	112.1	112.9	114.0	114.8
Other toilet goods and small personal care appliances (12/77 = 100)	107.7	110.9	109.9	112.1	112.1	112.9	114.7	110.1	111.7	112.3	113.1	114.0	115.6	116.6
Personal care services	197.9	207.0	208.5	210.0	211.6	214.2	215.7	197.3	207.3	208.6	210.2	212.7	215.0	215.8
Beauty parlor services for women	199.6	208.3	210.3	212.1	213.3	216.1	217.9	199.6	209.1	210.2	212.0	214.2	216.6	217.8
Haircuts and other barber shop services for men (12/77 = 100)	110.3	115.9	116.1	116.8	118.1	119.3	119.7	109.3	115.4	116.3	117.1	118.8	120.0	120.1
Personal and educational expenses	208.1	224.0	224.2	224.6	226.3	228.0	228.3	208.6	224.2	224.4	224.8	226.2	227.8	228.2
School books and supplies	191.6	202.3	202.3	202.5	206.0	206.5	206.9	194.1	205.8	205.9	206.0	209.8	210.4	210.7
Personal and educational services	212.5	229.4	229.6	229.9	231.4	233.3	233.6	212.5	228.0	229.3	229.7	230.6	232.5	232.9
Tuition and other school fees	108.6	118.1	118.1	118.1	118.3	118.5	118.6	108.5	118.2	118.2	118.2	118.4	118.6	118.7
College tuition (12/77 = 100)	108.8	117.3	117.3	117.3	117.6	117.8	117.9	108.8	117.3	117.3	117.3	117.6	117.8	117.9
Elementary and high school tuition (12/77 = 100)	107.5	120.9	120.9	120.9	120.9	120.9	120.9	107.4	120.7	120.7	120.7	120.7	120.7	120.7
Personal expenses (12/77 = 100)	110.6	115.8	116.3	117.3	120.1	124.4	125.0	110.6	114.9	115.5	116.3	117.7	121.4	122.1
Special indexes:														
Gasoline, motor oil, coolant, and other products	218.7	299.6	302.9	309.7	329.9	352.5	365.5	219.2	301.2	304.3	311.4	331.3	353.8	367.2
Insurance and finance	257.1	288.9	296.0	302.1	310.5	316.7	326.3	257.1	228.5	295.8	301.6	310.0	316.2	325.6
Utilities and public transportation	205.1	220.7	220.5	223.5	225.0	227.9	230.9	205.3	220.7	220.3	223.0	224.4	227.2	230.2
Housekeeping and home maintenance services	262.5	278.7	280.6	282.2	284.7	287.6	292.0	262.7	279.9	281.3	283.4	286.0	288.7	292.0

24. Consumer Price Index for All Urban Consumers: Cross classification of region and population size class by expenditure category and commodity and service group

[December 1977 = 100]

Category and group	Size class A (1.25 million or more)			Size class B (385,000 - 1.250 million)			Size class C (75,000 - 385,000)			Size class D (75,000 or less)		
	1979		1980	1979		1980	1979		1980	1979		1980
	Oct.	Dec.	Feb.	Oct.	Dec.	Feb.	Oct.	Dec.	Feb.	Oct.	Dec.	Feb.
	Northeast											
EXPENDITURE CATEGORY												
All items	117.3	119.0	122.1	120.2	122.2	125.6	123.0	125.7	129.1	119.2	121.8	124.2
Food and beverages	119.2	120.6	122.1	119.6	121.9	124.3	121.9	123.2	126.0	119.4	121.2	123.4
Housing	117.9	119.8	122.9	121.3	123.7	126.7	127.7	132.1	135.5	119.9	123.2	124.8
Apparel and upkeep	107.7	108.9	109.5	109.2	109.0	107.1	107.8	108.5	107.3	108.3	109.8	106.8
Transportation	121.1	123.7	129.9	125.0	127.6	135.0	124.9	127.0	133.1	124.5	127.3	133.5
Medical care	115.4	117.3	120.6	118.5	120.0	121.6	117.0	118.9	121.3	116.3	119.0	121.4
Entertainment	111.4	111.5	114.4	113.6	113.5	115.7	110.0	109.8	112.2	114.1	115.1	118.9
Other goods and services	111.7	112.7	114.4	114.1	114.3	116.5	115.6	116.3	119.2	112.5	113.1	114.8
COMMODITY AND SERVICE GROUP												
Commodities	118.6	120.5	124.1	121.8	123.7	127.5	122.8	125.1	128.5	120.0	122.5	125.6
Commodities less food and beverages	118.3	120.4	125.3	122.8	124.6	129.1	123.2	126.0	129.7	120.4	123.2	126.6
Services	115.6	117.2	119.5	117.8	119.9	122.5	123.3	126.6	129.9	117.9	120.7	122.2
	North Central											
EXPENDITURE CATEGORY												
All items	123.2	126.3	129.6	122.3	124.6	127.2	121.9	123.7	126.4	122.0	123.0	125.8
Food and beverages	121.2	123.2	124.9	119.2	120.2	122.6	121.6	123.4	124.8	122.8	124.8	126.9
Housing	128.7	133.1	136.7	125.7	129.3	131.5	124.5	125.9	127.6	124.0	123.6	125.9
Apparel and upkeep	105.3	105.6	105.2	109.9	110.9	107.1	107.4	109.0	109.0	110.0	111.9	110.4
Transportation	125.0	127.9	133.5	125.2	127.5	133.4	126.0	129.1	135.8	124.3	127.3	132.6
Medical care	115.9	119.6	123.2	118.6	119.3	122.2	117.5	119.7	124.5	119.1	121.8	126.8
Entertainment	112.6	113.9	116.9	110.7	111.0	111.5	112.7	114.4	116.2	112.7	113.8	115.9
Other goods and services	112.5	113.6	115.4	117.8	117.7	119.4	112.3	114.0	115.5	115.7	116.1	119.1
COMMODITY AND SERVICE GROUP												
Commodities	122.5	125.4	128.1	120.8	122.5	124.5	121.7	123.5	125.9	121.1	122.5	124.3
Commodities less food and beverages	123.0	126.4	129.6	121.5	123.5	125.2	121.7	123.6	126.4	120.4	121.6	123.1
Services	124.3	127.7	131.8	124.7	128.0	131.6	122.2	124.1	127.1	123.3	123.8	128.2
	South											
EXPENDITURE CATEGORY												
All items	120.7	123.1	127.1	122.4	124.6	128.0	122.1	124.3	127.9	120.6	122.5	125.9
Food and beverages	122.2	123.5	125.0	121.3	122.9	124.4	122.1	123.9	126.0	121.0	122.5	124.0
Housing	122.0	125.0	129.1	125.8	128.4	131.9	125.9	128.4	131.8	121.6	123.9	127.7
Apparel and upkeep	111.2	112.3	112.5	110.8	110.3	109.6	106.4	105.7	105.5	103.9	104.8	100.9
Transportation	124.2	127.6	135.7	124.5	127.8	134.7	123.2	126.4	133.7	124.4	126.3	133.1
Medical care	116.0	117.7	119.7	116.9	118.3	121.6	117.6	120.7	124.8	122.5	124.9	129.0
Entertainment	109.4	109.5	114.5	113.2	113.9	115.4	113.6	113.8	115.9	117.1	119.4	121.6
Other goods and services	114.4	115.8	118.5	114.0	115.1	117.7	114.2	115.5	117.5	117.3	118.3	121.5
COMMODITY AND SERVICE GROUP												
Commodities	120.5	122.6	126.7	121.2	123.1	125.9	120.7	122.7	126.4	120.2	121.9	124.7
Commodities less food and beverages	119.8	122.2	127.5	121.2	123.2	126.6	120.1	122.2	126.5	119.9	121.6	125.0
Services	121.0	123.8	127.7	124.3	126.8	131.1	124.2	126.7	130.2	121.1	123.5	127.7
	West											
EXPENDITURE CATEGORY												
All items	120.8	124.8	129.6	123.6	126.6	130.6	122.2	124.5	128.1	122.8	124.3	127.1
Food and beverages	121.2	123.4	124.2	123.1	125.8	126.9	121.1	122.9	123.8	121.5	123.7	126.7
Housing	121.2	127.0	132.9	126.2	130.2	134.6	124.8	127.8	131.0	124.8	125.4	127.1
Apparel and upkeep	107.9	110.0	113.6	111.0	111.5	112.4	104.4	104.4	104.2	114.0	114.9	114.7
Transportation	127.2	129.9	137.4	126.7	128.8	135.8	126.3	129.0	137.1	124.6	128.2	134.8
Medical care	119.8	121.9	125.6	117.8	121.3	124.8	118.4	119.9	124.6	120.7	122.7	126.2
Entertainment	109.3	111.1	113.5	115.6	115.9	118.6	113.6	114.9	117.8	117.8	119.2	123.6
Other goods and services	115.2	115.5	119.2	115.3	116.5	120.3	113.0	113.6	116.3	116.0	116.4	119.7
COMMODITY AND SERVICE GROUP												
Commodities	120.5	123.1	127.0	123.1	125.3	128.8	121.7	123.6	126.7	120.7	123.0	126.7
Commodities less food and beverage	120.2	123.0	128.1	123.1	125.1	129.6	121.9	123.8	127.8	120.4	122.7	127.2
Services	121.3	126.9	133.2	124.4	128.4	133.0	122.8	125.9	130.0	125.9	126.3	127.6

25. Consumer Price Index—U.S. city average, and selected areas

[1967 = 100 unless otherwise specified]

Area[1]	All Urban Consumers							Urban Wage Earners and Clerical Workers (revised)						
	1979				1980			1979				1980		
	Mar.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Mar.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
U.S. city average[2]	209.1	225.4	227.5	229.9	233.2	236.4	239.8	209.3	225.6	227.6	230.0	233.3	236.5	239.9
Anchorage, Alaska (10/67 = 100)	201.0	...	213.7	...	218.2	...	223.5	200.5	...	211.8	...	215.9	...	220.2
Atlanta, Ga.	...	220.8	...	223.3	...	230.3	...	...	223.5	...	227.0	...	233.5	...
Baltimore, Md.	209.1	...	227.2	...	234.4	...	245.0	210.4	...	227.9	...	234.5	...	243.9
Boston, Mass.	205.1	...	222.7	...	227.3	...	234.2	204.3	...	222.5	...	226.9	...	234.2
Buffalo, N.Y.	...	218.7	...	221.2	...	227.9	...	...	218.6	...	220.7	...	227.9	...
Chicago, Ill.-Northwestern Ind.	206.6	221.8	225.9	228.4	230.3	232.7	235.5	206.2	221.7	225.6	227.8	229.9	232.5	235.2
Cincinnati, Ohio-Ky.-Ind.	215.7	...	233.4	...	239.5	...	247.8	216.7	...	235.6	...	241.0	...	249.7
Cleveland, Ohio	...	224.7	...	232.5	...	243.5	...	...	225.5	...	233.2	...	244.1	...
Dallas-Ft. Worth, Tex.	...	228.2	...	234.1	...	241.7	...	...	228.0	...	233.3	...	240.9	...
Denver-Boulder, Colo.	223.0	...	245.9	...	247.3	...	255.2	225.0	...	248.6	...	250.9	...	259.4
Detroit, Mich.	211.6	227.2	231.3	233.2	237.2	240.4	242.9	211.6	226.9	230.8	232.2	236.4	239.9	242.4
Honolulu, Hawaii	...	210.5	...	214.8	...	220.9	...	...	211.1	...	215.5	...	221.3	...
Houston, Tex.	...	244.2	...	248.7	...	255.9	...	...	241.8	...	246.0	...	251.8	...
Kansas City, Mo.-Kansas	...	229.9	...	233.7	...	238.7	...	...	227.9	...	232.4	...	236.6	...
Los Angeles-Long Beach, Anaheim, Calif.	203.8	221.8	224.2	228.0	232.6	237.6	241.3	204.4	224.0	225.8	229.9	235.0	240.0	243.9
Miami, Fla. (11/77 = 100)	111.2	...	113.4	...	123.3	...	127.7	112.4	...	120.5	...	124.9	...	128.8
Milwaukee, Wis.	207.6	...	229.8	...	236.4	...	242.7	209.5	...	232.5	...	240.8	...	247.8
Minneapolis-St. Paul, Minn.-Wis.	...	231.2	...	234.0	...	237.9	...	...	233.0	...	234.8	...	239.6	...
New York, N.Y.-Northeastern N.J.	208.4	219.9	221.3	222.9	226.1	228.0	231.2	206.3	219.3	220.7	222.4	225.5	227.7	230.8
Northeast, Pa. (Scranton)	203.5	...	220.0	...	224.4	...	229.0	206.6	...	221.1	...	225.8	...	231.3
Philadelphia, Pa.-N.J.	204.8	220.1	222.4	223.7	227.2	231.1	234.6	206.8	221.3	223.8	224.6	228.0	231.6	235.1
Pittsburgh, Pa.	...	226.0	...	229.2	...	235.5	...	...	226.1	...	229.7	...	235.9	...
Portland, Oreg.-Wash.	215.4	...	236.6	...	244.6	...	253.6	215.8	...	238.7	...	243.5	...	251.7
St. Louis, Mo.-Ill.	208.4	...	225.7	...	232.7	...	238.1	207.0	...	226.3	...	233.5	...	238.5
San Diego, Calif.	221.4	...	247.8	...	254.0	...	258.3	218.6	...	244.8	...	251.0	...	255.6
San Francisco-Oakland, Calif.	...	221.5	...	230.2	...	240.7	...	...	220.8	...	229.0	...	240.0	...
Seattle-Everett, Wash.	207.0	...	227.6	...	236.0	...	243.8	205.8	...	225.5	...	233.8	...	241.3
Washington, D.C.-Md.-Va.	212.6	...	225.4	...	231.9	...	238.8	213.4	...	226.7	...	233.0	...	239.2

[1] The areas listed include not only the central city but the entire portion of the Standard Metropolitan Statistical Area, as defined for the 1970 Census of Population, except that the Standard Consolidated Area is used for New York and Chicago.

[2] Average of 85 cities.

26. Producer Price Indexes, by stage of processing

[1967=100]

Commodity grouping	Annual average 1978	1979									1980			
		Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.[1]	Jan.	Feb.	Mar.	Apr.
FINISHED GOODS														
Finished goods	194.6	211.4	212.7	213.7	216.2	217.3	220.7	224.2	226.3	228.1	232.1	235.4	238.2	240.0
Finished consumer goods	192.6	210.2	211.6	212.7	215.6	217.5	221.7	224.7	227.1	229.1	233.2	237.3	240.6	241.6
Finished consumer foods	206.7	227.8	226.6	223.6	224.9	223.5	228.1	226.7	230.5	232.1	231.4	231.6	233.0	228.7
Crude	215.5	241.8	226.7	227.1	224.9	231.7	214.0	215.5	228.1	227.9	225.9	220.0	230.8	222.2
Processed	204.1	224.6	224.4	221.3	222.8	220.7	227.0	225.5	228.6	230.3	229.7	230.4	231.0	227.1
Other nondurable goods	195.4	213.1	217.1	221.7	227.1	233.4	r239.0	243.3	245.5	247.9	254.4	263.0	270.8	276.5
Durable goods	165.8	178.4	179.5	180.4	181.6	181.6	182.9	189.0	190.0	191.8	198.2	200.7	199.7	200.3
Capital equipment	199.1	214.0	215.1	215.8	217.2	216.5	217.8	222.8	223.9	225.3	229.1	230.3	231.8	235.8
INTERMEDIATE MATERIALS														
Intermediate materials, supplies, and components	215.5	235.8	238.2	240.3	244.6	247.5	251.0	255.0	256.3	258.7	265.6	271.1	273.2	274.5
Materials and components for manufacturing	208.3	229.0	230.9	232.1	236.0	238.0	240.7	244.3	245.5	247.8	255.2	259.2	259.0	259.7
Materials for food manufacturing	202.3	222.2	222.5	222.3	226.7	225.1	228.9	225.5	227.8	230.4	225.8	245.1	239.8	238.7
Materials for nondurable manufacturing	195.8	213.7	216.7	218.1	222.5	225.3	227.6	231.4	233.4	235.3	240.6	243.3	246.6	251.8
Materials for durable manufacturing	237.2	266.0	267.2	268.9	273.3	275.2	278.8	284.7	284.6	287.8	303.5	305.9	301.1	296.2
Components for manufacturing	189.1	203.1	204.5	205.3	207.7	209.3	211.3	213.2	214.8	216.3	218.9	222.7	225.2	227.4
Materials and components for construction	224.4	244.5	245.2	245.6	247.4	249.2	252.5	254.7	254.0	253.7	257.5	261.6	265.1	265.3
Processed fuels and lubricants	296.4	323.9	336.8	349.5	364.8	384.6	r399.4	410.6	416.5	424.6	443.9	464.3	481.1	486.7
Manufacturing industries	270.4	280.7	287.4	293.8	304.0	311.2	317.2	322.5	325.2	332.2	340.6	352.2	357.4	358.4
Nonmanufacturing industries	320.0	365.9	385.5	404.9	425.5	458.8	483.0	500.6	510.0	519.1	549.8	579.7	608.9	619.5
Containers	212.5	231.8	234.5	234.9	235.4	237.6	237.9	242.6	243.8	247.1	250.9	250.8	253.3	262.5
Supplies	196.9	212.8	213.7	216.1	219.6	219.6	221.2	224.9	226.4	229.2	232.2	238.3	239.9	240.7
Manufacturing industries	183.6	199.4	201.5	202.7	204.2	208.6	209.4	212.2	213.7	216.3	220.9	222.0	223.3	226.8
Nonmanufacturing industries	204.0	219.9	220.3	223.2	227.8	225.4	227.5	231.7	233.3	236.1	238.2	247.0	248.7	248.1
Manufactured animal feeds	200.2	219.5	214.6	226.2	241.3	220.8	224.0	228.9	226.9	230.4	224.2	223.3	219.1	207.1
Other supplies	201.9	216.8	218.3	219.2	221.5	223.1	224.9	228.9	231.2	233.9	237.8	248.6	251.6	253.5
CRUDE MATERIALS														
Crude materials for further processing	240.1	279.9	282.3	283.0	287.1	281.7	288.3	289.5	290.8	296.2	296.9	308.3	303.3	298.9
Foodstuffs and feedstuffs	215.3	251.5	251.9	248.2	254.1	243.7	248.7	247.5	246.4	249.7	243.0	252.6	245.9	235.5
Nonfood materials	286.7	333.3	339.6	348.7	349.3	353.6	363.1	368.9	374.9	384.2	399.0	413.9	412.2	413.5
Nonfood materials except fuel	235.4	276.5	276.6	286.6	285.2	286.1	293.3	298.1	304.6	311.6	329.9	341.5	339.4	336.9
Manufacturing industries	240.8	284.8	284.7	295.9	294.0	294.9	302.9	307.8	314.9	322.5	342.0	354.7	352.1	349.0
Construction	185.7	203.6	204.5	205.4	207.2	208.6	209.9	212.6	214.8	216.6	225.7	228.3	229.7	232.4
Crude fuel	463.7	529.2	556.8	563.1	570.7	586.2	604.0	612.9	617.4	634.5	637.2	663.5	663.3	677.4
Manufacturing industries	481.9	560.0	593.8	601.3	610.4	629.2	651.8	662.5	667.8	688.3	691.7	724.4	723.5	740.8
Nonmanufacturing industries	459.6	515.8	538.6	544.3	550.7	563.6	577.8	585.5	589.3	603.9	606.2	627.7	627.9	638.8
SPECIAL GROUPINGS														
Finished goods excluding foods	188.9	204.2	206.3	208.5	211.4	213.2	216.2	221.3	222.8	224.6	230.1	234.3	237.4	241.2
Finished consumer goods excluding Foods	183.7	198.3	202.1	205.2	208.4	212.3	216.3	220.6	223.1	225.3	231.8	237.8	242.0	245.5
Intermediate materials, supplies, and components, excluding intermediate materials for food manufacturing and manufactured animal feeds	216.4	236.7	238.8	241.3	245.4	249.0	252.5	256.8	258.1	260.1	268.1	273.2	275.7	277.4
Intermediate foods and feeds	201.0	220.7	219.3	223.0	231.0	223.1	226.6	226.0	226.9	229.8	224.7	237.1	232.3	227.5
Crude materials for further processing excluding crude foodstuffs and feedstuffs, plant and animal fibers, oilseeds, and leaf tobacco	316.6	372.4	379.2	389.5	391.7	396.9	408.6	417.0	424.1	436.0	453.0	468.8	468.4	469.4

[1] Data for December 1979 have been revised to reflect the availability of late reports and corrections by respondents. All data are subject to revision 4 months after original publication.

27. Producer Price Indexes, by commodity groupings

[1967 = 100 unless otherwise specified]

Code	Commodity group and subgroup	Annual average 1978	1979 Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	1980 Jan.	Feb.	Mar.	Apr.
	All commodities	209.3	230.0	232.0	233.5	236.9	238.3	242.0	245.5	247.2	249.7	254.7	259.8	261.5	262.3
	All commodities (1957-59 = 100)	222.1	243.7	245.7	247.7	251.4	252.8	256.7	260.6	262.3	267.3	270.2	275.6	277.5	278.3
	Farm products and processed foods and feeds	206.6	244.0	230.8	229.0	232.2	227.5	231.8	230.6	232.3	234.6	231.9	236.9	234.9	229.2
	Industrial commodities	209.4	229.0	231.6	234.0	237.5	240.6	244.2	249.0	250.6	253.1	260.3	265.4	268.2	270.7
	FARM PRODUCTS AND PROCESSED FOODS AND FEEDS														
01	Farm products	212.5	223.3	245.4	242.8	246.8	238.5	241.0	239.6	240.2	242.5	236.4	242.3	239.3	228.9
01-1	Fresh and dried fruits and vegetables	216.5	234.7	228.2	226.4	226.7	241.7	208.3	218.0	216.5	210.7	218.9	220.5	218.3	223.0
01-2	Grains	182.5	198.3	210.3	218.7	247.4	229.1	224.4	229.0	226.6	227.9	214.6	223.3	217.9	210.8
01-3	Livestock	220.1	284.0	280.7	264.0	256.0	240.2	256.4	251.7	248.3	252.5	247.8	257.2	251.8	230.5
01-4	Live poultry	199.8	209.4	216.3	182.9	183.8	171.9	173.5	162.0	195.5	194.7	195.2	184.6	180.1	171.9
01-5	Plant and animal fibers	193.4	197.8	207.6	219.5	207.6	207.9	211.3	212.9	215.4	222.0	230.0	269.5	254.9	266.9
01-6	Fluid milk	219.7	242.4	242.0	243.8	247.6	250.0	258.5	260.8	262.5	264.0	262.3	263.8	263.1	265.4
01-7	Eggs	158.6	185.5	163.8	170.7	167.6	166.8	175.4	155.9	178.7	198.4	165.6	150.4	184.2	153.3
01-8	Hay, hayseeds, and oilseeds	215.8	248.3	240.7	258.4	260.1	251.9	240.9	235.6	229.8	230.3	218.1	224.7	215.9	205.1
01-9	Other farm products	274.9	255.1	264.1	281.0	311.9	310.8	315.9	313.6	318.3	319.4	301.1	304.7	311.5	304.8
02	Processed foods and feeds	202.6	222.3	222.0	220.6	223.3	220.5	225.8	224.8	227.1	229.3	228.5	233.1	231.5	228.5
02-1	Cereal and bakery products	190.3	203.0	204.9	206.3	212.4	216.0	218.7	219.8	222.5	223.6	225.4	229.7	231.3	231.5
02-2	Meats, poultry, and fish	217.1	253.0	250.4	241.4	237.7	225.5	239.9	234.2	239.3	242.8	239.5	239.5	239.2	226.0
02-3	Dairy products	188.4	207.1	207.9	208.4	209.0	215.2	218.3	218.1	219.3	219.9	221.4	221.2	223.3	227.8
02-4	Processed fruits and vegetables	202.6	220.5	221.4	221.5	223.6	224.6	225.1	223.4	222.4	222.6	222.8	223.1	223.6	224.5
02-5	Sugar and confectionery	197.8	208.7	207.6	211.1	215.7	218.3	217.2	218.9	222.9	234.4	234.8	267.1	263.6	274.8
02-6	Beverages and beverage materials	200.0	201.5	205.3	208.5	214.1	216.5	217.9	218.9	221.2	221.6	224.1	224.7	226.0	227.9
02-7	Fats and oils	225.3	246.2	241.8	243.6	253.2	251.7	253.3	246.0	241.9	235.6	224.9	225.9	222.4	214.7
02-8	Miscellaneous processed foods	199.0	219.3	220.2	211.1	212.7	217.6	219.0	220.8	222.2	223.1	225.4	223.5	224.7	225.1
02-9	Manufactured animal feeds	197.4	215.3	210.8	220.5	234.9	216.2	219.2	224.0	222.4	224.9	219.5	219.8	216.8	205.4
	INDUSTRIAL COMMODITIES														
03	Textile products and apparel	159.8	166.4	167.2	168.4	169.3	170.5	171.3	172.0	172.8	173.1	174.9	176.5	178.9	180.6
03-1	Synthetic fibers (12/75 = 100)	109.6	115.1	117.4	118.5	119.5	120.6	122.6	124.7	124.2	124.7	126.9	127.1	129.4	130.7
03-2	Processed yarns and threads (12/75 = 100)	102.4	106.8	107.8	108.6	109.5	110.6	111.7	112.1	112.5	112.7	114.4	117.3	118.9	122.1
03-3	Gray fabrics (12/75 = 100)	118.6	124.5	124.7	125.4	128.3	128.7	128.7	129.7	130.7	132.3	132.2	131.7	133.7	136.1
03-4	Finished fabrics (12/75 = 100)	103.8	105.9	107.0	107.6	108.2	109.0	109.1	108.9	108.7	109.9	109.8	110.8	113.1	114.5
03-81	Apparel	152.4	158.8	159.8	160.2	160.3	161.4	161.6	162.2	163.1	162.6	165.3	167.3	168.3	169.1
03-82	Textile housefurnishings	178.6	188.0	188.0	189.3	189.9	190.5	193.9	196.3	196.5	197.1	199.2	200.0	201.2	201.6
04	Hides, skins, leather, and related products	200.0	258.9	269.6	268.0	261.9	257.9	251.1	253.9	248.9	249.2	255.3	251.0	246.8	243.6
04-1	Hides and skins	360.5	642.2	666.9	611.0	586.5	511.9	485.3	478.8	447.6	443.9	468.8	404.8	348.7	325.6
04-2	Leather	238.6	393.6	429.4	414.6	385.2	365.9	330.0	343.6	319.8	324.8	347.6	340.3	311.0	297.6
04-3	Footwear	183.0	212.0	216.3	221.1	221.8	225.4	226.9	227.5	227.9	227.9	228.5	228.1	231.8	231.9
04-4	Other leather and related products	177.0	200.4	209.1	212.3	212.1	210.9	210.1	209.7	208.4	208.0	213.2	214.9	217.9	216.3
05	Fuels and related products and power	322.5	361.5	377.6	393.7	411.8	432.8	454.8	468.5	476.9	487.9	507.8	533.0	553.5	566.3
05-1	Coal	430.0	447.1	450.8	452.0	452.5	454.2	452.5	454.6	455.1	458.6	458.1	458.7	460.7	463.3
05-2	Coke	411.8	430.1	430.6	430.6	430.6	430.6	430.6	431.2	431.2	431.2	430.6	430.6	430.6	430.6
05-3	Gas fuels[1]	428.7	477.4	507.2	522.3	548.4	572.4	603.4	619.9	637.0	662.4	679.6	719.8	720.3	730.2
05-4	Electric power	250.6	260.6	265.9	269.9	274.8	278.8	280.5	283.5	281.9	287.0	290.7	299.5	305.7	310.4
05-61	Crude petroleum[2]	300.1	326.2	335.7	356.4	370.6	385.7	422.1	436.7	450.4	470.8	513.6	515.1	522.8	533.9
05-7	Petroleum products, refined[3]	321.0	378.6	400.0	423.6	449.8	482.8	513.7	533.7	545.4	555.2	582.4	620.3	657.9	677.3
06	Chemicals and allied products	198.8	215.1	218.0	219.2	225.0	228.5	230.8	234.2	236.0	238.2	245.5	247.6	251.6	258.1
06-1	Industrial chemicals[4]	225.6	248.2	255.6	259.3	270.4	277.1	280.0	285.7	288.4	292.3	302.6	306.7	310.7	316.8
06-21	Prepared paint	192.3	203.3	201.3	201.3	205.3	205.3	206.0	206.7	209.4	210.7	223.1	223.3	223.3	231.5
06-22	Paint materials	212.7	231.6	236.1	238.5	246.7	247.9	252.0	253.6	256.6	256.8	258.9	262.7	266.2	271.1
06-3	Drugs and pharmaceuticals	148.1	157.5	157.7	158.0	159.2	159.6	161.0	162.8	163.0	164.4	166.5	167.7	168.9	172.8
06-4	Fats and oils, inedible	315.8	448.7	418.3	374.1	381.6	376.4	379.9	386.9	344.3	327.1	325.6	302.2	299.9	298.2
06-5	Agricultural chemicals and chemical products	198.4	209.8	210.0	209.2	211.2	215.3	219.4	224.3	229.5	232.9	238.1	242.8	256.0	258.3
06-6	Plastic resins and materials	190.8	220.6	228.5	230.1	244.5	250.1	252.0	260.0	261.4	262.5	270.0	271.1	273.9	285.6
06-7	Other chemicals and allied products	181.8	186.9	188.9	190.5	191.8	194.4	195.8	197.0	198.8	201.4	209.6	211.0	214.5	223.3
07	Rubber and plastic products	174.8	188.8	190.8	193.1	195.5	198.8	200.7	203.0	204.9	205.9	208.2	210.9	212.7	214.6
07-1	Rubber and rubber products	185.3	201.2	202.6	204.8	209.5	214.6	217.1	220.3	223.7	224.3	227.1	232.2	232.3	234.6
07-11	Crude rubber	187.2	211.6	214.2	222.0	226.1	233.0	232.2	236.5	237.2	240.2	251.9	263.1	254.9	263.8
07-12	Tires and tubes	179.2	196.1	197.3	198.9	206.2	211.6	215.0	218.3	223.1	223.1	224.7	231.2	231.2	231.3
07-13	Miscellaneous rubber products	189.6	201.3	202.6	203.5	205.4	208.4	211.9	214.7	217.1	217.7	219.1	220.4	223.4	225.9
07-2	Plastic products (6/78 = 100)	....	108.0	109.5	111.0	111.2	112.2	113.0	114.0	114.3	115.2	116.2	116.5	118.6	119.5
08	Lumber and wood products	276.0	304.9	302.8	298.8	300.1	304.7	309.7	308.8	298.9	290.1	290.0	294.8	295.7	275.2
08-1	Lumber	322.4	355.4	354.8	354.8	355.0	365.3	373.9	370.3	365.6	339.5	336.3	341.5	340.6	310.1
08-2	Millwork	235.4	268.0	261.6	258.9	252.5	249.6	250.9	255.6	252.3	250.3	254.1	258.0	264.7	256.6
08-3	Plywood	235.6	252.4	249.3	238.6	248.7	254.3	257.9	254.0	242.2	237.9	238.2	243.7	240.0	219.2
08-4	Other wood products	211.8	235.5	238.4	238.5	237.6	237.4	238.0	237.7	239.9	240.5	242.2	243.4	243.1	241.7

See footnotes at end of table.

27. Continued—Producer Price Indexes, by commodity groupings

[1967=100 unless otherwise specified]

Code	Commodity groups and subgroups	Annual average 1978	1979									1980			
			Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.[5]	Jan.	Feb.	Mar.	Apr.
	INDUSTRIAL COMMODITIES—Continued														
09	Pulp, paper, and allied products	195.6	215.0	216.2	216.6	218.3	222.2	223.0	227.5	229.5	231.7	237.4	238.9	241.6	246.5
09-1	Pulp, paper, and products, excluding building paper and board	195.6	216.0	217.2	217.8	219.6	223.6	224.3	229.0	231.1	233.4	239.1	240.5	243.1	248.0
09-11	Woodpulp	266.5	303.8	306.9	308.3	320.3	320.6	320.6	337.5	338.0	338.0	358.8	358.5	359.0	386.8
09-12	Wastepaper	191.2	206.5	208.2	207.2	207.9	206.6	206.7	206.7	220.0	221.2	222.7	223.2	224.9	242.5
09-13	Paper	206.1	226.3	227.2	227.5	228.2	229.5	230.3	236.7	241.8	242.7	245.5	247.5	250.5	253.6
09-14	Paperboard	179.6	197.9	199.2	199.8	201.7	206.4	209.6	211.3	212.8	215.4	221.8	223.4	225.9	230.2
09-15	Converted paper and paperboard products	185.6	205.8	207.0	207.6	209.0	214.4	214.6	217.3	219.0	221.9	227.5	228.7	231.3	234.6
09-2	Building paper and board	187.4	183.4	183.3	180.8	178.0	179.1	182.6	183.5	183.6	184.6	186.0	191.1	198.7	201.3
10	Metals and metal products	227.1	256.0	256.2	258.2	260.8	261.8	263.7	269.6	271.1	273.6	284.5	288.6	286.3	284.6
10-1	Iron and steel	253.6	280.2	279.5	283.2	286.8	286.1	285.5	289.2	292.0	292.8	297.3	300.2	301.6	307.0
10-13	Steel mill products	254.5	275.0	276.7	277.3	284.6	284.7	284.8	288.3	288.8	289.3	293.7	294.2	295.6	304.1
10-2	Nonferrous metals	207.8	259.6	258.2	259.7	262.3	263.1	269.3	283.1	284.1	291.9	326.1	336.5	320.9	298.9
10-3	Metal containers	243.4	270.1	268.5	267.3	267.2	268.4	268.7	279.9	280.9	280.9	283.3	283.3	287.8	301.1
10-4	Hardware	200.4	215.8	216.9	217.1	218.5	220.1	221.5	224.0	225.5	226.2	228.4	229.4	230.5	236.9
10-5	Plumbing fixtures and brass fittings	199.1	212.0	213.8	217.0	219.6	222.4	223.0	223.5	225.4	226.5	229.7	236.6	242.4	243.7
10-6	Heating equipment	174.4	183.8	185.7	185.2	186.0	188.1	191.3	192.2	193.1	195.6	197.3	199.9	202.0	204.2
10-7	Fabricated structural metal products	226.4	243.8	247.0	248.2	250.5	252.2	253.7	256.3	256.7	257.7	258.8	259.5	262.9	268.2
10-8	Miscellaneous metal products	212.0	227.0	228.5	230.1	231.8	235.6	236.7	238.5	238.6	239.1	241.5	242.5	245.1	247.1
11	Machinery and equipment	196.1	209.8	211.4	212.4	214.8	216.0	217.7	220.0	221.3	223.4	227.1	229.7	231.9	235.8
11-1	Agricultural machinery and equipment	213.1	226.4	228.3	229.4	231.2	233.3	237.4	240.0	243.4	244.2	247.6	249.1	250.4	252.8
11-2	Construction machinery and equipment	232.9	251.7	253.7	254.0	257.0	258.5	258.9	263.9	265.4	268.8	275.4	277.5	278.4	282.9
11-3	Metalworking machinery and equipment	217.0	235.3	237.6	239.1	241.4	243.5	246.4	249.6	252.2	254.6	258.7	261.3	264.1	269.9
11-4	General purpose machinery and equipment	216.6	232.6	234.0	235.1	237.1	238.3	240.2	242.8	244.2	247.6	249.6	252.0	255.7	260.0
11-6	Special industry machinery and equipment	223.0	243.4	245.1	246.1	249.8	251.0	251.2	253.8	254.9	256.1	260.7	262.9	265.6	271.9
11-7	Electrical machinery and equipment	164.9	175.0	176.5	177.6	179.9	181.2	182.5	184.3	184.9	186.6	190.5	194.2	195.9	199.7
11-9	Miscellaneous machinery	194.7	205.4	207.1	207.4	209.7	209.7	212.0	213.6	214.9	216.3	220.0	220.8	222.7	226.8
12	Furniture and household durables	160.4	168.7	169.6	170.2	170.7	171.5	172.7	175.1	176.4	177.9	182.1	183.4	184.6	183.1
12-1	Household furniture	173.5	182.7	184.8	185.3	185.8	186.2	188.5	190.1	193.0	194.8	195.4	196.5	196.9	198.9
12-2	Commercial furniture	201.5	221.7	221.9	221.8	222.7	222.7	222.7	223.3	223.3	225.1	227.1	230.1	232.8	233.5
12-3	Floor coverings	141.6	144.4	146.0	146.5	149.1	150.0	150.4	152.1	152.8	152.9	159.8	159.4	160.7	161.7
12-4	Household appliances	153.0	158.7	159.3	160.0	161.1	162.2	162.7	163.2	164.5	165.3	166.6	168.7	169.7	170.2
12-5	Home electronic equipment	90.2	92.3	92.4	92.8	90.2	90.2	90.3	90.3	90.3	90.5	88.5	88.7	88.8	88.9
12-6	Other household durable goods	203.1	218.6	219.5	220.6	223.7	226.6	231.0	245.6	248.2	254.4	283.1	284.2	287.6	286.8
13	Nonmetallic mineral products	222.8	243.4	245.6	246.9	249.5	249.9	254.6	256.2	257.4	259.6	268.0	272.6	276.1	282.8
13-11	Flat glass	172.8	183.1	183.1	184.0	184.1	184.1	184.5	184.7	185.4	186.4	190.9	190.9	191.4	191.4
13-2	Concrete ingredients	217.7	242.0	242.5	243.3	245.1	245.9	246.7	248.3	249.6	251.0	263.5	265.2	266.0	270.5
13-3	Concrete products	214.0	240.5	241.6	243.7	245.2	246.3	248.7	250.1	250.6	253.2	264.9	266.2	268.6	273.0
13-4	Structural clay products excluding refractories	197.2	214.8	215.7	216.5	220.3	222.3	223.7	221.1	221.5	226.7	229.6	231.1	231.5	234.4
13-5	Refractories	216.5	228.4	228.5	232.6	240.8	241.7	242.4	244.6	247.4	248.0	249.3	251.9	254.8	262.6
13-6	Asphalt roofing	282.0	316.4	317.9	323.0	328.4	325.9	333.0	337.5	347.4	346.5	356.5	372.3	387.6	404.7
13-7	Gypsum products	229.1	252.2	248.8	251.3	251.8	252.3	254.9	255.3	256.2	255.0	255.4	262.2	267.6	264.0
13-8	Glass containers	244.4	250.7	265.2	265.2	265.2	265.2	265.2	265.2	265.2	274.2	274.5	274.6	274.8	294.6
13-9	Other nonmetallic minerals	275.6	300.0	303.0	302.0	310.5	309.9	336.0	341.2	342.2	342.2	351.6	374.3	386.9	399.5
14	Transportation equipment (12/68 = 100)	173.5	186.8	187.2	187.5	188.4	185.9	186.6	194.2	194.8	195.6	198.3	198.1	198.8	202.5
14-1	Motor vehicles and equipment	176.0	188.4	188.8	190.1	190.8	187.8	188.6	197.1	197.4	198.2	200.3	199.9	200.8	204.9
14-4	Railroad equipment	252.8	271.7	271.6	274.7	280.6	280.9	281.6	286.3	288.2	289.0	295.0	299.3	301.3	303.9
15	Miscellaneous products	184.3	201.4	203.3	205.2	207.0	208.9	213.1	218.9	221.4	227.4	242.2	261.8	258.2	252.2
15-1	Toys, sporting goods, small arms, ammunition	163.2	173.2	174.3	174.7	176.9	177.6	179.6	181.1	181.2	183.0	190.4	193.2	194.2	195.3
15-2	Tobacco products	198.5	214.4	214.4	214.4	214.8	221.3	221.9	222.1	222.2	226.6	236.3	236.9	237.1	237.6
15-3	Notions	182.0	190.2	190.6	190.6	192.0	191.9	191.9	195.7	195.8	196.8	203.1	203.2	207.2	216.8
15-4	Photographic equipment and supplies	145.7	150.1	150.6	151.6	152.0	152.2	154.3	157.4	161.2	164.3	166.0	218.7	219.4	212.6
15-51	Mobile homes (12/74 = 100)	126.4	135.2	137.2	137.9	138.2	139.5	140.7	142.9	144.0	144.1	144.2	146.0	146.6	148.9
15-9	Other miscellaneous products	210.6	246.1	250.6	255.8	261.4	261.4	272.5	288.3	293.3	308.8	349.7	375.3	352.3	339.2

[1] Prices for natural gas are lagged 1 month.

[2] Includes only domestic production.

[3] Most prices for refined petroleum products are lagged 1 month.

[4] Some prices for industrial chemicals are lagged 1 month.

[5] Data for December 1979 have been revised to reflect the availability of late reports and corrections by respondents. All data are subject to revision 4 months after original publication.

28. Producer Price Indexes, for special commodity groupings

[1967 = 100 unless otherwise specified]

Commodity grouping	Annual average 1978	1979									1980			
		Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.[1]	Jan.	Feb.	Mar.	Apr.
All commodities — less farm products	208.4	228.0	230.1	232.0	235.4	237.5	241.4	245.3	247.0	249.5	255.4	260.5	262.6	264.3
All foods	206.4	227.7	226.4	223.8	225.4	224.7	228.5	226.9	230.0	232.2	231.1	235.7	234.7	231.7
Processed foods	206.7	227.8	227.5	224.7	226.4	224.8	230.8	228.9	231.8	234.2	233.3	238.5	236.8	234.0
Industrial commodities less fuels	197.2	214.7	216.0	217.0	219.0	220.3	222.0	225.9	226.9	228.5	234.3	237.5	238.4	238.9
Selected textile mill products (Dec. 1975 = 100)	108.8	112.3	112.8	113.5	114.0	115.1	115.8	116.4	117.0	117.2	118.8	119.4	121.1	122.1
Hosiery	106.3	112.5	112.5	112.7	114.1	113.0	112.7	113.3	114.8	115.3	119.5	119.6	119.9	120.7
Underwear and nightwear	158.9	167.3	167.7	168.3	168.5	170.8	170.8	171.2	171.8	172.9	175.7	177.8	181.8	182.0
Chemicals and allied products, including synthetic rubber and manmade fibers and yarns	190.5	204.1	207.6	209.5	215.0	218.6	220.9	224.3	226.3	228.7	235.8	238.2	242.1	248.4
Pharmaceutical preparations	140.6	150.0	150.1	151.7	151.7	152.0	153.6	155.6	155.4	156.9	159.2	160.4	161.7	165.9
Lumber and wood products, excluding millwork and other wood products	298.3	325.4	325.1	321.7	325.3	333.9	341.0	337.3	323.3	310.8	308.6	314.0	312.2	284.5
Special metals and metal products	209.6	232.7	232.4	233.7	235.5	234.9	236.4	243.4	244.5	246.3	253.5	255.7	254.8	255.6
Fabricated metal products	216.2	232.9	234.6	235.7	237.4	239.8	241.1	244.0	244.6	245.3	247.3	248.3	251.3	256.0
Copper and copper products	155.6	212.1	199.0	193.0	191.9	197.1	200.5	212.2	213.6	217.1	227.2	258.2	240.9	224.7
Machinery and motive products	190.4	204.1	205.3	206.0	207.7	207.2	208.5	213.4	214.3	215.9	219.3	220.6	222.2	226.1
Machinery and equipment, except electrical	214.3	230.0	231.8	232.6	235.1	236.2	238.2	240.8	242.5	244.8	248.4	250.4	252.9	257.5
Agricultural machinery, including tractors	218.3	230.8	232.1	233.8	235.8	238.4	243.6	246.3	250.8	251.5	255.2	256.0	257.7	258.7
Metalworking machinery	228.8	251.2	254.3	256.8	260.1	261.7	265.6	269.5	272.7	276.0	282.1	284.8	288.1	294.3
Numerically controlled machine tools (Dec. 1971 = 100)	179.1	182.7	186.7	185.8	202.2	204.2	206.5	208.5	208.8	211.2	213.2	215.6	216.8	223.9
Total tractors	228.7	245.4	247.7	248.2	251.2	253.8	256.0	261.2	262.5	266.2	271.6	273.5	274.3	278.4
Agricultural machinery and equipment less parts	212.7	226.7	228.1	229.5	231.4	233.7	238.4	241.0	244.9	245.8	249.3	250.4	252.1	254.2
Farm and garden tractors less parts	216.1	228.5	230.5	231.8	233.9	237.6	244.1	247.6	250.5	251.1	255.3	256.7	258.8	261.0
Agricultural machinery excluding tractors less parts	216.7	233.0	233.6	235.7	237.6	239.2	243.5	245.4	251.3	252.0	255.4	255.6	257.0	259.0
Industrial valves	232.3	252.4	255.0	255.8	257.0	258.2	260.1	261.8	263.1	266.1	270.1	272.2	276.1	283.5
Industrial fittings	232.7	255.5	259.3	260.4	260.8	262.3	264.3	272.6	276.8	276.8	276.8	280.4	282.8	289.9
Abrasive grinding wheels	208.1	220.3	221.6	222.8	222.8	224.6	224.6	239.0	239.0	239.0	239.0	244.0	244.0	258.4
Construction materials	228.3	250.0	250.3	250.3	252.3	254.3	256.6	258.5	256.7	255.4	259.1	262.2	264.6	262.1

[1] Data for December 1979 have been revised to reflect the availability of late reports and corrections by respondents. All data are subject to revision 4 months after original publication.

29. Producer Price Indexes, by durability of product

[1967 = 100]

Commodity grouping	Annual average 1978	1979									1980			
		Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.[1]	Jan.	Feb.	Mar.	Apr.
Total durable goods	204.9	223.9	224.7	225.8	227.6	229.0	230.1	234.6	235.3	237.0	243.4	246.4	246.6	247.2
Total nondurable goods	211.9	234.1	236.9	236.8	243.7	245.8	251.1	253.7	256.2	259.3	263.0	270.0	273.1	274.0
Total manufactures	204.2	223.1	225.0	226.5	229.8	231.7	235.2	239.0	240.6	242.6	248.2	252.7	254.8	256.5
Durable	204.7	222.7	223.8	224.6	226.6	227.2	229.4	234.0	234.6	236.2	242.2	245.0	245.2	246.2
Nondurable	203.0	222.8	225.6	227.8	232.5	235.9	241.0	244.0	246.6	249.0	253.8	260.7	264.7	267.3
Total raw or slightly processed goods	234.6	266.1	268.2	269.7	274.3	272.1	276.9	278.7	281.0	285.9	287.5	295.9	295.6	290.4
Durable	209.6	272.5	262.9	272.8	265.4	259.8	255.7	259.2	265.8	267.8	282.7	305.2	302.5	286.0
Nondurable	235.6	264.7	267.6	268.5	274.0	272.0	277.5	279.2	281.2	286.3	288.9	294.2	294.0	289.7

[1] Data for December 1979 have been revised to reflect the availability of late reports and corrections by respondents. All data are subject to revision 4 months after original publication.

30. Producer Price Indexes for the output of selected SIC Industries

[1967 = 100 unless otherwise specified]

1972 SIC code	Industry Description	Annual average 1978	1979									1980			
			Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
	MINING														
1011	Iron ores (12/75 = 100)	121.9	131.9	131.9	138.0	138.0	138.8	138.1	140.2	140.2	142.0	142.0	147.3	147.3	152.6
1092	Mercury ores (12/75 = 100)	126.6	202.1	237.5	277.0	270.8	245.8	252.1	275.0	252.1	300.0	308.3	335.4	330.0	337.5
1211	Bituminous coal and lignite	430.2	447.5	451.3	452.5	453.1	454.8	452.9	455.1	455.5	458.9	458.0	458.7	460.7	462.9
1311	Crude petroleum and natural gas	358.2	407.6	427.2	444.1	457.5	476.0	508.4	522.1	533.9	551.3	583.2	597.4	600.6	612.3
1442	Construction sand and gravel	194.6	214.1	216.0	217.0	219.3	220.1	221.0	224.0	224.7	225.6	238.0	242.1	243.6	248.4
1455	Kaolin and ball clay (6/76 = 100)	111.8	125.4	125.4	125.5	125.5	125.5	125.5	126.7	124.2	129.3	128.5	128.5	123.4	136.6
	MANUFACTURING														
2011	Meat packing plants	216.7	265.0	259.2	249.1	243.8	229.3	247.2	238.9	241.5	243.9	240.7	240.1	238.9	225.6
2013	Sausages and other prepared meats	215.2	224.4	227.7	217.1	214.7	209.4	211.7	211.9	213.4	220.0	211.5	207.4	209.1	197.7
2016	Poultry dressing plants	192.5	199.7	203.5	177.8	178.4	169.6	171.2	163.1	168.3	168.5	166.1	179.2	173.5	164.5
2021	Creamery butter	265.2	234.7	225.3	225.3	227.5	237.9	240.6	240.1	241.7	243.1	241.9	242.8	243.4	252.8

See footnotes at end of table.

30. Continued—Producer Price Indexes for the output of selected SIC industries

[1967 = 100 unless otherwise specified]

1972 SIC code	Industry description	Annual average 1978	1979									1980			
			Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
	MANUFACTURING—Continued														
2022	Cheese natural and processed (12/72 = 100)	169.6	186.8	185.2	185.6	186.3	195.4	200.8	196.8	193.6	193.9	197.1	194.6	197.4	203.6
2024	Ice cream and frozen desserts (12/72 = 100)	154.8	167.3	171.0	171.5	171.5	175.0	176.1	177.5	179.9	180.1	180.9	181.5	185.0	191.4
2033	Canned fruits and vegetables	193.2	206.2	207.2	207.5	209.9	210.5	212.0	212.9	212.2	212.2	213.5	213.5	214.8	216.3
2034	Dehydrated food products (12/73 = 100)	131.3	181.7	182.1	181.0	182.0	180.7	170.0	158.2	156.2	157.3	157.6	159.0	156.4	157.5
2041	Flour mills (12/71 = 100)	147.0	158.1	166.7	174.6	190.9	176.9	183.5	184.2	184.4	184.1	181.7	183.6	182.6	175.9
2044	Rice milling	207.6	206.8	206.8	206.8	206.8	218.7	223.5	227.3	231.8	218.1	217.5	233.0	258.0	260.4
2048	Prepared foods, n.e.c. (12/75 = 100)	107.3	117.5	115.2	118.9	128.1	119.4	120.9	123.6	124.3	125.0	122.3	122.9	121.8	116.8
2061	Raw cane sugar	190.7	197.5	195.6	207.0	209.0	216.8	216.7	224.3	223.3	248.4	260.5	374.9	276.0	320.2
2063	Beet sugar	188.5	190.3	190.7	190.7	202.0	199.4	200.0	204.7	210.6	223.2	223.5	290.6	303.1	295.4
2067	Chewing gum	218.0	242.6	242.2	242.2	242.9	242.9	242.9	242.9	262.3	262.3	262.3	262.3	281.9	281.9
2074	Cottonseed oil mills	183.1	198.5	192.5	210.4	224.5	214.1	217.9	214.9	204.7	205.6	182.2	184.3	170.4	154.8
2075	Soybean oil mills	225.6	244.7	237.7	251.1	262.8	250.0	246.6	244.7	242.4	241.9	230.2	226.2	219.3	212.6
2077	Animal and marine fats and oils	287.9	383.1	363.8	335.3	352.0	321.4	333.8	333.7	315.2	300.7	296.0	292.6	297.3	274.0
2083	Malt	181.5	190.8	190.8	201.4	201.4	201.4	214.9	214.9	228.2	228.2	244.1	244.1	244.1	244.1
2085	Distilled liquor, except brandy (12/75 = 100)	106.7	109.4	113.6	113.6	113.6	115.7	117.1	117.1	118.1	118.1	118.6	118.7	118.7	118.7
2091	Canned and cured seafoods (12/73 = 100)	136.4	139.2	140.9	142.1	148.5	148.2	154.0	154.3	155.6	159.8	160.9	164.0	165.7	170.2
2092	Fresh or frozen packaged fish	303.8	375.8	382.4	397.6	403.7	391.5	389.2	400.1	391.4	388.4	390.7	386.6	392.6	371.5
2095	Roasted coffee (12/72 = 100)	262.3	220.5	231.7	244.2	271.0	279.2	279.2	280.0	287.5	287.5	281.3	273.9	274.0	273.9
2098	Macaroni and spaghetti	176.9	184.7	186.6	188.6	203.5	210.4	210.4	210.4	221.5	227.7	227.7	227.7	227.7	230.5
2111	Cigarettes	204.6	221.4	221.4	221.4	221.5	228.9	229.1	229.2	229.2	234.3	245.8	245.9	245.9	246.1
2121	Cigars	141.4	145.4	145.4	145.3	149.8	150.1	150.1	149.8	150.4	150.4	147.9	151.6	151.8	152.7
2131	Chewing and smoking tobacco	222.0	245.9	245.9	245.9	246.4	246.4	255.8	260.4	260.8	260.8	260.9	265.1	267.3	274.3
2211	Weaving mills, cotton (12/72 = 100)	181.1	191.8	192.7	194.3	196.1	196.5	198.7	201.1	201.6	201.9	203.1	206.5	209.1	210.9
2221	Weaving mills, synthetic (12/77 = 100)	109.0	113.3	113.6	114.1	116.2	116.3	116.2	116.8	117.3	117.2	117.6	117.8	119.6	122.4
2251	Women's hosiery, except socks (12/75 = 100)	91.5	97.3	97.3	97.6	98.6	98.1	97.5	98.2	100.3	100.2	103.6	103.6	103.7	104.4
2254	Knit underwear mills	164.1	172.8	173.1	173.3	172.9	174.0	174.0	174.3	174.6	178.3	182.9	184.5	186.2	186.4
2257	Circular knit fabric mills (6/76 = 100)	96.5	93.2	94.1	95.8	96.1	96.4	96.2	96.9	98.4	98.6	98.8	100.0	103.1	103.6
2261	Finishing plants, cotton (6/76 = 100)	111.0	119.0	120.8	120.9	122.5	123.2	124.0	126.1	126.3	126.6	124.9	129.5	131.7	131.9
2262	Finishing plants, synthetics, silk (6/76 = 100)	101.4	105.9	106.3	107.0	107.5	108.2	108.3	109.3	109.7	109.8	109.8	109.3	110.3	111.3
2271	Woven carpets and rugs (12/75 = 100)	114.7	116.0	116.7	117.1	(1)	(1)	(1)	(1)	...	...	...	...	...	...
2272	Tufted carpets and rugs	125.3	127.0	127.7	128.1	127.6	128.6	129.0	129.8	130.1	130.1	135.6	135.2	137.5	135.9
2281	Yarn mills, except wool (12/71 = 100)	167.4	173.1	174.5	175.7	177.5	177.4	179.4	181.2	183.0	183.7	188.3	197.4	199.3	203.8
2282	Throwing and winding mills (6/75 = 100)	99.2	104.4	106.3	107.5	108.5	108.7	111.2	110.4	109.6	109.2	109.3	108.8	111.3	114.8
2284	Thread mills (6/76 = 100)	114.6	120.4	120.4	120.4	120.5	128.1	128.1	128.4	128.4	128.6	128.7	129.2	129.3	133.9
2298	Cordage and twine (12/77 = 100)	99.3	101.7	102.8	105.4	105.4	113.5	115.1	114.9	114.9	114.9	115.0	117.2	118.5	123.6
2311	Men's and boys' suits and coats	194.3	203.9	204.2	204.5	205.8	206.5	206.5	206.6	206.8	206.7	207.5	209.3	209.7	205.7
2321	Men's and boys' shirts and nightwear	180.8	191.8	192.4	193.5	194.7	195.9	196.0	196.1	196.6	196.3	198.8	196.6	197.3	202.9
2322	Men's and boys' underwear	180.6	188.7	188.7	188.7	188.7	190.0	190.0	190.0	190.0	194.0	200.0	202.2	204.0	204.2
2323	Men's and boys' neckwear (12/75 = 100)	102.3	103.4	103.4	103.4	103.4	110.9	110.9	110.9	110.9	110.9	112.4	112.4	112.4	106.3
2327	Men's and boys' separate trousers	152.7	162.3	162.3	162.5	162.5	162.7	162.7	162.9	163.4	163.5	164.2	174.3	174.4	174.8
2328	Men's and boys' work clothing	195.2	206.5	206.5	209.0	208.9	210.7	210.9	213.4	219.1	219.6	225.3	234.1	235.4	240.9
2331	Women's and misses' blouses and waists (6/78 = 100)		99.1	100.3	100.5	102.6	102.7	102.8	103.0	105.9	106.8	107.0	107.2	107.2	107.6
2335	Women's and misses' dresses (12/77 = 100)	100.7	106.6	105.9	105.9	106.4	108.3	108.3	108.7	108.8	108.8	112.9	113.9	113.9	113.9
2341	Women's and children's underwear (12/72 = 100)	132.1	142.6	143.3	143.3	144.2	145.3	145.3	146.7	147.4	147.7	149.4	150.1	152.4	152.4
2342	Brassieres and allied garments (12/75 = 100)	111.7	116.1	116.2	117.5	117.5	117.8	117.8	117.8	117.8	118.8	119.7	123.0	124.9	125.4
2361	Children's dresses and blouses (12/77 = 100)	(1)	106.7	106.7	102.1	102.4	102.4	103.7	105.7	105.7	105.6	106.1	105.3	106.0	106.0
2381	Fabric dress and work gloves	214.4	241.5	243.9	243.9	245.4	245.4	245.4	245.4	246.9	246.9	257.7	261.7	264.8	267.5
2394	Canvas and related products (12/77 = 100)	99.6	105.9	105.9	106.9	108.4	111.0	111.4	112.3	112.1	120.1	122.1	122.8	123.4	123.4
2396	Automotive and apparel trimmings (12/77 = 100)	106.3	107.1	107.1	114.3	114.3	114.3	114.3	114.3	114.3	114.3	114.3	114.3	122.3	122.3
2421	Sawmills and planing mills (12/71 = 100)	228.9	252.5	251.6	250.9	251.3	259.1	265.6	262.2	250.2	237.9	234.8	239.6	239.1	215.7
2436	Softwood veneer and plywood (12/75 = 100)	150.1	157.3	151.1	140.7	148.1	153.4	156.0	153.1	142.9	138.9	138.5	143.9	139.8	121.4
2439	Structural wood members, n.e.c. (12/75 = 100)	136.2	150.1	150.1	150.0	150.0	149.9	150.8	158.2	158.2	158.2	158.2	158.2	158.3	158.2
2448	Wood pallets and skids (12/75 = 100)	149.4	166.8	166.7	167.0	166.9	166.8	167.9	167.9	171.0	170.5	169.8	167.0	166.3	164.6
2451	Mobile homes (12/74 = 100)	126.5	135.3	137.3	138.0	138.2	139.6	140.7	143.0	144.0	144.1	144.2	146.1	146.7	149.0
2492	Particleboard (12/75 = 100)	159.7	143.8	141.6	137.4	134.3	134.7	138.5	139.5	136.8	134.5	136.5	149.0	158.9	161.9
2511	Wood household furniture (12/71 = 100)	152.4	162.7	164.6	164.0	164.5	164.6	168.0	169.3	172.3	174.5	175.7	177.4	177.6	179.7
2512	Upholstered household furniture (12/71 = 100)	143.1	147.4	149.2	149.4	150.0	150.2	151.6	151.8	153.8	155.7	155.9	156.6	156.6	158.7
2515	Mattresses and bedsprings	156.3	163.1	163.2	164.1	164.5	165.8	165.8	168.9	172.3	172.3	169.7	169.7	169.7	171.5
2521	Wood office furniture	194.4	214.2	214.3	214.2	216.8	216.8	216.8	217.6	217.6	221.9	226.2	233.7	233.8	233.9
2611	Pulp mills (12/73 = 100)	178.5	192.5	195.2	196.6	205.4	205.7	205.8	213.5	213.9	213.9	227.2	227.0	227.4	244.9
2621	Paper mills, except building (12/74 = 100)	115.7	128.5	129.3	129.5	130.2	131.0	131.4	135.1	136.5	136.8	139.2	140.0	142.7	145.1
2631	Paperboard mills (12/74 = 100)	108.4	117.1	118.1	118.5	119.7	121.9	123.4	125.4	126.3	127.6	131.4	132.3	134.1	137.0
2647	Sanitary paper products	251.4	270.8	271.7	271.9	276.4	285.9	285.4	286.3	288.4	290.9	294.0	303.8	311.6	312.2
2654	Sanitary food containers	170.8	184.1	189.1	189.1	189.6	189.6	191.8	195.8	198.2	199.9	202.6	202.6	207.3	212.9
2655	Fiber cans, drums, and similar products (12/75 = 100)	123.0	130.9	132.2	134.0	136.6	136.6	136.6	138.5	138.5	142.3	143.2	143.2	143.3	145.7
2812	Alkalies and chlorine (12/73 = 100)	198.8	203.7	204.9	206.3	209.5	212.2	213.1	214.1	216.7	217.3	220.3	224.9	227.1	234.0
2821	Plastics materials and resins (6/76 = 100)	103.8	113.8	117.7	118.6	124.9	127.8	128.9	132.9	133.8	134.1	138.2	139.3	140.6	145.4
2822	Synthetic rubber	180.5	196.5	200.9	206.6	214.2	223.4	223.8	225.7	228.0	230.4	240.0	243.2	243.8	255.7
2824	Organic fiber, noncellulosic	107.6	113.1	115.9	117.4	118.6	119.8	123.5	123.6	123.2	122.6	124.3	124.8	127.1	128.8
2873	Nitrogenous fertilizers (12/75 = 100)	96.6	101.5	101.9	101.4	102.8	104.1	106.1	108.0	111.7	113.5	114.5	119.4	122.2	123.9
2874	Phosphatic fertilizers	166.0	185.2	185.1	184.2	189.9	199.4	204.3	213.2	221.6	223.4	230.0	233.9	235.7	237.3
2875	Fertilizers, mixing only	181.9	197.3	197.8	197.8	198.1	205.6	211.1	218.3	227.0	227.1	233.8	240.8	243.1	247.9
2892	Explosives	217.3	227.9	230.0	230.3	240.1	240.7	250.3	250.8	251.7	252.5	253.9	255.5	260.5	271.3
2911	Petroleum refining (6/76 = 100)	119.6	138.8	146.6	155.1	165.5	176.6	189.9	196.4	201.0	204.8	213.6	228.7	242.2	250.4
2951	Paving mixtures and blocks (12/75 = 100)	117.1	128.5	130.1	131.2	134.4	134.9	141.6	145.6	145.6	145.7	150.0	157.3	167.8	172.6
2952	Asphalt felts and coatings (12/75) = 100)	128.2	138.6	139.3	141.6	143.6	142.7	145.8	147.6	152.2	151.9	156.1	162.4	169.5	176.5
3011	Tires and inner tubes (12/73 = 100)	154.0	168.0	169.2	170.6	176.8	181.2	184.2	186.9	191.2	191.4	192.7	198.2	198.3	198.8

30. Continued—Producer Price Indexes for the output of selected SIC industries

[1967=100 unless otherwise specified]

1972 SIC code	Industry description	Annual average 1978	1979									1980			
			Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.[2]	Jan.	Feb.	Mar.	Apr.
3021	Rubber and plastic footwear (12/71 = 100)	158.7	169.0	169.5	169.6	171.0	173.4	173.4	173.5	173.5	173.5	173.7	173.8	173.8	173.8
3031	Reclaimed rubber (12/73 = 100)	154.3	164.5	167.6	169.1	169.2	169.2	177.7	178.8	179.2	179.5	177.6	177.9	182.7	183.7
3079	Miscellaneous plastic products (6/78 = 100)	...	107.5	109.0	110.7	111.4	112.3	113.1	114.3	114.6	115.6	116.6	116.8	118.7	120.1
3111	Leather tanning and finishing (12/77 = 100)	119.1	182.9	201.3	195.8	181.8	172.9	155.2	161.9	150.8	153.5	164.3	160.8	146.7	140.8
3142	House slippers (12/75 = 100)	122.5	136.3	138.5	142.0	135.0	135.0	135.0	135.8	135.9	135.9	144.8	146.7	146.7	146.8
3143	Men's footwear, except athletic (12/75 = 100)	127.1	147.6	152.8	155.4	155.4	158.2	160.1	160.4	160.3	160.3	159.3	157.9	158.4	158.4
3144	Women's footwear, except athletic	164.1	190.3	192.2	195.4	198.7	201.5	201.6	202.3	204.0	204.0	205.7	206.4	213.5	213.8
3171	Women's handbags and purses (12/75 = 100)	111.4	123.0	131.7	131.8	131.8	131.8	131.8	131.8	131.8	131.8	131.9	131.9	132.1	132.1
3211	Flat glass (12/71 = 100)	142.7	150.8	150.8	151.8	151.9	151.9	152.3	152.6	153.3	153.9	157.4	157.4	157.9	157.9
3221	Glass containers	244.3	250.7	265.2	265.2	265.2	265.2	265.2	265.2	265.2	274.2	274.5	274.5	274.5	294.5
3241	Cement, hydraulic	251.2	283.1	283.2	283.7	285.4	285.4	285.4	285.4	285.5	286.2	302.8	303.2	303.2	309.8
3251	Brick and structural clay tile	230.8	256.7	258.3	259.7	261.0	263.3	265.9	261.3	261.3	262.7	268.3	270.4	271.9	276.4
3253	Ceramic wall and floor tile (12/75 = 100)	107.7	113.0	113.0	113.0	120.2	120.2	120.2	120.2	120.2	130.3	130.4	130.4	130.4	130.4
3255	Clay refractories	221.4	234.4	234.6	236.9	246.5	246.7	247.1	251.0	252.9	254.0	256.5	260.9	265.3	275.4
3259	Structural clay products, n.e.c.	176.3	186.8	186.8	187.8	188.2	192.1	192.1	192.8	192.3	196.5	196.7	198.6	196.7	200.6
3261	Vitreous plumbing fixtures	189.7	201.6	204.6	206.4	210.1	212.4	213.1	214.5	215.7	217.3	219.2	224.6	226.7	227.6
3262	Vitreous china food utensils	268.8	290.6	290.6	290.6	297.5	297.5	298.0	298.0	305.4	308.2	307.9	307.9	308.2	313.4
3263	Fine earthenware food utensils	228.1	237.1	237.1	236.4	238.8	238.8	246.0	246.0	248.4	294.3	290.3	290.3	294.0	294.8
3269	Pottery products, n.e.c. (12/75 = 100)	122.2	129.2	129.2	129.0	131.0	131.0	133.3	133.3	135.5	150.1	148.8	148.8	150.0	151.3
3271	Concrete block and brick	202.0	230.8	232.6	232.7	232.7	235.7	237.8	240.0	240.0	240.2	249.5	250.6	252.3	259.3
3273	Ready-mixed concrete	217.6	244.5	245.2	247.5	249.6	250.5	252.4	254.0	254.6	257.0	270.1	271.9	274.9	278.9
3274	Lime (12/75 = 100)	129.5	139.9	139.8	140.1	141.8	142.9	144.2	144.6	144.3	144.6	149.6	153.7	155.5	156.7
3275	Gypsum products	229.5	252.7	249.4	251.9	252.3	252.8	255.4	255.9	256.8	255.6	255.9	262.8	268.1	264.6
3291	Abrasive products (12/71 = 100)	172.3	184.0	185.1	185.8	187.7	188.6	190.4	195.1	195.3	196.5	199.2	202.2	203.9	210.1
3297	Nonclay refractories (12/74 = 100)	133.6	140.5	140.5	143.9	148.1	149.1	149.7	150.1	152.3	152.3	152.6	153.3	154.2	157.4
3312	Blast furnaces and steel mills	262.3	283.5	285.3	285.8	292.8	293.0	293.2	296.4	297.1	297.7	302.3	302.9	304.1	311.9
3313	Electrometallurgical products (12/75 = 100)	94.8	106.6	111.7	112.3	116.5	116.5	116.0	116.2	117.5	117.6	117.8	117.8	118.0	118.7
3316	Cold finishing of steel shapes	241.0	259.1	259.8	261.3	270.6	270.8	270.9	271.7	273.4	273.9	274.2	277.2	277.2	285.9
3317	Steel pipes and tubes	255.2	265.0	264.5	264.5	271.9	271.3	271.3	272.7	273.1	273.2	280.9	281.2	283.6	286.9
3321	Gray iron foundries (12/68 = 100)	233.5	253.9	253.3	254.5	253.9	253.8	254.8	267.1	269.6	269.7	272.3	275.4	275.7	278.4
3333	Primary zinc	223.2	274.2	274.5	275.2	281.4	265.5	264.2	265.2	257.8	265.7	266.1	272.4	279.6	274.2
3334	Primary aluminum	217.4	235.8	237.4	238.5	244.9	247.4	248.2	256.0	263.2	266.6	267.0	267.0	267.8	276.0
3351	Copper rolling and drawing	170.2	220.1	215.6	211.7	211.2	213.6	216.7	226.3	222.6	225.0	231.1	253.2	238.7	230.1
3353	Aluminum sheet plate and foil (12/75 = 100)	137.6	148.0	148.7	148.8	149.6	149.8	150.0	150.7	151.3	151.7	153.4	153.5	155.5	158.0
3354	Aluminum extruded products (12/75 = 100)	134.3	146.1	147.5	147.6	150.3	151.9	151.9	155.2	157.4	158.0	158.8	158.9	160.8	167.6
3355	Aluminum rolling, drawing, n.e.c. (12/75 = 100)	119.7	129.6	131.5	131.6	132.7	133.1	133.5	136.9	139.9	140.5	140.5	140.8	141.2	143.8
3411	Metal cans	238.5	264.4	263.8	262.2	262.2	262.9	263.5	273.8	274.6	274.7	276.6	276.6	279.5	295.1
3425	Hand saws and saw blades (12/72 = 100)	147.9	159.6	161.9	162.5	162.8	166.3	168.4	167.1	169.5	169.8	173.0	173.6	175.4	177.8
3431	Metal sanitary ware	209.1	220.8	222.2	224.1	226.4	228.9	229.2	230.1	231.7	232.9	237.3	242.1	243.1	245.5
3465	Automotive stampings (12/75 = 100)	118.8	126.2	127.0	127.1	127.8	130.9	131.6	132.4	132.4	132.4	132.8	132.8	133.0	133.8
3482	Small arms ammunition (12/75 = 100)	119.5	128.3	130.4	131.4	134.0	134.0	134.0	133.2	133.6	143.2	147.9	147.9	147.3	148.3
3493	Steel springs, except wire	204.6	218.1	218.7	220.5	221.6	222.1	222.8	223.7	224.1	225.6	226.0	226.5	228.4	228.9
3494	Valves and pipe fittings (12/71 = 100)	185.5	201.4	203.6	204.2	205.3	206.2	207.5	210.4	212.5	214.3	216.5	218.8	221.3	227.3
3498	Fabricated pipe and fittings	265.5	284.9	288.2	290.7	294.8	294.8	294.9	297.3	297.4	297.4	301.7	301.8	303.5	306.8
3519	Internal combustion engines, n.e.c.	220.1	237.1	239.0	239.2	242.3	245.7	251.8	254.2	254.9	254.9	259.2	260.5	264.2	269.2
3531	Construction machinery (12/76 = 100)	114.0	123.0	123.9	124.0	125.6	126.3	126.5	128.9	129.4	130.9	134.2	135.3	135.8	138.0
3532	Mining machinery (12/72 = 100)	209.5	228.0	228.4	228.4	231.2	231.5	232.7	233.1	235.4	236.4	243.1	244.2	244.8	254.1
3533	Oilfield machinery and equipment	246.2	283.5	288.4	290.0	292.0	293.3	296.8	300.5	302.8	309.1	314.0	315.9	319.0	329.5
3534	Elevators and moving stairways	204.2	213.8	213.6	214.2	215.4	214.6	219.1	219.4	220.6	220.9	223.9	225.4	228.8	232.6
3542	Machine tools, metal forming types (12/71 = 100)	213.6	237.9	238.8	240.6	244.6	245.1	247.9	249.8	253.7	256.7	268.0	259.2	271.2	276.1
3546	Power driven hand tools (12/76 = 100)	111.1	117.7	117.8	118.7	119.2	120.2	120.4	122.0	122.8	124.4	126.2	128.5	127.3	128.6
3552	Textile machinery (12/60 = 100)	179.9	191.6	191.7	192.6	195.0	197.5	198.2	199.3	200.6	200.6	202.7	205.2	207.0	212.5
3553	Woodworking machinery (12/72 = 100)	168.1	181.0	183.2	184.5	185.9	187.7	190.0	192.6	192.7	192.9	201.7	202.0	205.5	212.7
3576	Scales and balances, excluding laboratory	179.7	191.3	192.8	193.7	194.8	195.4	195.4	195.7	199.5	201.0	200.9	201.9	204.1	205.1
3592	Carburetors, pistons, rings, valves (6/76 = 100)	128.2	137.6	138.6	138.7	139.2	139.6	140.7	142.8	145.1	145.3	147.3	147.6	148.5	152.5
3612	Transformers	158.3	168.5	168.0	168.5	167.9	167.6	168.4	171.2	170.4	171.6	173.0	176.1	177.4	180.0
3623	Welding apparatus, electric (12/72 = 100)	178.1	187.3	191.5	191.9	193.5	194.1	195.1	196.9	198.6	200.3	200.6	202.6	205.3	207.3
3631	Household cooking equipment (12/75 = 100)	114.8	120.3	120.7	120.9	122.0	123.4	124.3	124.4	125.9	126.3	128.6	129.1	129.3	129.6
3632	Household refrigerators, freezers (6/76 = 100)	109.6	111.8	111.9	112.6	113.6	114.3	115.1	115.1	115.7	116.3	116.6	118.0	118.2	119.0
3633	Household laundry equipment (12/73 = 100)	141.0	146.9	147.0	147.2	148.8	149.9	150.6	150.9	152.3	153.5	155.2	156.5	158.2	159.0
3635	Household vacuum cleaners	135.5	140.4	141.2	141.5	141.6	141.7	141.9	144.5	144.7	145.8	146.2	149.6	149.9	150.2
3636	Sewing machines (12/75 = 100)	111.2	121.1	121.1	121.1	121.8	122.2	122.2	122.6	122.6	122.6	122.0	128.6	128.6	128.6
3641	Electric lamps	214.7	229.8	229.8	229.7	240.8	244.3	242.7	244.8	238.7	240.8	248.3	252.2	251.8	252.4
3644	Noncurrent-carrying wiring devices (12/72 = 100)	185.8	200.4	202.6	203.0	203.3	207.7	209.1	210.5	211.9	215.0	215.2	217.5	217.5	219.7
3646	Commercial lighting fixtures (12/75 = 100)	112.7	124.3	126.8	127.4	127.9	127.9	130.5	131.4	131.6	131.9	133.9	134.8	136.6	138.4
3648	Lighting equipment, n.e.c. (12/75 = 100)	114.6	123.5	124.0	124.6	127.6	128.2	128.5	129.6	129.8	130.5	133.0	133.2	134.5	138.6
3671	Electron tubes receiving type	200.9	211.2	211.3	226.4	226.5	226.6	227.2	227.2	227.4	227.7	229.1	229.4	229.5	253.9
3674	Semiconductors and related devices	85.3	84.7	84.7	84.7	84.2	84.3	84.7	85.1	85.6	86.4	86.6	88.0	88.9	89.7
3675	Electronic capacitors (12/75 = 100)	111.5	119.8	120.1	122.1	126.7	129.3	134.1	133.9	135.8	138.0	147.7	149.1	149.0	155.6
3676	Electronic resistors (12/75 = 100)	118.3	123.2	123.2	123.2	124.0	124.6	125.2	126.6	126.7	127.3	127.4	128.8	131.8	131.9
3678	Electronic connectors (12/75 = 100)	118.9	125.8	126.6	126.9	133.4	134.1	137.6	138.9	140.7	142.1	143.6	144.9	145.1	147.3
3692	Primary batteries, dry and wet	162.0	167.9	172.1	172.7	172.8	172.8	172.8	173.1	173.1	174.1	174.2	176.5	176.6	176.8
3711	Motor vehicles and car bodies (12/75 = 100)	115.9	124.5	124.6	124.8	125.1	122.1	122.5	130.2	130.1	130.4	132.5	131.4	131.6	135.0
3942	Dolls (12/75 = 100)	103.2	109.3	109.3	109.3	111.8	112.6	112.6	112.9	112.9	113.0	121.2	123.7	123.9	126.0
3944	Games, toys, and children's vehicles	172.3	179.6	182.3	183.1	183.5	184.4	185.1	186.2	186.3	186.6	195.5	202.0	202.0	202.6
3955	Carbon paper and inked ribbons (12/75 = 100)	105.1	119.6	120.2	116.7	117.1	118.3	118.7	123.1	125.2	125.2	126.5	128.1	128.3	131.5
3995	Burial caskets (6/76 = 100)	113.0	121.0	121.7	121.7	123.3	123.8	124.8	123.1	124.8	124.8	128.3	128.3	128.3	128.1
3996	Hard surface floor coverings (12/75 = 100)	116.3	120.7	123.7	124.5	128.3	128.3	128.3	131.0	134.1	134.1	138.6	138.7	138.7	143.2

[1] Not available.

[2] Data for December 1979 have been revised to reflect the availability of late reports and corrections by respondents. All data are subject to revision 4 months after original publication.

PRODUCTIVITY DATA

PRODUCTIVITY DATA are compiled by the Bureau of Labor Statistics from establishment data and from estimates of compensation and output supplied by the U.S. Department of Commerce and the Federal Reserve Board.

Definitions

Output is the constant dollar gross domestic product produced in a given period. Indexes of **output per hour of labor input,** or labor productivity, measure the value of goods and services produced per hour of labor. **Compensation per hour** includes wages and salaries of employees plus employers' contributions for social insurance and private benefit plans. The data also include an estimate of wages, salaries, and supplementary payments for the self-employed, except for nonfinancial corporations, in which there are no self-employed. **Real compensation per hour** is compensation per hour adjusted by the Consumer Price Index for All Urban Consumers.

Unit labor cost measures the labor compensation cost required to produce one unit of output and is derived by dividing compensation by output. **Unit nonlabor payments** include profits, depreciation, interest, and indirect taxes per unit of output. They are computed by subtracting compensation of all persons from the current dollar gross domestic product and dividing by output. In these tables, **Unit nonlabor costs** contain all the components of unit nonlabor payments except unit profits. **Unit profits** include corporate profits and inventory valuation adjustments per unit of output.

The **implicit price deflator** is derived by dividing the current dollar estimate of gross product by the constant dollar estimate, making the deflator, in effect, a price index for gross product of the sector reported.

The use of the term "man-hours" to identify the labor component of productivity and costs, in tables 31 through 34, has been discontinued. **Hours of all persons** is now used to describe the labor input of payroll workers, self-employed persons, and unpaid family workers. **Output per all-employee hour** is now used to describe labor productivity in nonfinancial corporations where there are no self-employed.

Notes on the data

In the private business sector and the nonfarm business sector, the basis for the output measure employed in the computation of output per hour is Gross Domestic Product rather than Gross National Product. Computation of hours includes estimates of nonfarm and farm proprietor hours.

Output data are supplied by the Bureau of Economic Analysis, U.S. Department of Commerce, and the Federal Reserve Board. Quarterly manufacturing output indexes are adjusted by the Bureau of Labor Statistics to annual estimates of output (gross product originating) from the Bureau of Economic Analysis. Compensation and hours data are from the Bureau of Economic Analysis and the Bureau of Labor Statistics.

Beginning with the September 1976 issue of the *Review,* tables 31–34 were revised to reflect changeover to the new series—private business sector and nonfarm business sector—which differ from the previously published total private economy and nonfarm sector in that output imputed for owner-occupied dwellings and the household and institutions sectors, as well as the statistical discrepancy, are omitted. For a detailed explanation, see J. R. Norsworthy and L. J. Fulco, "New sector definitions for productivity series," *Monthly Labor Review,* October 1976, pages 40–42.

31. Indexes of productivity and related data, selected years, 1950–79

[1967=100]

Item	1950	1955	1960	1965	1970	1972	1973	1974	1975	1976	1977	1978	1979
Private business sector:													
Output per hour of all persons	'61.2	'70.6	'79.0	'95.1	'104.4	'111.5	113.6	'110.2	'112.6	'116.6	'118.7	'119.3	'118.3
Compensation per hour	'42.6	'56.1	'72.2	88.7	'123.3	'139.8	'151.3	'165.2	'181.7	'197.6	'213.3	'231.5	'253.2
Real compensation per hour	'59.2	'69.9	'81.4	'93.9	'106.0	'111.6	113.6	'111.8	'112.7	'115.9	'117.5	'118.5	'116.4
Unit labor cost	69.6	79.4	'91.4	93.3	118.2	125.4	'133.2	149.8	161.3	'169.5	'179.7	194.0	214.0
Unit nonlabor payments	'73.1	'80.4	'85.4	95.9	105.8	'118.9	124.9	'130.3	'150.3	'157.9	'165.5	174.3	'184.4
Implicit price deflator	70.8	79.8	89.3	94.2	113.9	123.2	130.3	143.1	157.5	165.5	174.8	187.2	203.8
Nonfarm business sector:													
Output per hour of all persons	'67.2	74.6	'81.2	'96.0	'103.2	110.1	112.0	'108.6	'110.7	'114.6	'116.4	'117.0	'115.7
Compensation per hour	'45.6	'59.0	'74.5	89.4	'121.9	138.4	149.2	'163.0	'179.3	'194.2	'209.6	'227.8	'248.0
Real compensation per hour	'63.3	'73.6	'84.1	94.6	'104.8	'110.5	112.1	'110.4	'111.2	'113.9	'115.5	'116.5	'114.1
Unit labor cost	'68.0	79.1	91.7	93.2	118.1	125.7	133.2	'150.1	'161.9	'169.5	180.1	194.6	'214.4
Unit nonlabor payments	'71.4	80.1	'84.4	95.8	106.0	'117.4	117.8	124.7	'145.9	156.0	'163.8	169.9	'178.6
Implicit price deflator	69.1	79.4	89.2	94.1	114.0	122.9	127.9	141.4	156.4	164.8	174.5	186.1	'202.1
Nonfinancial corporations:													
Output per hour of all employees	(1)	(1)	'80.6	'96.9	'103.7	'110.6	'112.9	'108.7	'112.2	'115.8	'117.0	'118.1	'117.7
Compensation per hour	(1)	(1)	'76.0	'90.1	'121.8	136.7	'147.6	'161.7	'177.9	'192.7	'208.0	'225.2	'245.2
Real compensation per hour	(1)	(1)	'85.7	95.3	'104.7	109.1	'110.9	'109.5	'110.4	'113.0	'114.6	'115.3	'112.8
Unit labor cost	(1)	(1)	94.3	93.0	117.4	123.7	130.7	148.8	158.6	166.4	177.7	190.6	'208.4
Unit nonlabor payments	(1)	(1)	90.8	100.1	103.5	114.8	116.8	124.8	148.1	156.8	164.4	170.6	'179.5
Implicit price deflator	(1)	(1)	93.1	95.5	112.5	120.5	125.8	140.2	154.9	163.0	173.0	183.5	'198.1
Manufacturing:													
Output per hour of all persons	'65.8	'75.0	'79.8	'98.4	'105.0	115.7	'118.9	'113.0	'118.8	'124.0	'127.7	'128.3	'130.3
Compensation per hour	'45.6	'61.2	'78.0	'91.1	'122.3	136.6	'146.5	'161.7	'181.1	'196.1	'212.7	'223.0	'251.3
Real compensation per hour	'63.3	'76.3	'88.0	'96.4	'105.1	109.0	'110.1	'109.5	'112.3	115.0	'117.2	'117.8	'115.6
Unit labor cost	69.4	81.6	97.7	92.6	116.5	118.1	123.2	143.1	152.4	158.2	166.6	179.4	'192.9
Unit nonlabor payments	'82.3	88.6	'92.3	103.3	96.2	107.4	106.4	105.6	128.4	139.6	147.4	152.4	(1)
Implicit price deflator	73.3	83.8	96.1	95.9	110.3	114.8	118.0	131.6	145.1	152.5	160.7	171.1	(1)

[1] Not available.

32. Annual percent change in productivity and related data, 1969–79

Item	Year											Annual rate of change	
	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1950-79	1960-79
Private business sector:													
Output per hour of all persons	0.2	0.7	3.3	^{r}3.4	1.9	−3.0	2.1	3.5	^{r}1.6	0.5	−0.9	^{p}2.5	^{p}2.1
Compensation per hour	^{r}6.9	^{r}7.2	6.7	6.2	8.2	^{r}9.2	^{r}10.0	8.8	8.0	8.5	9.3	^{p}5.9	^{p}6.9
Real compensation per hour	1.4	^{r}1.2	^{r}2.3	^{r}2.8	1.9	−1.6	^{r}.8	2.8	^{r}1.4	0.8	−1.7	^{p}2.5	^{p}2.0
Unit labor cost	6.6	6.4	3.3	2.8	6.2	12.5	7.7	5.0	6.0	8.0	10.3	^{p}3.3	^{p}4.7
Unit nonlabor payments	1.0	1.2	6.8	^{r}5.3	5.0	4.4	15.3	5.1	4.8	5.3	5.8	^{p}3.0	^{p}4.2
Implicit price deflator	4.7	4.7	4.4	3.6	5.8	9.8	10.1	5.0	5.6	7.1	8.9	^{p}3.2	^{p}4.5
Nonfarm business sector:													
Output per hour of all persons	^{r}−.2	^{r}.2	^{r}3.0	^{r}3.6	1.7	−3.1	^{r}2.0	3.5	^{r}1.5	.5	−1.1	^{p}2.1	^{p}1.9
Compensation per hour	^{r}6.4	^{r}6.8	6.7	^{r}6.4	7.8	^{r}9.2	^{r}10.0	8.3	7.9	8.6	^{r}9.0	^{p}5.6	^{p}6.7
Real compensation per hour	^{r}1.0	^{r}.8	2.3	^{r}3.0	1.5	^{r}−1.6	^{r}.8	2.4	1.4	.9	−2.1	^{p}2.2	^{p}1.7
Unit labor cost	6.7	6.5	3.5	^{r}2.7	6.0	12.7	7.9	4.7	6.3	8.0	10.2	^{p}3.4	^{p}4.7
Unit nonlabor payments	.4	1.6	6.7	3.8	.3	5.9	^{r}17.0	6.9	5.0	3.7	^{r}5.1	^{p}2.9	^{p}4.0
Implicit price deflator	4.5	4.9	4.5	3.1	4.1	10.5	10.8	5.4	5.9	6.6	8.6	^{p}3.3	^{p}4.5
Nonfinancial corporations:													
Output per hour of all employees	.4	^{r}−.0	^{r}3.3	3.3	2.1	^{r}−3.7	3.2	3.2	1.1	1.0	−.4	(1)	^{p}1.9
Compensation per hour	6.8	^{r}6.8	6.2	^{r}5.7	7.9	^{r}9.6	10.0	8.3	7.9	8.3	8.9	(1)	^{p}8.5
Real compensation per hour	1.3	^{r}.8	1.8	2.4	1.8	−1.3	.8	2.4	1.4	.6	−2.1	(1)	^{p}1.6
Unit labor cost	6.3	6.8	2.7	2.5	5.7	13.8	6.6	4.9	6.8	7.3	9.3	(1)	^{p}4.5
Unit nonlabor payments	0	.5	7.3	3.3	1.8	6.8	18.7	5.8	4.9	3.8	^{r}5.2	(1)	^{p}3.6
Implicit price deflator	4.1	4.6	4.2	2.8	4.4	11.5	10.5	5.2	6.1	6.1	^{r}7.9	(1)	^{p}4.2
Manufacturing:													
Output per hour of all persons	^{r}1.3	^{r}−.1	^{r}5.2	^{r}4.8	^{r}2.8	^{r}−5.0	^{r}5.1	4.4	^{r}3.0	^{r}.5	^{r}1.5	2.6	^{p}2.5
Compensation per hour	^{r}6.6	^{r}7.1	^{r}6.2	^{r}5.2	7.2	^{r}10.4	^{r}12.0	8.3	^{r}8.5	^{r}8.2	9.2	^{p}5.5	^{p}6.5
Real compensation per hour	^{r}1.2	^{r}1.1	^{r}1.9	^{r}1.8	.9	−.5	^{r}2.6	2.4	^{r}1.9	^{r}.5	−1.9	^{p}2.1	1.6
Unit labor cost	5.2	7.2	.9	.4	4.3	16.1	5.6	3.8	5.3	7.7	^{r}7.6	^{p}2.9	^{p}3.8
Unit nonlabor payments	−4.4	−3.2	8.2	2.3	−1.0	−.7	21.6	8.8	5.5	3.4	(1)	^{p}1.9	^{p}2.4
Implicit price deflator	2.3	4.2	3.1	1.3	2.8	11.5	10.2	5.1	5.4	6.5	(1)	^{p}2.8	^{p}3.4

[1] Not available.

33. Indexes of productivity, hourly compensation, unit costs, and prices, seasonally adjusted

5 [1967 = 100]

Item	Annual average		Quarterly indexes										
			1977		1978				1979				1980
	1978	1979	III	IV	I	II	III	IV	I	II	III	IV	I
Private business sector:													
Output per hour of all persons	^{r}119.3	^{r}118.3	^{r}119.6	^{r}119.0	^{r}118.5	^{r}119.1	^{r}119.8	^{r}119.9	^{r}119.0	^{r}118.4	^{r}118.0	^{r}117.9	118.0^{p}
Compensation per hour	^{r}231.5	^{r}253.2	^{r}215.6	^{r}218.8	^{r}224.5	^{r}228.6	^{r}233.9	^{r}238.7	^{r}245.1	^{r}250.6	^{r}256.0	^{r}260.6	267.3^{p}
Real compensation per hour	^{r}118.5	^{r}116.4	^{r}117.8	117.9	^{r}118.8	^{r}118.3	^{r}118.3	^{r}118.1	118.0	^{r}117.1	^{r}115.9	^{r}114.3	112.8^{p}
Unit labor cost	194.0	214.0	180.2	^{r}183.9	^{r}188.4	^{r}192.1	^{r}195.2	^{r}199.0	^{r}205.9	^{r}211.7	^{r}217.0	^{r}221.1	226.5^{p}
Unit nonlabor payments	174.3	^{r}184.4	167.9	^{r}168.5	164.8	173.9	177.0	^{r}181.2	180.8	^{r}183.6	^{r}185.5	^{r}188.2	192.5^{p}
Implicit price deflator	187.2	203.8	176.0	178.6	180.0	185.8	188.9	192.9	197.2	202.0	206.1	^{r}209.7	214.7^{p}
Nonfarm business sector:													
Output per hour of all persons	^{r}117.0	^{r}115.7	^{r}116.9	^{r}116.4	^{r}116.1	^{r}116.7	^{r}117.5	^{r}117.7	^{r}116.8	^{r}115.5	^{r}115.1	^{r}115.4	115.3^{p}
Compensation per hour	^{r}227.6	^{r}248.0	^{r}211.5	^{r}215.1	^{r}220.9	^{r}225.0	^{r}229.8	^{r}234.7	240.5	^{r}245.1	^{r}250.2	255.9	261.9^{p}
Real compensation per hour	^{r}116.5	^{r}114.1	115.6	115.9	^{r}116.9	^{r}116.3	116.2	^{r}116.1	115.8	^{r}114.6	^{r}113.3	^{r}112.3	110.5^{p}
Unit labor cost	^{r}194.6	^{r}214.4	^{r}181.0	^{r}184.8	190.2	^{r}192.8	195.6	^{r}199.4	206.0	^{r}212.2	217.3	221.8	227.2^{p}
Unit nonlabor payments	169.9	^{r}178.6	167.1	^{r}165.9	161.1	169.1	173.0	^{r}176.0	174.3	177.6	^{r}180.4	^{r}182.5	186.4^{p}
Implicit price deflator	186.1	^{r}202.1	176.2	178.3	180.2	184.7	187.8	191.4	195.1	200.3	204.7	^{r}208.4	213.9^{p}
Nonfinancial corporations:													
Output per hour of all employees	^{r}118.1	^{r}117.7	^{r}117.7	^{r}116.9	^{r}116.9	^{r}118.1	^{r}118.7	^{r}119.0	^{r}118.4	^{r}117.5	^{r}117.4	117.3^{p}	(1)
Compensation per hour	^{r}225.2	^{r}245.2	^{r}209.9	^{r}213.2	^{r}218.9	^{r}222.8	^{r}227.3	231.7	^{r}237.9	^{r}242.5	^{r}247.6	252.6^{p}	(1)
Real compensation per hour	^{r}115.3	^{r}112.8	^{r}114.7	^{r}114.9	^{r}115.8	^{r}115.2	115.0	^{r}114.6	^{r}114.6	^{r}113.3	^{r}112.1	110.8^{p}	(1)
Total unit costs	193.3	210.3	182.4	186.3	190.8	191.6	194.0	196.8	202.3	208.0	213.2	218.0^{p}	(1)
Unit labor cost	190.6	208.4	178.4	182.3	187.3	188.7	191.5	194.8	201.0	206.4	210.8	215.3^{p}	(1)
Unit nonlabor costs	201.8	216.6	194.8	198.7	201.5	200.8	201.6	203.1	206.5	213.2	220.5	226.1^{p}	(1)
Unit profits	127.2	128.4	130.9	122.2	107.1	129.2	132.7	138.7	130.3	129.2	127.5	124.0^{p}	(1)
Implicit price deflator	183.5	^{r}198.1	174.7	176.8	178.3	182.3	184.9	188.2	191.6	196.3	200.4	204.0^{p}	(1)
Manufacturing:													
Output per hour for all persons	^{r}128.3	^{r}130.3	^{r}128.9	^{r}128.3	^{r}126.2	^{r}127.7	^{r}129.6	^{r}130.1	^{r}129.2	130.0	^{r}131.0	130.6	130.0^{p}
Compensation per hour	^{r}230.2	^{r}251.3	^{r}214.8	^{r}218.3	^{r}223.8	^{r}227.3	^{r}232.0	^{r}237.2	^{r}243.2	^{r}248.9	^{r}253.7	^{r}259.0	265.1^{p}
Real compensation per hour	^{r}117.8	^{r}115.6	^{r}117.4	^{r}117.6	^{r}118.4	^{r}117.5	^{r}117.4	^{r}117.3	^{r}117.1	^{r}116.3	^{r}114.9	^{r}113.6	111.8^{p}
Unit labor cost	178.4	192.4	166.7	170.2	^{r}177.4	^{r}178.0	178.1	^{r}182.4	^{r}188.2	^{r}191.4	^{r}193.7	^{r}198.3	204.0^{p}

[1] Not available.

34. Percent change from preceding quarter and year in productivity, hourly compensation, unit costs, and prices, seasonally adjusted at annual rate

[1967=100]

Item	Quarterly percent change at annual rate						Percent change from same quarter a year ago					
	III 1978 to IV 1978	IV 1978 to I 1979	I 1979 to II 1979	II 1979 to III 1979	III 1979 to IV 1979	IV 1979 to I 1980[p]	IV 1977 to IV 1978	I 1978 to I 1979	II 1978 to II 1979	III 1978 to III 1979	IV 1978 to IV 1979	I 1979 to I 1980[p]
Private business sector:												
Output per hour of all persons	0.3	−3.0	−2.2	[r]−1.4	[r]−0.3	0.6[p]	0.8	0.4	−0.6	−1.8	[r]−1.7	−0.8[p]
Compensation per hour	8.5	11.1	9.3	8.8	7.4	10.7[p]	9.1	9.2	9.5	9.4	[r]9.2	9.1[p]
Real compensation per hour	[r]−.9	[r]−.1	[r]−3.1	[r]−4.0	−5.4	−5.3[p]	.1	−.6	−1.0	−2.0	−3.2	−4.5[p]
Unit labor cost	8.1	14.6	11.8	10.3	7.8	10.0[p]	8.3	8.7	10.2	11.2	11.1	10.0[p]
Unit nonlabor payments	9.9	−1.0	[r]6.6	[r]4.2	[r]5.9	9.4[p]	7.5	9.7	5.6	4.8	[r]3.9	6.5[p]
Implicit price deflator	8.7	9.3	10.1	8.3	[r]7.2	9.8[p]	8.0	9.0	8.7	9.1	[r]8.7	8.9[p]
Nonfarm business sector:												
Output per hour of all persons	.8	−3.2	−4.1	−1.4	[r].7	−0.2[p]	1.1	.5	−1.0	−2.0	−2.0	−1.2[p]
Compensation per hour	8.8	10.4	7.9	8.5	9.4	9.7[p]	9.1	8.9	9.0	8.9	9.0	8.9[p]
Real compensation per hour	[r]−.6	[r]−.7	[r]−4.4	[r]−4.3	[r]−3.6	−6.2[p]	.1	[r]−.9	−1.5	−2.5	−3.3	−4.6[p]
Unit labor cost	8.0	14.0	12.5	10.1	8.6	9.9[p]	7.9	8.3	10.1	11.1	11.3	10.3[p]
Unit nonlabor payments	7.3	[r]−3.9	7.8	6.6	[r]4.6	13.6[p]	6.1	8.2	5.0	4.3	[r]3.7	8.1[p]
Implicit price deflator	7.8	8.1	11.0	9.0	[r]7.4	11.0[p]	7.3	8.3	8.5	9.0	[r]8.9	9.6[p]
Nonfinancial corporations:												
Output per hour of all employees	1.1	−2.1	[r]−2.9	−0.2	−0.5[p]	(1)	1.8	1.3	−.5	−1.0	−1.4[p]	(1)
Compensation per hour	8.1	11.0	8.0	8.6	8.3[p]	(1)	8.7	8.7	8.9	8.9	9.0[p]	(1)
Real compensation per hour	−1.3	−.1	−4.3	−4.3	−4.6[p]	(1)	−.2	−1.1	−1.6	−2.5	3.3[p]	(1)
Total unit costs	5.9	11.7	11.8	10.2	9.3[p]	(1)	5.6	6.1	8.6	9.9	10.8[p]	(1)
Unit labor costs	6.9	13.4	11.2	8.8	8.9[p]	(1)	6.8	7.3	9.4	10.1	10.6[p]	(1)
Unit nonlabor costs	2.9	6.8	13.5	14.8	10.6[p]	(1)	2.2	2.5	6.2	9.4	11.3[p]	(1)
Unit profits	19.5	−22.1	−3.4	−5.3	10.4[p]	(1)	13.6	21.7	0	−3.9	−10.6[p]	(1)
Implicit price deflator	7.3	7.6	10.2	8.6	7.3[p]	(1)	8.4	7.5	7.7	8.4	8.4[p]	(1)
Manufacturing:												
Output per hour of all persons	[r]1.7	[r]−2.7	[r]2.5	[r]3.2	−1.3	−1.9[p]	[r]1.4	[r]2.4	[r]1.8	[r]1.1	[r]0.4	0.6[p]
Compensation per hour	9.3	[r]10.4	9.8	[r]8.0	[r]8.6	9.8[p]	8.7	8.6	9.5	[r]9.3	9.2	9.0[p]
Real compensation per hour	[r]−.2	[r]−.7	[r]−2.7	[r]−4.8	−4.4	−6.1[p]	−.3	−1.1	[r]−1.1	−2.1	[r]−3.2	−4.5[p]
Unit labor cost	[r]7.5	[r]13.4	[r]7.1	[r]4.7	[r]10.0	11.9[p]	[r]7.2	[r]6.1	[r]7.5	[r]8.1	[r]8.8	8.4[p]

[1] Not available.

LABOR-MANAGEMENT DATA

MAJOR COLLECTIVE BARGAINING DATA are obtained from contracts on file at the Bureau of Labor Statistics, direct contact with the parties, and from secondary sources. Additional detail is published in *Current Wage Developments,* a monthly periodical of the Bureau. Data on work stoppages are based on confidential responses to questionnaires mailed by the Bureau of Labor Statistics to parties involved in work stoppages. Stoppages initially come to the attention of the Bureau from reports of Federal and State mediation agencies, newspapers, and union and industry publications.

Definitions

Data on wage changes apply to private nonfarm industry agreements covering 1,000 workers or more. Data on wage and benefit changes *combined* apply only to those agreements covering 5,000 workers or more. **First-year wage settlements** refer to pay changes going into effect within the first 12 months after the effective date of the agreement. **Changes over the life of the agreement** refer to total agreed upon settlements (exclusive of potential cost-of-living escalator adjustments) expressed at an average annual rate. **Wage-rate changes** are expressed as a percent of straight-time hourly earnings, while **wage and benefit changes** are expressed as a percent of total compensation.

Effective wage-rate adjustments going into effect in major bargaining units measure changes actually placed into effect during the reference period, whether the result of a newly negotiated increase, a deferred increase negotiated in an earlier year, or as a result of a cost-of-living escalator adjustment. Average adjustments are affected by workers receiving no adjustment, as well as by those receiving increases or decreases.

Work stoppages include all known strikes or lockouts involving six workers or more and lasting a full shift or longer. Data cover all workers idle one shift or more in establishments directly involved in a stoppage. They do not measure the indirect or secondary effect on other establishments whose employees are idle owing to material or service shortages.

35. Wage and benefit settlements in major collective bargaining units, 1975 to date

[In percent]

Sector and measure	Annual average					Quarterly average						
	1975	1976	1977	1978	1979	1978		1979				1980 ^{p}
						III	IV	I	II	III	IV	I
Wage and benefit settlements, all industries:												
First-year settlements	11.4	8.5	9.6	8.3	9.0	7.2	6.1	2.8	10.5	9.0	8.5	8.6
Annual rate over life of contract	8.1	6.6	6.2	6.3	6.6	5.9	5.2	5.3	7.8	6.1	6.0	6.4
Wage rate settlements, all industries:												
First-year settlements	10.2	8.4	7.8	7.6	7.4	7.5	7.4	5.7	8.9	6.8	6.3	7.8
Annual rate over life of contract	7.8	6.4	5.8	6.4	6.0	6.4	5.9	6.6	7.2	5.1	5.3	6.3
Manufacturing:												
First-year settlements	9.8	8.9	8.4	8.3	6.9	8.4	9.5	8.7	9.7	6.3	5.6	7.0
Annual rate over life of contract	8.0	6.0	5.5	6.6	5.4	7.2	7.4	7.7	8.1	4.7	4.2	5.6
Nonmanufacturing (excluding construction):												
First-year settlements	11.9	8.6	8.0	8.0	7.6	7.4	6.4	3.2	8.5	9.4	7.8	9.1
Annual rate over life of contract	8.0	7.2	5.9	6.5	6.2	5.9	5.1	5.6	5.8	6.5	7.4	7.1
Construction:												
First-year settlements	8.0	6.1	6.3	6.5	8.8	7.0	8.4	9.7	8.7	9.7	7.5	9.6
Annual rate over life of contract	7.5	6.2	6.3	6.2	8.3	7.2	7.1	8.2	8.3	8.5	7.6	9.3

36. Effective wage adjustments going into effect in major collective bargaining units, 1975 to date

[In percent]

Sector and measure	Average annual changes					Average quarterly changes								
	1975	1976	1977	1978	1979	1978				1979				1980 ^{p}
						I	II	III	IV	I	II	III	IV	I
Total effective wage rate adjustment, all industries	8.7	8.1	8.0	8.2	9.1	1.3	2.6	2.7	1.4	1.4	2.6	3.3	1.6	1.3
Change resulting from —														
Current settlement	2.8	3.2	3.0	2.0	3.0	.5	.6	.5	.4	.2	1.1	1.0	.5	.3
Prior settlement	3.7	3.2	3.2	3.7	3.0	.6	1.4	1.2	.5	.6	1.0	1.0	.4	.5
Escalator provision	2.2	1.6	1.7	2.4	3.1	.3	.6	1.0	.5	.6	.5	1.2	.7	.6
Manufacturing	8.5	8.5	8.4	8.6	9.6	1.4	2.2	2.9	1.9	1.5	2.3	3.2	2.4	1.6
Nonmanufacturing	8.9	7.7	7.6	7.9	8.8	1.3	2.9	2.5	1.1	1.4	2.8	3.4	1.0	1.1

NOTE: Because of rounding and compounding, the sums of individual items may not equal totals.

37. Work stoppages, 1947 to date

Month and year	Number of stoppages		Workers involved		Days idle	
	Beginning in month or year	In effect during month	Beginning in month or year (thousands)	In effect during month (thousands)	Number (thousands)	Percent of estimated working time
1947	3,693	...	2,170	...	34,600	.30
1948	3,419	...	1,960	...	34,100	.28
1949	3,606	...	3,030	...	50,500	.44
1950	4,843	...	2,410	...	38,800	.33
1951	4,737	...	2,220	...	22,900	.18
1952	5,117	...	3,540	...	59,100	.48
1953	5,091	...	2,400	...	28,300	.22
1954	3,468	...	1,530	...	22,600	.18
1955	4,320	...	2,650	...	28,200	.22
1956	3,825	...	1,900	...	33,100	.24
1957	3,673	...	1,390	...	16,500	.12
1958	3,694	...	2,060	...	23,900	.18
1959	3,708	...	1,880	...	69,000	.50
1960	3,333	...	1,320	...	19,100	.14
1961	3,367	...	1,450	...	16,300	.11
1962	3,614	...	1,230	...	18,600	.13
1963	3,362	...	941	...	16,100	.11
1964	3,655	...	1,640	...	22,900	.15
1965	3,963	...	1,550	...	23,300	.15
1966	4,405	...	1,960	...	25,400	.15
1967	4,595	...	2,870	...	42,100	.25
1968	5,045	...	2,649	...	49,018	.28
1969	5,700	...	2,481	...	42,869	.24
1970	5,716	...	3,305		66,414	.37
1971	5,138	...	3,280	...	47,589	.26
1972	5,010	...	1,714	...	27,066	.15
1973	5,353	...	2,251	...	27,948	.14
1974	6,074	...	2,778	...	47,991	.24
1975	5,031	...	1,746	...	31,237	.16
1976	5,648	...	2,420	...	37,859	.19
1977	5,506	...	2,040	...	35,822	.17
1978	4,230	...	1,623	...	36,922	.17
1979: April	512	...	426	...	5,126	.27
May	556	...	132	...	3,682	.19
June	536	...	137	...	2,989	.16
July	471	...	168	...	3,001	.16
August	463	...	119	...	3,152	.15
September	464	...	135	...	2,319	.13
October	443	...	230	...	2,968	.15
November	257	...	91	...	2,720	.15
December	134	...	42	...	1,976	.11
1980: January[p]	352	441	207	292	3,142	.16
February[p]	354	590	114	332	3,025	.17
March[p]	396	631	123	310	2,705	.14
April	425	663	116	231	2,786	.14

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July cover:

Ralph Fasanella's painting "Lawrence 1912: The Bread and Roses Strike," recalls the Massachusetts textile workers' strike during which young women, most of them recent immigrants, carried banners demanding "We want bread and roses too." District 1199, National Union of Hospital and Health Care Workers, AFL-CIO, has made the phrase the theme of its current cultural festival and has produced a full-color poster (21" × 35") of the Fasanella painting ($6, from District 1199 Cultural Center, Inc., 310 West 43 Street, New York, N.Y. 10036). The painting also appears as the cover illustration of William Cahn's book, *Lawrence 1919: The Bread and Roses Strike*, published by Pilgrim Press.

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Labor Month In Review

EMPLOYEE BENEFITS. What employer-paid benefits do U.S. workers receive on the job? The Bureau of Labor Statistics has completed a pilot survey that provides some new answers. The survey covered 21 million employees of large and medium-sized firms in the private economy in 1979. BLS conducted the survey for the Federal Government's Office of Personnel Management which plans to use the data to estimate the cost of providing Federal workers similar benefits. (The BLS survey collected no cost data.) Some survey findings:

Paid holidays and vacations. Virtually all employees have paid holidays and paid vacations. Usually 9 to 11 holidays are provided each year, regardless of employees' length of service. The amount of vacation, however, generally varies by length of service. Typical vacation plans call for 5 days with less than 1 year of service; 10 days after 1 year; 15 days after 10 years; and 20 days after 15 years.

Sick leave plans. Formal sick leave plans cover 80 percent of the professional-administrative employees, 83 percent of the technical-clerical employees, and 37 percent of the production employees. The latter, however, are more frequently covered under accident and sickness insurance

Benefits differ significantly among the various sick leave plans, ranging from those providing 2 or 3 days of leave per year to others providing 6 months or more of benefits. Most plans provide full pay for at least a portion of sick leave.

Accident and sickness insurance. This insurance provides two-thirds of the employees with income during absence from work due to disability, sometimes in coordination with sick leave pay.

Just over half of the participants receive benefits for up to 26 weeks, and about one-fifth for up to 52 weeks. Professional-administrative and technical-clerical employees are more likely than production employees to be covered longer.

More than 80 percent of covered workers are in employer-paid plans.

Long-term disability insurance. Benefits from such plans replace some of the income workers lose due to disability. Generally, payments begin after sickness and accident insurance benefits are exhausted. Nearly half of all employees are participants in an employer-sponsored long-term disability plan. Potential benefits for more than three out of four plan participants equal more than half their usual earnings.

Nearly 80 percent of covered workers are in plans funded entirely by their employers.

Health insurance. Health insurance plans that are at least partially employer financed cover 97 percent of the workers in the survey. Nearly all participants are insured for hospital room and board, surgery, X-rays, and physician's hospital visits. One-half have some form of dental insurance, and almost one-fifth have vision care insurance.

Expenditures up to the usual rate for a semi-private room are covered for 90 percent of the participants with basic hospitalization plans. Other plans provide up to a specified amount for each day of hospital care. However, the number of insured hospital days is limited for 72 percent of all workers with hospital coverage, mostly to 365 days per hospital confinement.

Nine out of ten workers covered by major medical plans are insured to 80 percent of expenses (coinsurance). For nearly three-fourths of covered workers, all benefits are financed by their employers.

Pension plans. Eighty-seven percent of the employees participate in pension plans with either specified retirement benefits or with unspecified benefits based on employer contributions. The survey did not cover other plans that could provide retirement income, such as profit sharing, stock purchase, and savings plans.

More than two-fifths of all participants are covered by plans that require the employee to reach age 63 to 65 before being eligible to retire with immediate full benefits; the majority of these are in plans with no service requirements. Nearly one-fifth of participants are in plans specifying age 61 to 62 for normal retirement, and another fifth are in plans specifying age 60 or less.

Life insurance. Nearly all workers are provided life insurance by their employers. The amount of insurance usually varies by earnings and occupation. Sixty-three percent of all insured workers receive life insurance related to earnings. This includes 39 percent who are insured for a multiple of their annual earnings and 24 percent whose coverage is graduated according to an earnings schedule. A flat amount is provided to most of those whose insurance is not based on earnings.

A publication giving detailed tabulations from the level of benefits survey is in preparation. □

Worksharing in the U.S.: its prevalence and duration

Preserving jobs by shortening hours and spreading the work remains a relatively uncommon practice; the average duration of short-time work has apparently lengthened in recent years, but is still well below that of unemployment

ROBERT W. BEDNARZIK

Reduction of working hours, with accompanying pay cuts, during periods of economic downturn is a practice as old as the industrial era.[1] Under a "worksharing"[2] arrangement, pay and weekly hours are reduced so that all workers may be retained on the payroll. The advantages and disadvantages of worksharing are widely documented, centering on its use as an antirecessionary tool whereby the relative cost to employers of retaining workers or laying them off must be weighed.[3]

Advocates of worksharing argue that the system not only spreads the impact of a recession, but also fosters a higher degree of job attachment, keeps employment skills fresh, and allows workers to retain fringe benefits.[4] And, worksharing has been viewed as a way to maximize recent gains in employment of persons suffering the effects of past discrimination.[5] On the other hand, critics charge that worksharing, especially if government subsidized, discourages firms from adapting to technological and organizational changes, thus impeding the creation of new job opportunities. Furthermore, representatives of organized labor have expressed concern that worksharing may interfere with seniority privileges by cutting the wages of more highly paid senior workers.[6]

This article examines the incidence of worksharing in the United States; the time it takes a worksharer to return to a full-time schedule;[7] and various factors facilitating this change. The transition of worksharers to "not in the labor force," unemployed, and "other part-time" status is also examined. The data analyzed are from the Current Population Survey (CPS): regular annual average and gross flow statistics[8] and matched individual observations from May through August 1976, and between May 1976 and May 1977.[9] The probability that an individual will leave worksharing is hypothesized to depend on his or her human capital (training and experience), other income resources, and the value he or she attaches to nonmarket activities. The impact of these factors on the probabilities of remaining in worksharer status, finding or returning to full-time work, or making other labor market transitions is estimated using a multinomial logit analysis.[10]

A profile of the worksharer

In 1979, there were, on average, 1.6 million workers —1.8 percent of the total number of persons at work— involuntarily on shortened schedules because of slack

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Robert W. Bednarzik is a labor economist in the Division of Employment and Unemployment Analysis, Bureau of Labor Statistics.

workloads. Demographically, blacks and women were disproportionately represented among this group, relative to their percentage of the working population. (See table 1.) Blacks, for example, made up 11 percent of the total at work, but accounted for 17 percent of all worksharers. Occupational attachment is another important factor in the extent of worksharing. In 1979, three-fourths of all short-time workers were concentrated in occupations other than white-collar, with the largest proportions of worksharers holding jobs as operatives (25 percent) and craft workers (16 percent). These percentages were higher than each occupational group's share of the total employed. The incidence of worksharing also varies by industry: construction and, to a lesser extent, the trade and manufacturing sectors account for disproportionate numbers of short-hours workers, because many jobs in these industries are seasonal in nature, and thus lend themselves to periodic cutbacks.

Worksharing and the business cycle

During the late 1950's and the early 1960's, the use of worksharing decreased as a means of forestalling layoffs in business cycle downturns. Thus, at the depth of the 1973–75 recession, the proportion of total nonfarm workers involuntarily on part-time schedules because of slack workloads was smaller than during the 1957–58 recession, and about the same as in the 1960–61 downturn. (See chart 1.)

Table 1. Worksharers by sex, race, occupation, and industry in comparison to the total at work population, 1979 annual averages

Selected characteristics	Worksharers	Total at work
Total: Number (in thousands)	1,602	91,287
Percent	100.0	100.0
Sex: Male	52.6	58.6
Female	47.4	41.4
Race: White	83.1	88.8
Black and other	16.9	11.2
Occupation:		
White-collar	25.2	50.9
Professional and technical	5.7	15.2
Managerial and administration	4.5	11.0
Sales	6.1	6.4
Clerical	8.9	18.3
Blue-collar	50.1	33.0
Craft and kindred	16.4	13.3
Operatives	24.6	14.9
Nonfarm laborers	9.1	4.8
Service	18.0	13.3
Farm	6.9	2.8
Industry:[1]		
Mining	0.9	1.0
Construction	14.9	6.1
Manufacturing	27.4	25.5
Transportation and public utilities	6.3	7.1
Trade	24.9	21.0
Finance, insurance, and real estate	3.2	6.3
Service	21.0	33.0

[1] Wage and salary workers, excluding agricultural and private household workers.

Contributing to this change was a decline in the proportion of collective bargaining agreements containing clauses calling for reduction of hours during slack periods. In the mid-1950's, about 1 in 4 collective bargaining agreements contained provisions for reduced hours in the event of an economic downturn, but by the mid-1970's, fewer than 1 in 5 major agreements included such clauses. This is consistent with the conclusion of a recent study of trade unions in U.S. manufacturing industries that "unions increase the use of layoffs by impeding the use of quits and cuts in real wages, while restraining firms' ability to reduce average hours worked and discharge employees."[11]

Although not as widespread as in some earlier downturns, worksharing arrangements were clearly evident in the 1973–75 recession. The number of persons employed part time involuntarily because of slack workloads peaked at 2.1 million in 1975, nearly twice the level of its low point in 1973. Despite subsequent economic recovery, the number of worksharers has remained at or above 1.5 million. Moreover, the 1975–79 recovery phase was the first such period during which the proportion of short-time workers did not fall below its prerecession low point. Either worksharers are remaining on shortened schedules for longer periods or employers are now using reduced hours to offset nonrecessionary production cutbacks.

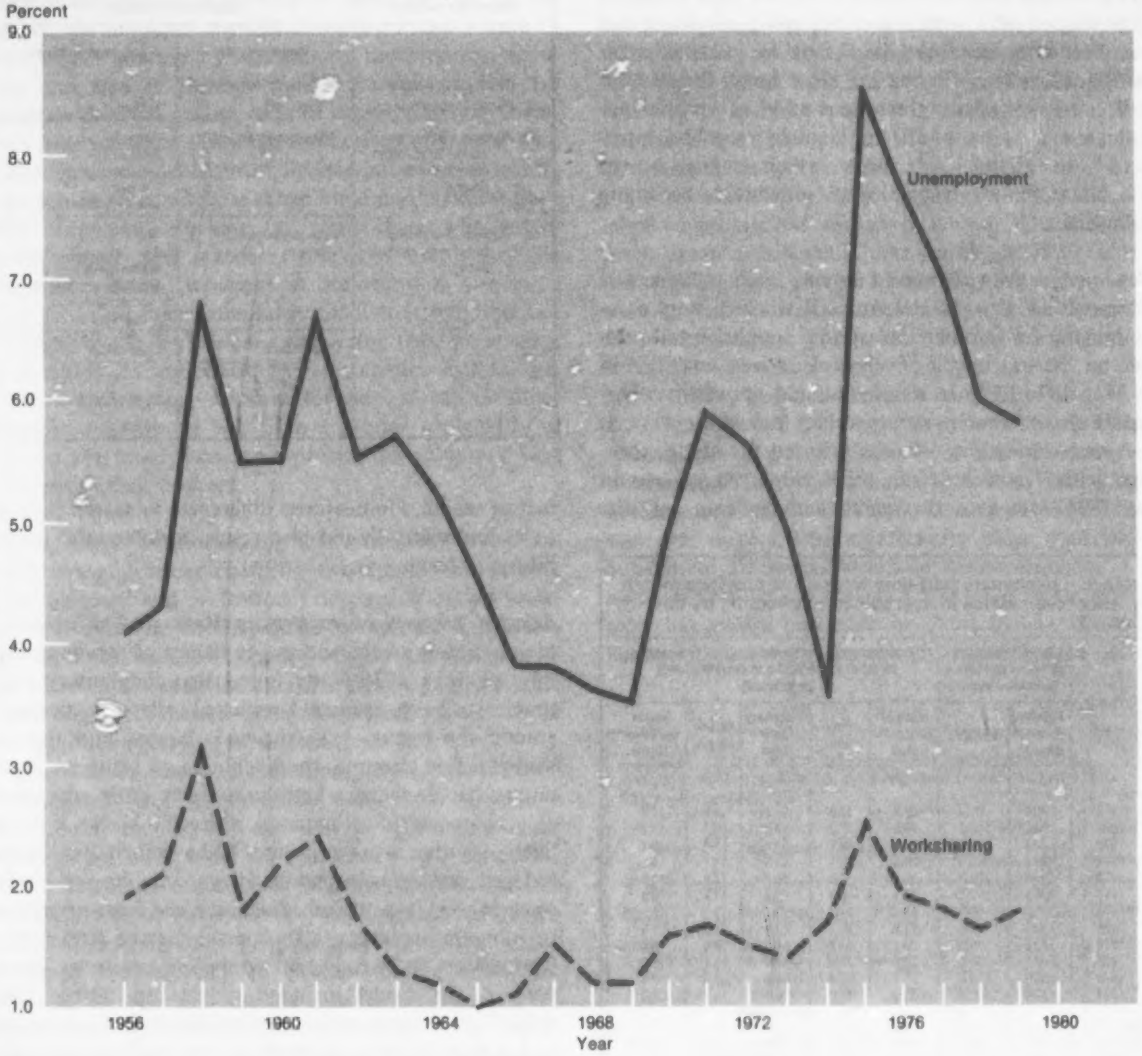
The data pertaining to all involuntary part-time workers depicted in table 2 support the "increased duration" hypothesis, showing a slight increase, between 1968 and 1979, in the probability of an involuntary part-timer remaining as such, on average, from one month to the next.[12] The increase was more prevalent among women than among men. Also, the increased likelihood of remaining involuntarily part time was accompanied by a corresponding 10-year decline in the percentage of involuntary part-timers finding or returning to full-time positions.

It should be noted that CPS data do not indicate if an actual job change occurred, but only that there was a change in labor force status between measurements. Consequently, we are unable to determine, for example, if a "worksharer to full-time" job transition was the result of a job change or of the restoration of the individual's regular weekly schedule in the same job. However, the primary concern of this article is the change in the worksharer's employment status, whether or not it involved a job change.

Changing employment status

A worksharer can, over a specific period, remain employed part time involuntarily, or alter his or her status by returning to or finding a full-time job, accepting other part-time employment, becoming unemployed, or dropping out of the labor force. For the purposes of

Chart 1. Trends in worksharing[1] and unemployment, 1956-1979 annual averages



[1] Involuntary part-time workers because of slack work as a percent of total at work.

this analysis, becoming unemployed and dropping out of the labor force were combined to form one transition; thus, there are four possible transitions. Movements into worksharing from full-time, part-time, and unemployed status will also be examined.

The tabulation in the next column presents the matrix of possible labor market transition, with each row or column representing an exhaustive list of entry or exit possibilities. For example, row I depicts the flow of persons who were involuntarily working part time (I) during the previous period (t-1) into continued worksharing (I), full-time employment (F), other part-time employment (P), or unemployment or "not in the labor force" (U), in the current period (t).

Employment status in previous period	*Flow possibilities*			
	I(t)	F(t)	P(t)	U(t)
I (t-1)	II	IF	IP	IU
F (t-1)	FI	FF	FP	FU
P (t-1)	PI	PF	PP	PU
U (t-1)	UI	UF	UP	UU

Causes of change in employment status

This section explores the factors that may influence the likelihood of a worksharer becoming employed full time, becoming employed part time for reasons other than slack work, or leaving the labor force. (See exhibit 1.) Because worksharing can be viewed as "partial unemployment," some of the explanatory variables introduced are similar to those which influence the probability of an unemployed individual becoming employed.

Job search activity. Foremost among such influences is job search activity. To determine if workers were actually looking for another job, special supplemental questions on the job search of all workers were included in the May 1976 CPS. It was found that approximately 9 percent of worksharers surveyed had looked for work at least once during the 4 weeks prior to the study, compared with 4 percent of all other employed persons in May 1976. However, the search data indicate only the fact of search. Unmeasured differences in search productivity and effort should also result in differential probabilities of leaving worksharing.

Exhibit 1. Summary of variables tested by worksharing logit model

Dependent variables	Independent variables	
	Model variable	Empirical measure
II (Remain a worksharer) IF (Return to a full-time job)	Job search-related: Searched	Looked
IP (Become a part-time worker for reasons other than worksharing)	Personal characteristics	Race Education Unskilled: Industry Union membership
IU (Become unemployed or not in the labor force)	Value of nonmarket activity	Age Sex Marital status Employment status of other household members
	Other factors: Unmeasured heterogeneity Rotation group controls	Usual status Rotation group dummies

Table 2. Involuntary part-time workers in previous month by labor force status in average current month, by sex, 1968–79

Year	Total involuntary part-time workers in previous month		Previous-month involuntary part-time workers by labor force status in current month (in percent)				
	Number (in thousands)	Percent	Involuntary part-time	Full-time	Voluntary part-time	Unemployed	Not in the labor force
Total:							
1968	1,924	100.0	25.3	44.0	13.7	5.9	11.2
1969	1,956	100.0	26.8	42.3	13.8	6.1	11.1
1970	2,330	100.0	27.8	42.5	13.0	7.5	9.1
1971	2,611	100.0	29.6	40.1	13.3	8.1	9.0
1972	2,590	100.0	29.2	38.6	14.4	7.6	10.2
1973	2,391	100.0	26.1	41.3	15.2	7.7	9.8
1974	2,797	100.0	29.7	39.3	13.7	8.3	9.2
1975	3,673	100.0	33.8	36.2	13.3	8.1	7.6
1976	3,433	100.0	33.1	36.2	14.0	8.6	8.2
1977	3,477	100.0	32.0	36.8	14.8	8.3	8.3
1978	3,325	100.0	30.7	37.3	15.9	7.3	8.8
1979	3,320	100.0	31.0	37.5	15.8	7.7	8.0
Male:							
1968	975	100.0	23.5	52.1	9.0	6.6	8.7
1969	986	100.0	24.5	50.8	8.9	6.9	8.7
1970	1,221	100.0	25.1	49.9	9.2	9.3	6.8
1971	1,347	100.0	26.6	48.0	9.0	9.9	6.5
1972	1,320	100.0	26.2	46.1	10.0	9.5	8.0
1973	1,194	100.0	23.0	48.9	10.4	9.6	8.0
1974	1,398	100.0	27.0	47.0	8.7	10.2	7.1
1975	1,888	100.0	31.1	42.7	8.6	11.6	5.9
1976	1,734	100.0	30.4	43.1	9.1	10.8	6.6
1977	1,684	100.0	29.0	44.1	9.7	10.2	6.8
1978	1,524	100.0	26.8	45.6	10.7	9.3	7.5
1979	1,489	100.0	26.2	46.3	11.0	9.6	6.9
Female:							
1968	949	100.0	27.0	35.5	18.3	5.3	13.8
1969	970	100.0	29.2	33.5	18.6	5.2	13.5
1970	1,109	100.0	30.9	34.4	17.4	5.7	11.8
1971	1,264	100.0	32.9	31.6	17.6	6.2	11.6
1972	1,269	100.0	32.2	30.9	19.1	5.4	12.5
1973	1,197	100.0	29.1	33.7	20.1	5.8	11.5
1974	1,400	100.0	32.3	31.5	18.7	6.3	11.2
1975	1,785	100.0	36.5	29.2	18.2	6.6	9.4
1976	1,700	100.0	35.7	29.2	18.8	6.3	9.8
1977	1,793	100.0	34.7	29.8	19.4	6.4	9.6
1978	1,800	100.0	33.9	30.2	20.4	5.6	9.9
1979	1,831	100.0	35.0	30.2	19.7	6.1	9.0

Selected personal characteristics. Regarding other possible predictors of the success or failure of regaining full-time work, a 1976 study found that involuntary part-time work in general occurred disproportionately among the young, less educated, blacks, and the unskilled.[13] For example, the likelihood of being an involuntary part-timer was higher the lower one's educational attainment.[14] Furthermore, although blacks were as likely as other worker groups to have their workweeks reduced during an economic downturn, the restoration of their weekly work schedules was the least responsive to economic recovery.[15] To control for the tendency of worksharers to be found in blue-collar and service occupations, the model included a variable, termed "unskilled", to represent transport equipment operatives (other than drivers), laborers, service workers, and retail trade sales personnel.

Union membership status may also be important. Although unions' preference for layoffs over worksharing arrangements has increased, individual union members on worksharing arrangements would apparently have a greater likelihood of changing status than comparable nonunion workers. This may reflect the fact that union contracts frequently call for either layoff or restoration of usual weekly hours after a specified period of worksharing, depending on the economic position of the firm.

Nonmarket alternatives. It is important to note that an involuntary reduction in a person's usual weekly hours of work changes the attractiveness of his or her labor market options. The individual's initial decision to participate in the labor force on a full-time basis is based upon many factors. According to Jacob Mincer, for example, the marginal costs of home work and leisure to women are affected by age and by the presence, number, and ages of children in the household.[16] He also suggests that the employment of other household members may influence a woman's allocation of time among home, market, and leisure.[17] Because all of these factors and others enter into the labor force participation decision of persons working full time, those who subsequently have their schedules shortened may reevaluate their labor force participation according to the value they place on their nonmarket time. It is hypothesized that individual worksharers who value their nonmarket time highly (as indicated by characteristics such as age, sex, marital status, and employment status of other household members) will have a greater probability of leaving the labor force or switching to voluntary part time than other workers.

Other factors. Even assuming that individuals have constant probabilities of changing employment status over time, personal and professional differences among workers will influence the likelihood of specific individuals leaving worksharing.[18] Consequently, as the duration of the short-hours spell increases, a greater proportion of remaining worksharers consists of individuals whose probabilities of leaving worksharing are low.[19]

One way to control for this problem of unmeasured heterogeneity among individuals would be to include in the model the actual number of weeks individual worksharers have been on shortened work schedules. This information is not available in the CPS, but certain characteristics of worksharers which increase the probability of securing full-time jobs may be used as proxy variables. One characteristic which seems to indicate a tendency to leave worksharing is usual full-time or part-time status. For example, a comparison of the demographic, occupational, and industrial characteristics of all involuntary part-time workers with those of both voluntary part-time workers and full-time workers revealed that persons involuntarily on part-time schedules who are usually in such status have a close resemblance to voluntary part-timers and those who usually work full time characteristically resemble full-time workers.[20] The "usual status" variable was therefore included as a control for unmeasured heterogeneity.

Flow into and out of worksharing

Although the primary concern of this study was to analyze duration of worksharing and factors facilitating movement from it, flows into worksharing were also examined. This analysis provided insights into the reasons for an individual's entry into involuntary part-time status, and helped to predict and explain his or her next most likely labor market transition.

One-fourth of the worksharers in June 1976 were holdovers from the previous month. The largest inflow of newcomers to worksharing (54 percent) consisted of full-time workers who had their workweeks reduced, followed by persons previously unemployed or not in the labor force (27 percent), and entrants from other part-time status (19 percent).

In terms of demographic and labor market characteristics—age, marital status, race, sex, education, skill level, union membership, and search status (looking or not looking for another job)—newcomers to worksharing were generally similar to leavers, or the outflow from worksharing. (See table 3.) The one outstanding exception was union membership status, with newcomers less likely than leavers to be union members.

In contrast, stayers—persons who were worksharers in both May and June 1976—were different characteristically from leavers, particularly leavers returning to full-time schedules. Foremost among these differences was age; stayers were significantly older than leavers. Substantial differences were also evident in terms of sex, union membership status, and race; that is, stayers were more likely than leavers to be older, female, black, and nonunion members. Interestingly, the difference between

Table 3. Mean value of selected characteristics of stayers, newcomers to, and leavers from worksharing, May–June 1976

Variable	Description	Stayers	New-comers	Leavers		t-statistic[1]
				Total	Full time	
Age	years of age	42	36	36	37.5	10.969
Marital status	1 if married, spouse present 0 otherwise	.69	.57	.58	.64	.714
Race	1 if black and other 0 otherwise	.19	.17	.16	.12	1.136
Sex	1 if female 0 otherwise	.53	.43	.42	.36	2.385
Education	years of school completed	11	11	11	10	.226
Skilled	1 if unskilled[2] 0 otherwise	.29	.30	.36	.29	.00[illegible]
Union	1 if union member 0 otherwise	.22	.15	.25	.31	–1.298
Looked	1 if looking for work 0 otherwise	.05	.07	.06	.07	–.351
Sample size		152	412	408	239	

[1] Means test of difference between stayers and leavers to full-time jobs.

[2] Unskilled includes the following detailed occupational categories: sales workers in retail trade, transport equipment workers other than drivers, all laborers, and service workers.

the numbers of stayers and leavers looking for another job was not significant; job search activity, as indicated by the job search variable, was not more typical of one group than of the other.

How successful were persons leaving worksharing in obtaining a full-time schedule? Nearly three-fifths of those leaving worksharing between May and June 1976 went to full-time schedules. As noted earlier, inflow to worksharing consisted predominantly of persons whose full-time schedules were cut back. Thus, the majority of the flows to and from worksharing were, as expected, persons moving into and out of full-time schedules. Departures to other part-time status, and to unemployment each accounted for about one-fifth of the leavers from worksharing.

Longitudinal data from the CPS

In addition to an analysis of change in employment status in 2 consecutive months, the design of the CPS also permits an examination of labor market flows over a 4-consecutive-month period, and between the same month in consecutive years. (See appendix for more detail.) Table 4 traces the labor market flow of persons on worksharing in May 1976 over the 3 following months, and between May 1976 and May 1977. Clearly, the percentage of worksharers in May 1976 remaining as such declined over the year: 27.4 percent still had worksharing arrangements 1 month later, while only 14.6 percent had the same status 1 year later.

It is probable, of course, that in the intervening periods, particularly the 12-month gap between May 1976 and 1977, persons classified as worksharers in both months had moved into and out of other labor force categories as well. Nevertheless, the data indicate that the vast majority of worksharers remain in involuntary part-time status for a relatively short time. For example, fewer than one-sixth of the worksharers in May 1976 were still on such schedules 3 months later.[21] Moreover, the majority of leavers returned to full-time jobs. The percentage who returned to full-time schedules tended to increase over time, from 45 percent 1 month later to 56 percent 3 months later.[22] But table 4 also reveals that, as time is extended, the percentage of worksharers leaving the labor force entirely becomes greater, perhaps indicating "discouragement" about finding a full-time job, or increased attractiveness of nonmarket activities. Apparently, the termination of worksharing for some individuals results from their simply abandoning the idea of securing a full-time schedule in the near future.

Table 4. Worksharers 16 years and over in May 1976, by labor force status in June, July, and August 1976, and in May 1977

Status	Proportion
Labor force status in June	
Total: Number	[1] 624
Percent	100.0
Worksharers	27.4
Employed full time	44.6
Other part time [2]	15.1
Unemployed	9.5
Not in the labor force	3.5
Labor force status in July	
Total: Number	[3] 361
Percent	100.0
Worksharers	22.2
Employed full time	49.9
Other part time	15.5
Unemployed	6.6
Not in the labor force	5.8
Labor force status in August	
Total: Number	[4] 163
Percent	100.0
Worksharers	16.6
Employed full time	56.4
Other part time	11.0
Unemployed	9.2
Not in the labor force	6.7
Labor force status in May 1977	
Total: Number	[5] 198
Percent	100.0
Worksharers	14.6
Employed full time	54.0
Other part time	13.6
Unemployed	5.1
Not in the labor force	12.6

[1] The unweighted number of worksharers in May 1976 in the 6 May–June matchable rotation groups.

[2] Includes voluntary part-time workers and involuntary part-time workers for reasons other than slack work.

[3] The unweighted number of worksharers in May 1976 in the 4 May–July matchable rotation groups.

[4] The unweighted number of worksharers in May 1976 in the 2 May–August matchable rotation groups.

[5] The unweighted number of worksharers in May 1976 in the 3 May–June 1976—May 1977 matchable rotation groups.

NOTE: See appendix for discussion of limitations of CPS matched data.

Transition probabilities

Table 5 illustrates the probabilities of a change in employment status among selected groups of worksharers over a 1-month period. Although the results were generally consistent with the demographic makeup of all involuntary part-timers, there were a few surprises.

Older workers and married workers were most likely to remain worksharers, while newcomers to worksharing—persons reporting their usual status as full time—were least likely to do so. The average duration of worksharing was 6.7 weeks for older workers, compared with 5.5 weeks for newcomers to worksharing.[23] The average duration of worksharing for all persons on such schedules was 6 weeks, roughly half the mean duration of unemployment over the same period.

An individual's usual full- or part-time status was a strong predictor of his or her likelihood of finding or returning to a full-time job. Worksharers whose schedules were usually part time were less than half as likely to move into full-time status as were those who usually worked full time.

Age and race also significantly influenced the "worksharing to full-time" job transition. Younger workers had a higher probability than older workers of making such a move, and whites were nearly twice as likely to secure full-time employment as were blacks. One possible explanation of the difference noted between age groups involves a contrast between the duration of any worksharing spell, and the number of such spells incurred. Among the unemployed, for example, younger workers have more frequent spells of unemployment than older workers, but the duration of each spell is shorter. The partial evidence indicates that this could also be the case for young worksharers.

Younger worksharers were much less likely than those who were older to become unemployed or to leave the labor force. Older or more senior workers may prefer layoff over a shortened workweek because they are more likely to be eligible for unemployment insurance benefits, and may be entitled to supplemental unemployment benefits as well. Thus, financially, the difference between unemployment and worksharing may not be as significant to older workers. Also, older workers may not feel as threatened by layoff and the prospects of a job loss as younger workers because their seniority usually ensures their recall to work.

There was some marginal evidence that union worksharers have a higher probability of returning to full-time status than worksharers who were not union members, perhaps because the latter are less likely to be governed by a given set of procedures for reductions in hours. Worksharers who were union members also were somewhat less likely than others to be laid off or to leave the labor force. This could be related to the fact that union members are unlikely to suffer a cutback in weekly hours unless the expected duration is short. "If . . . it is known that manpower needs will be curtailed for a lengthy period," notes one observer, "the union may prefer to bypass the reduced hours provisions and initiate layoffs immediately."[24]

Surprisingly, the fact that an individual looked for another job while on a shortened workweek did not affect the probability of his or her leaving to take a full-time job. Because search activity increases the probability of an unemployed person obtaining employment[25], it was also expected to increase a worksharer's chances of securing a full-time position. Apparently, the key is the intensity of the search effort, which could not be determined from survey results. Perhaps search effort among worksharers is not as intensive as among the unemployed. There is a similarity between involuntary part-time work due to slack workloads and temporary layoffs. Workers often know in advance that the duration of their reduced work schedule is likely to be relatively short, and thus are not generally inclined to look diligently for another job. Other worker characteristics which did not significantly affect transitions into and from worksharing status were educational attainment, and the presence of other employed family members.[26]

Conclusion

Unlike policymakers in most Western European nations, those in the United States have not to date given much attention to arrangements affecting the supply of labor, including worksharing.[27] Because of present Federal regulations and collective bargaining agreements, it is most often in the employer's interest to resort to layoffs instead of a reduction in hours. In most cases, for example, fringe benefit costs alone would be larger under a worksharing system, because there are few, if any, such costs associated with workers on layoffs.

Table 5. Monthly probabilities of change in labor force status, by selected worker characteristics

Probability:	Full sample	Usual status		Age [1]		Marital status		Race		Sex		Education [1]		Skill level		Union status		Job search	
		Full-time	Part-time	24 years	53 years	Married, spouse present	Other	White	Black and other	Male	Female	8 years	14 years	Skilled	Unskilled	Union member	Nonunion member	Looked	Did not look
Remaining a worksharer	0.27	0.18	0.32	0.19	0.35	0.34	0.23	0.20	0.29	0.24	0.30	0.24	0.29	0.30	0.26	0.27	0.28	0.27	0.33
Returning to full-time employment . . .	.43	.60	.33	.47	.39	.39	.45	.62	.30	.48	.38	.49	.40	.39	.44	.46	.32	.43	.45
Becoming a part-time worker for reasons other than work-sharing [2]	.17	.12	.20	.20	.14	.14	.19	.10	.18	.14	.19	.13	.19	.16	.17	.16	.21	.17	.13
Becoming unemployed or leaving the labor force .	.13	.11	.15	.15	.12	.14	.13	.09	.14	.14	.13	.15	.13	.15	.13	.11	.19	.14	.09
Sum of probabilities . . .	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

[1] Years reflect the standard deviation above and below the mean.

[2] Includes all voluntary part-time workers and involuntary part-time workers because of material shortages, "started or ended a job during the survey week", or "could only find part-time work."

NOTE: Transition probabilities are calculated from derivatives obtained in the logit analysis which reveal the marginal effect of a change in the independent variable on the absolute probability of a given transition in labor force status, in the vicinity of sample means: $\text{Probability}_{p} \mid x_{s} = 0 =$ (full sample probability_{pk} − derivative_{jk} × mean_{j}); $\text{Probability}_{p} \mid x_{s} = 1 =$ ($\text{Probability}_{p} \mid x_{s} = 0 + \text{derivative}_{jk}$); where j = independent variable and k = dependent variable, and the sum of the $\text{probabilities}_{p} = 1$. The probabilities shown are based on the logit estimates presented in the appendix to this article.

Due to rounding, sums of individual items may not equal totals.

Another major roadblock to worksharing is the unemployment insurance system, which may actually lead workers and their unions to accept layoffs as opposed to reduced hours. Workers whose hours are cut receive no compensation from the State (except in California), unless their earnings fall below the level of benefits to which they would be entitled in a layoff.

Worksharing arrangements as a means of saving jobs will bear close watching in coming years. Of special interest is the recently enacted California "Work Sharing Unemployment Insurance" program, which allows transfer payments, in the form of unemployment insurance benefits, to persons whose wages and hours are reduced as a temporary alternative to layoffs.[28] (See following article.) Benefits are paid as a proportion of the maximum benefit available to an individual for a given week if the lost time is equal to or greater than some established minimum worktime reduction. For example, a worker eligible to receive a maximum of $100 in weekly benefits could receive about one-fifth of that amount, or $20, for every full day of lost work.[29] The California program and a wide-scale pilot project throughout Canada are being cautiously evaluated for their impact on unemployment and patterns of labor force participation, and for other economic and social effects on firms and employees.[30] ☐

——— *FOOTNOTES* ———

ACKNOWLEDGMENT: The author thanks Wesley Mellow, an economist in the Office of Research and Evaluation, Bureau of Labor Statistics, for many helpful comments.

[1] R. A. Hart and P. J. Sloan, "Working Hours and Distribution of Work," OECD paper prepared for Conference on Collective Bargaining and Government Policies (Washington, D.C., July 1978), Appendix A.

[2] Worksharers are herein defined as employed persons whose workweeks have been reduced below 35 hours due to slack workloads. As such, they are a subset of the larger "part-time for economic reasons" group, which also includes persons on reduced hours because of material shortages, repairs to plant or equipment, start or termination of job during the survey week, and unavailability of full-time work.

Other methods of worksharing, such as increasing unpaid leave or the number of annual holidays, or reducing the amount of overtime worked, are excluded from the scope of this article.

[3] J. W. Fagan, "Work Sharing During a Depression," *Industrial Relations*, paper presented at a Conference on Industrial Relations (September 1938); S. Martin Nemirow, "Work-Sharing: Past, Present and Future," unpublished paper (May 1976); Sar A. Levitan and Richard S. Belous, *Shorter Hours, Shorter Weeks: Spreading the Work to Reduce Unemployment* (The Johns Hopkins University Press, 1977); Fred Best, "Short-Time Compensation and Worksharing," unpublished paper for National Commission for Manpower Policy (April 1978); and Robert Clark, *Adjusting Hours to Increase Jobs: An Analysis of the Options*, Special Report 15 (National Commission on Manpower Policy, September 1977).

[4] Sar A. Levitan and Richard S. Belous, "Work sharing initiatives at home and abroad," *Monthly Labor Review*, September 1977, pp. 16–20.

[5] Peter Henle, "Work-Sharing as an Alternative of Layoffs" (Congressional Research Service, July 1975); and, "Worktime: The Traditional Workweek and its Alternatives," chapter 3, *Employment and Training Report of the President, 1979*.

[6] "A cure for unemployment?" *Business Week*, Oct. 29, 1979, pp. 163–64.

[7] Heretofore, little was known about the length of time worker groups involuntarily on worksharing must "share the work." The cost of any government-assisted short-time compensation program is directly related to the length of time an individual worker could expect to receive such compensation. The limited information previously available on reduced worktime arrangements in Germany and California reveals that duration in such status is relatively short—under 3 months in Germany, and less than 5 weeks in California. See Fred Best and James Mattesich, "Short-time Compensation and Work Sharing: A New Alternative to Layoffs, *Special Report* (California Employment Development Department, 1979), pp. 14–25.

[8] Gross change data, a byproduct of the CPS, show the labor force status of persons not only for the current month, but also for the previous month. The data thus permit the identification and measurement of the flow of persons who leave involuntary part-time work from one month to the next. Gross changes, therefore, represent a short-run "flow," rather than a "stock," of a particular labor force group.

[9] Matched CPS data were chosen over the National Longitudinal Survey (NLS) and the Panel Study on Income Dynamics (PSID) primarily because of the greater sample size available from the CPS. The sample size quickly becomes the limiting factor when a situation experienced by only a small portion of individuals over a relatively short period is considered. The focal point of this analysis is the May 1976–May 1977 period because (1) the May 1976 CPS questionnaire contained a special supplement on job search by workers, and (2) the percentage of the "at work" population on worksharing was fairly steady during this period.

[10] For a description of the multinomial logit technique, see Joseph R. Antos and Wesley Mellow, *The Youth Labor Market: A Dynamic Overview*, Staff Paper 11 (Bureau of Labor Statistics, July 1979); and, M. Nerlove and S. J. Press, "Univariate and Multivariate Log-Linear and Logistic Models" (Santa Monica, Calif., The Rand Corporation, 1973).

[11] James L. Medoff, "Layoffs and Alternatives Under Trade Unions in U.S. Manufacturing," *American Economic Review*, June 1979, pp. 380–95.

[12] It should be noted that, because these data relate to all involuntary part-time workers, the flows of other involuntary part-timers besides those on slack work may be partially responsible for this finding.

[13] Robert W. Bednarzik, "Involuntary part-time work: a cyclical analysis," *Monthly Labor Review*, September 1975, pp. 12–18.

[14] Robert W. Bednarzik, "Involuntary Part-time Work and Educational Attainment," *The Journal of General Education*, Summer 1976, pp. 135–44.

[15] Robert W. Bednarzik, "Involuntary part-time work: a cyclical analysis," p. 17.

[16] Jacob Mincer, "Labor Force Participation of Married Women: A Study of Labor Supply," *Aspects of Labor Economics: A Conference of*

the Universities (National Bureau of Economic Research, Princeton University Press, 1962), p. 68.

[17] *Ibid.*

[18] John M. Barron and Wesley Mellow, "Changes in Labor Force Status Among the Unemployed," *Journal of Human Resources* (forthcoming).

[19] Stephen W. Salant, "Search Theory and Duration Data: A Theory of Sorts," *Quarterly Journal of Economics*, February 1977, pp. 39–58.

[20] Robert W. Bednarzik, "Persons Working Part-time for Economic Reasons," unpublished paper prepared for the National Commission on Employment and Unemployment Statistics (March 1978).

[21] The 3-months-later flow is based upon two rotation groups with the assumption that one rotation group does not differ much from any other. Although each rotation group is in itself a probability sample, responses differ across groups. This is commonly known as rotation group bias and is discussed more fully in the appendix. Thus, the standard error of the one-sixth figure is unknown. Generally, however, the error would not alter the fact that a person's stay on worksharing declines fairly quickly over a 1-year period.

[22] Although rotation group bias also affects these percentages, the bias, in general, would not be likely to cause the direction and distribution of worksharers' flows over time to defy economic logic.

[23] The expected duration of worksharing for the typical individual can be computed by $1/1\text{-}P_i$, where P_i is equal to the probability of staying a worksharer, given variable i. One must assume that $1\text{-}P_i$, the mean escape rate, is constant for each individual over time.

[24] *Layoff, Recall, and Worksharing Procedures*, Bulletin 1425–13 (Bureau of Labor Statistics, 1972), p. 16.

[25] Barron and Mellow, "Changes in Labor Force Status Among the Unemployed."

[26] Because the employment status of other family members is in itself a very limited proxy for other income sources, and the proportion of multi-earner families varies considerably by age of secondary earner, the interpretation of the impact of such a variable is difficult. Therefore, the "employment status of other family members" variable was deleted from the final logit regression run.

[27] Sar A. Levitan and Richard S. Belous, "Work sharing initiatives at home and abroad."

[28] *Outline for Statewide Evaluation of the California "Shared Work Unemployment Compensation" Program* (Office of the Director, Employment Development Department, State of California, September 1979).

[29] Fred Best and James Mattesich, "Short-time Compensation and Work Sharing: A New Alternative to Layoffs."

[30] *Outline for Statewide Evaluation of the California "Shared Work Unemployment Compensation" Program;* and Peter Sadlier-Brown, *Work Sharing in Canada: Problems and Possibilities*, HRI Observations Report No. 18 (Montreal, Canada, C. D. Howe Research Institute, June 1978).

APPENDIX

Limitations of the matched data

Any survey procedure has inherent within it both sampling variability and response variability. The Current Population Survey (CPS) obtains its longitudinal flavor from the 4-8-4 rotation group design; the sample is divided equally into 8 rotating groups of households. Each group is in the sample for 4 months, out for 8, and then back in for 4. Consequently, 6 of the 8 groups are common in 2 consecutive months. A further reduction in the match data available results from the fact that identical persons must be matched in order to compute gross information. Since the basis for selection of the CPS sample is household units rather than individuals, common rotation groups reflect identical households but not necessarily identical persons. In any 2-month period, for example, the six common rotation groups will contain a number of persons who have moved from households in the sample area (about 1.5 percent per month) and noninterview cases (4 to 5 percent per month)—persons who refuse to respond and those absent from home during the interview week. The exclusion of nonidenticals not only affects the size of the sample available, but also may introduce a special bias in matched estimates, because the nonidentical persons excluded may differ from those of identical persons.

To evaluate the primary match used in this study, the mean values of selected demographic characteristics for the May–June 1976 match sample for all worksharers and for all involuntary part-time workers in May 1976 are provided below:

Variable	*May–June 1976 match sample of all worksharers*	*May 1976*	
		All worksharers	*All involuntary part-timers*
Age (years)	38	N. A.	35
Married, spouse present	.63	N. A.	.51
Black and other	.17	.18	.18
Female	.46	.43	.49

N. A. = Not Available

The tabulation shows that the demographic composition of the matched sample was generally similar to the larger populations of all worksharers and all involuntary part-time workers. This lends some credence to the representativeness of the May–June 1976 match utilized in this study.

Response variability occurs in the form of misclassification of reported labor force status and in "rotation group bias." The "net errors" between the original and reinterview results are comparatively small because of offsetting differences, but gross differences may be substantial. The second form of response variability, "rota-

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Exhibit A-1. Multinomial logit estimates of the determinants of changes in labor force status among worksharers between May and June 1976

Variable	Description	Mean	Relative probability of returning to or finding full-time work	Relative probability of becoming unemployed or leaving the labor force	Relative probability of working part-time for reasons other than worksharing
Usual status	1 if usually part-time 0 otherwise	0.36	−1.122 (−4.29) −0.270	−0.116 (−0.33) 0.044	−0.016 (−0.05) 0.083
Age	years of age	38	−0.026 (−2.92) −0.003	−0.028 (−2.18) −0.001	−0.031 (−2.83) −0.002
Marital status	1 if married, spouse present 0 otherwise	.63	−0.514 (−1.90) −0.057	−0.371 (−1.00) 0.002	−0.704 (−2.22) −0.053
Race	1 if black and other 0 otherwise	.17	−0.845 (−2.51) −0.232	0.201 (0.49) 0.058	0.176 (0.48) 0.083
Sex	1 if female 0 otherwise	.46	−0.450 (−1.88) −0.102	−0.276 (−0.80) −0.006	0.060 (0.20) 0.046
Education	years of school completed	11	−0.063 (−1.45) −0.015	−0.063 (−1.06) −0.004	0.030 (0.55) 0.010
Skilled	1 if unskilled[1] 0 otherwise	.26	0.261 (0.90) 0.050	−0.052 (−0.13) −0.022	0.234 (0.68) 0.014
Union	1 if union member 0 otherwise	.25	0.331 (1.23) 0.139	−0.710 (−1.53) −0.080	−0.302 (−0.81) −0.053
Looked	1 if currently looking for work 0 otherwise	.09	0.161 (0.34) −0.027	0.688 (1.22) 0.051	0.447 (0.86) 0.037
Month in Current Population Survey as of May 1976:					
1		.17	0.125 (0.31) 0.053	−0.188 (−0.34) −0.021	−0.179 (−0.36) −0.031
2		.14	−0.288 (−0.68) −0.005	−0.751 (−1.18) −0.052	−0.405 (−0.79) −0.021
5		.13	0.200 (0.45) 0.051	−0.181 (−0.29) −0.029	0.093 (0.18) 0.001
6		.19	−0.054 (−0.14) 0.002	−0.168 (−0.31) −0.012	−0.095 (−0.20) −0.006
7		.19	−0.302 (−0.77) 0.004	−0.355 (−0.67) −0.005	−0.823 (−1.65) −0.085
Constant			3.118	1.562	0.954

[1] Unskilled includes the following detailed occupational categories: sales workers in retail trade, transport equipment workers other than drivers, all laborers, and service workers.

tion group bias," is related to the rotation group structure of the CPS sample mentioned earlier. The response of persons interviewed varies by month in sample. This is due in part to sampling variability. However, the two dominant explanations for this phenomenon are that differential attrition changes the distribution and composition of the sample, and that participation in the survey itself conditions or alters subsequent responses.

To control for the second problem, dummy variables indicating which month the individual was in the sample were included as explanatory variables. No attempt was made to control for the problem of different reinterview probabilities, although this problem should be somewhat mitigated by the demographic similarities between the matched sample and the total population of worksharers.

Basis of estimates of transitional probabilities

Exhibit A-1 presents the maximum likelihood estimates from the logit analysis, with associated asymptotic t-statistics, and derivatives (at sample means), which provided the basis for the transitional probabilities shown in table 5. All independent variables were constructed from the May 1976 CPS data; dependent variables were defined on data from the June 1976 CPS. The sample size was 475, and the χ^2 statistic, which tests the hypothesis that all parameters except the constants were zero, was 95.8, with 42 degrees of freedom.

Short-time compensation systems in California and Europe

Preliminary analysis of the available data on California's "Work Sharing Unemployment Insurance," enacted to prevent layoffs after passage of Proposition 13, suggests the program worked well; more analysis is needed for a final judgment

FRED BEST AND JAMES MATTESICH

During times of high unemployment it is often suggested that work time be reduced in order to spread available jobs among a larger number of persons. Numerous proposals have been advanced in this area, but only a few hold promise as effective employment policies.[1] One of these is "short-time compensation." This proposal provides partial unemployment insurance benefits for work time lost by employees who have taken a reduction in work hours to prevent layoffs or dismissals by their employer.

As a rough illustration: if a firm were to reduce employees' workweeks and pay levels by 20 percent rather than laying off 20 percent of its employees, those employees working short time would receive 20 percent of weekly unemployment insurance benefits. Thus, employees on reduced workweeks would be partially reimbursed for lost earnings and workers would not lose their jobs.

This article explores this approach to combating joblessness by reviewing the history of the "short-time" compensation concept in the United States and examining the operation of a recently initiated program in California against a backdrop of comparable European programs.

Background of the concept

Short-time compensation programs have been widespread and reportedly successful in several European nations since the 1920's but the U.S. unemployment insurance system was not used for such purposes until 1978. Many U.S. unemployment insurance programs have provisions for paying partial benefits for less than a full week of unemployment,[2] but such benefits are limited roughly to the differences between full weekly benefits and the income earned during the week in question. For example, if an employee earns $250 for a 40-hour workweek and is eligible to receive $100 in benefits for a week of unemployment, he or she could not receive benefits for working say a 32-hour week because earnings for more than 2 days of employment would total more than $100. Thus partial benefits are not suitable as a worksharing policy.

By contrast, under short-time compensation, unemployment insurance benefits would be paid as a proportion of the maximum benefits available to a worker for a given week if the lost time equals or surpasses an established minimum work time reduction. Thus, a worker eligible to receive a maximum of $100 in weekly benefits could receive about one-fifth that amount or $20 for every full day of lost work.

Recent consideration of using short-time compensation within the United States began as a response to the aggravated unemployment problems of New York City in 1975.[3] The so-called "Poses Plan" was suggested both to reduce joblessness and to minimize loss of affirmative action gains by preventing the layoff or dismissal of recently hired minority workers.[4] In March 1976, a bill was introduced to the New York State Assembly to allow unemployment insurance benefits to be paid on a daily rather than weekly basis[5] but died in committee. (About the same time, Canada implemented a limited pilot study of the short-time compensation concept).[6]

Federal Government interest in short-time compensation has progressed slowly. During 1978 and 1979, the U.S. Department of Labor established a special task force to monitor existing programs, make preliminary assessments of the concept, and explore the possibility of funding a pilot study.[7] Most recently, members of Congress have indicated an intention to introduce legislation to support development of the program.[8]

Independent of Federal and other initiatives, California examined the concept,[9] then established an experimental statewide program during mid-1978[10] in response to expected public employee unemployment re-

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sulting from passage of Proposition 13. The program was rapidly implemented, and although the widespread layoffs expected from Proposition 13 did not materialize, the program has been continued. Although other States have the discretion to establish similar programs, as of early this year, the California program is the only one of its type in the United States.

The California program

California's "Work Sharing Unemployment Insurance" program began as an 18-month experiment and was extended in July 1979 for an additional two years. The basic design is similar to programs which have existed in Europe for several decades. It is operated by the California Employment Development Department, which administers unemployment insurance, disability insurance, and the California State Employment Service.

The legislation creating the program provides that an employer facing a drop in business may choose, instead of layoffs, to reduce the hours and wages of all or a designated part of the work force and share the remaining work among the employees. The reduction must involve not less than 10 percent of the employer's regular permanent work force in the affected work unit or units. In addition, the hours and wages of the affected employees must be reduced by 10 percent or more because the program would be only minimally effective but administratively expensive, at a lower reduction in hours. Each employee included in the program is eligible to receive a weekly unemployment insurance benefit proportional to the percentage reduction in wages and hours.

The program was designed to operate within the existing California unemployment insurance system. Each participating employee must meet basic UI eligibility requirements. In California, these requirements are relatively liberal. Before 1980, a worker must have earned at least $750 in wages during the 12-month "base period" prior to receiving benefits (increased to $900 in 1980). That amount of earnings would provide, however, only minimal regular unemployment insurance weekly benefits of $31. Prior to 1980, the weekly ceiling for unemployment insurance benefits was $104 ($120 in 1980) if the recipient earned $3,308 ($4,160 in 1980) or more in the highest quarter of his or her base period. Thus a worker who is eligible for maximum weekly benefits would receive $21 ($24 in 1980) for each work day lost.

The California legislation allows the payment of worksharing benefits to each participating employee for up to 20 weeks during a 52-week period beginning with the first week benefits are paid. If the 20 weeks are exhausted and workers are then laid off, those who lose their jobs would be eligible for regular unemployment insurance benefits with the duration reduced slightly to reflect the dollar costs of the worksharing benefits already received.

The Work Sharing Unemployment Insurance program was also designed to interefere as little as possible with existing labor-management relationships. Employers' participation in the shared work program is strictly voluntary. However, if participating employees are covered by a collective bargaining agreement, their union must agree to the plan. Of course, where no agreement exists, the employer is free to decide whether to participate or not. Thus far, there have been no signs of employee resistance to the program in participating firms.

Employers participating in the California program are charged for benefits in the same manner they are charged for regular unemployment insurance benefits. However, participating employers, whose recent history of unemployment insurance benefit charges exceed their contributions ("negative reserve employers"), are required to pay additional unemployment insurance taxes ranging from .5 percent to .3 percent on the first $6,000 of all employee wages, in succeeding calendar years. These tax increases are intended to discourage use of the program by firms which normally make seasonal layoffs.

To encourage employer participation and to keep "bureaucratic red tape" to a minimum, administration of the program has been kept simple. Employers are only required to call or write for a two-page application form, provide basic employee identifying information, state that work-time reductions are economically necessary and submit information on the amount of wage and hour reductions. If the application for Work Sharing Unemployment Insurance is approved, employers provide their participating employees with a weekly statement of reduced hours and wages which employees then use to claim "shared work" benefits.

The program is intended to prevent layoffs. However, California employers are not required to "document" or prove that a reduction in hours cannot be avoided. Nor are employers prevented from laying off some workers before or after beginning the program. The question of continuation of fringe benefits (health insurance, retirement, etc.) is not addressed in the California legislation and therefore is left to each employer. No restrictions are placed upon the employers' operation of their businesses, including discharges, transfers, and new hires. In addition, the number of participants, as well as the original wage and hour reduction assigned by the employer may be easily changed by means of written notification to the Employment Development Department.

Restrictions on workers who participate are also kept to a minimum. Workers receive their shared work benefits directly from the State by mail. However, an initial claim must be filed personally by each worker at a local branch office of the Employment Development Department. The benefits are not taxable under California law but are taxable, to the same extent regular unemployment insurance benefits are, under Federal law.[12]

One restriction on outside or extra work does exist: workers who either "moonlight" or perform work in excess of the "reduced" hours assigned by their employers have such earnings deducted from their shared work benefits.

Workers whose employers have stated that the shared work plan will be used as a temporary measure (defined as fewer than 10 weeks) are automatically exempted from the normal work search requirements that regular unemployment insurance recipients must meet. Employers who state that their expected downturn will last longer than 10 weeks but who believe that the downturn is nevertheless "temporary" in nature may also have their employees exempted from work search requirements simply by providing an explanation as to why they believe the downturn will be temporary. If, however, an employer, who is expecting a permanent work force reduction, uses the shared work program as a transitional mechanism which allows employees to look for other employment while working reduced work hours, those workers receiving benefits must meet the work search requirements of the regular unemployment insurance system. During the first 15 months of the program's existence, only one employer with five workers has used the program in this fashion.

The California program is not widely known. Between July 1978 and the end of September 1979, 312 employers had approved worksharing compensation plans, covering 7,603 employees. Some 3,165 of these employees filed claims and received, on the average, $23.63 per week for an average of 4.85 weeks. The average number of total dollars paid to worksharing recipients was $114.65 and the total amount paid in worksharing benefits up to September 1979 was $263,698.

Use of the program grew slowly at first, with only 67 firms receiving certification between July 1978 and February 1979. However, participation has accelerated with the total number of certified firms increasing to 701 by April 1980. It is commonly assumed that lack of early use and subsequent increases in participation can be largely attributed to gradual growth of awareness of the program. Nonetheless, when one considers that there are over 500,000 firms and 10 million workers in California, it is apparent that the program has thus far been used by a very small number of employers.

The low level of participation and the quality of the data currently available preclude any definitive assessments of the worksharing program at this time. However, existing information can provide some provisional indications. Some 33 percent of certified California firms were in manufacturing and 14.1 percent were in wholesale and retail trade and services. (See table 1.) Over 75 percent of the 3,165 workers who filed claims for shared work benefits were employed by firms in manufacturing, in contrast to 28.5 percent of workers making regular unemployment claims. (See table 2.)

The relative size of firms participating in the program has been small so far. Roughly 85 percent of participating firms had fewer than 40 employees drawing benefits and only four firms had over 200 employees. (See table 1.)

The typical reduction in workweek and wages used by participating firms in California was 20 percent. About two-thirds of those participating went from 5- to 4-day weeks. About 6 percent of participating employers chose a 10-percent work-time reduction, while 28 percent chose reductions of 30 percent or more. (See table 1.) Only 5 of the 312 certified firms as of September 1979 involved workers with standard workweeks under 35 hours.

Many employers have chosen to apply the reductions only to a portion of their work force. The 312 employers using the program through September of last year employed 14,273 workers, but only 7,603 employees

Table 1. Comparison of California firms using Work Sharing Unemployment Insurance and regular layoffs under Unemployment Insurance, 1976–77

Characteristics	Participants under worksharing benefits [1]		Layoffs under Unemployment Insurance [2]	
	Number	Percent	Number	Percent
Total	312	100.0	435,417	100.0
Industrial sector				
Agriculture	8	2.6	36,117	8.3
Mining and energy	1	.3	932	.2
Construction	8	2.6	42,356	9.7
Manufacturing	104	33.3	36,477	8.4
Transportation	24	7.7	13,219	3.0
Retail and wholesale	44	14.1	131,538	30.2
Finance, real estate	3	1.0	34,783	8.0
Services	38	12.2	137,589	31.6
Other	82	26.3	2,406	.6
Size of firm				
Under 50 workers	244	78.2	472,972	94.0
51-100 workers	39	12.5	14,727	3.1
101-200 workers	16	5.1	5,763	1.2
201-500 workers	10	3.2	5,646	1.2
501-1,000 workers	3	1.0	1,236	.3
Over 1,000 workers	0	—	905	.2
Portion of work force affected				
Under 20 percent	28	9.0	—	—
21-40 percent	37	11.9	—	—
41-60 percent	59	18.9	—	—
61-80 percent	58	18.6	—	—
81-100 percent	130	41.7	—	—
Unionization				
Unionized	34	10.9	—	—
Non-unionized	278	89.1	—	—
UI reserve account status				
Positive account	251	78.2	243,288	55.9
Negative account	45	14.0	76,085	17.5
Non-rated	25	7.8	109,704	25.2
No longer in business	—	—	6,246	1.4

[1] California Employment Development Department is the source (Sept. 30, 1979).

[2] UI Claimant Characteristics Study, July 1, 1976 and June 30, 1977. Employment Data and Research Division, California Employment Development Department, is the source (January 1978).

Table 2. Comparison of California workers experiencing Work Sharing Unemployment Insurance and layoffs with regular Unemployment Insurance, 1976–77

Characteristics	Participants under worksharing[1]		Layoffs under unemployment insurance[2]	
	Number	Percent	Number	Percent
Total	3,165	100.0	5,687	100.0
Sex				
Men	1,963	62.0	3,420	60.5
Women	1,171	37.0	2,237	39.5
Age				
Under 20 years	158	5.0	792	14.0
20–29 years	1,076	34.0	1,586	28.0
30–39 years	1,044	33.0	1,284	22.7
40–49 years	412	13.0	842	14.9
50–59 years	348	11.0	710	12.6
60 years and over	95	3.0	367	6.5
Unknown	32	1.0	76	1.3
Race				
White	1,614	51.0	3,305	58.4
Non-white	1,451	49.0	1,452	41.6
Normal weekly income				
$0–99	31	1.0	803	14.1
$100–199	1,646	52.0	2,430	42.8
$200–299	1,076	34.0	1,209	21.3
$300–399	317	10.0	546	9.6
$400–499	32	1.0	445	7.8
$500 and over	31	1.0	...	...
Unknown	32	1.0	248	4.4
Unionization				
Unionized	816	25.8	933	16.5
Non-unionized	2,349	74.2	4,281	75.7
Unknown	...	...	443	7.8
Weekly benefits received				
Under $25	NA	NA	...	...
$26–40	NA	NA	767	13.6
$41–60	NA	NA	1,191	20.1
$61–80	NA	NA	1,405	24.8
$81–100	NA	NA	832	14.7
Over $100	NA	NA	1,462	26.8
Industrial sector				
Agriculture	4	.1	362	6.4
Mining and energy	10	.3	22	.4
Construction	19	.6	570	10.1
Manufacturing	2,389	75.5	1,611	28.5
Transportation	5	.2	272	4.8
Retail and wholesale	174	5.5	1,363	24.1
Finance, real estate	14	.4	226	4.0
Services	226	7.1	1,203	21.3
Unknown	324	10.0	28	.5

[1] California Employment Development Department is the source (Sept. 30, 1979).

[2] UI Claimant Characteristics Study, July 1, 1976 and June 30, 1977. Employment Data and Research Division, California Employment Development Department, is the source (January 1979).

were included in the program. In this group, unionized firms had 4,587 employees but only 1,294 were certified to use the program. Also, it appears that significant portions of work forces not included in the program may be salaried and white-collar employees who are not commonly laid off, or members of units working at full staff.[13]

It is particularly noteworthy that California firms which have thus far utilized worksharing unemployment compensation appear to have healthier unemployment insurance tax accounts than those using regular layoffs. Over 78 percent of the firms participating in the program had account status in which tax contributions to unemployment insurance have been greater than withdrawals in contrast to 63 percent of other firms. This suggests that the program may not be unduly subsidizing seasonal employers, and that the program's special surtax provides a disincentive to participation by such firms.

Of the 7,603 workers approved to receive Work Sharing Unemployment Insurance benefits by September 1979, only 3,165 actually filed claims. Preliminary indications are that many employers who believed that they would have to lay off workers or cut workweeks obtained certification for benefits but ultimately found its use unnecessary. In addition, it appears that a significant proportion of employees within firms using the program have failed to submit their claims for benefits.

The incidence of union affiliation has so far been higher among benefit claimants than among workers claiming regular unemployment benefits. That is, 25.8 percent of the workers claiming shared work benefits up to September 1979 were unionized as compared to 16.5 percent of regular benefit claimants. While this issue requires more detailed assessment, it would appear that unionization has not deterred participation.

No clear picture emerges from breakdowns of shared work benefit claimant data by age, race, and sex. The proportion of younger workers is lower among worksharing unemployment claimants than among regular unemployment claimants, indicating that junior workers are retained rather than laid off. Breakdowns by race and sex are puzzling. If minorities and women are laid off before other employees, their proportions should be higher among those claiming regular unemployment benefits than among those claiming worksharing benefits. Curiously, there is little difference by sex, and the proportion of minority workers using worksharing benefits is higher than the proportion using regular unemployment benefits. These figures could indicate that the new program is used more among firms with high proportions of minority and women workers, or that many minorities and women are ineligible for unemployment insurance, or that there are inaccuracies in the available data.[14] More detailed analysis will be necessary to assess the implications of Work Sharing Unemployment Insurance for affirmative action programs.

In addition to statistics, opionions were collected from representatives of participating firms and unions to get some indication of how the program had been received. Early in December 1979, representatives from 30 firms which actually used the program were interviewed by phone. Of these firms, 25 strongly favored the program and 5 were neutral. Firm representatives favored the program because it helped them retain valued employees, was generally appreciated by workers, and was easy and flexible to administer. Representatives from 20 of the 36 local unions participating in the program prior to December 1979 were also interviewed. Fourteen favored the program, 3 were neutral or unaware of the program, and 3 had not actually used the program. Major reasons for approval were that use of the program was fairer than layoffs, and workers were generally better off financially because only a portion of earnings were lost and most fringe benefits were maintained. Four union representatives reported initial resistance to the program from their members, but also noted that opposition had lessened once workers became familiar with the program.

These are all only preliminary indications as the data currently available do not permit a definitive assessment of the California program's impact. However, information from other sources can augment what we now know about such programs. The concluding section will deal with comparable programs in Europe. In an appendix, we discuss the results of a hypothetical cost-benefit analysis of short-time compensation.

Short-time compensation in Europe

Programs similar to California's "Work Sharing Unemployment Insurance" have been in effect within the Federal Republic of Germany, Belgium, France, Italy, Great Britain, Luxemburg, Denmark, The Netherlands, Norway, Austria, and most recently on the North American continent in Canada.[15] Of these short-time benefit programs, the German program most closely parallels the framework of the California program (and of those being discussed in the United States). We will concentrate on it.

The German short-time allowance scheme was first delineated in the Placement and Unemployment Insurance Act of July 1927.[16] The law has been revised several times. The most recent amendments were in the Employment Promotion Act of June 1969.

The program is administered by the Federal Labor Institute, an independent organization composed of representatives of labor, business, and the government, which administers unemployment insurance, unemployment assistance, and other labor market measures.[17]

In West Germany, worker eligibility for short-time benefits is determined by eligibility for unemployment insurance. All these programs are financed by a 3-percent payroll tax divided equally between employers and employees up to an earnings ceiling.[18]

The program is available to firms with at least one paid employee. To become eligible, a firm must demonstrate that a reduction in hours of labor is unavoidable, and that work time reductions with short-time benefits will prevent dismissals.[19] Furthermore, employers must document that work-time reductions of 10 percent or more have been made for one-third or more of their employees for a period of four continuous weeks or more.[20] Eligibility has traditionally been denied to firms and industries showing signs of permanent decline.[21]

German law requires that decisions to reduce work time or lay off workers must be agreed to by the employer and the Worker Councils established within most firms.[22] If the Worker Council consents to the program, it is binding upon the affected workers. Dissenting workers can only resign to avoid a shorter workweek.[23]

The German program appears to allow firms considerable discretion in determining what portions of their work forces go on short-time and how use of short-time is adjusted over time. Employers also are allowed to transfer workers within the firm, and some workers may be discharged and others hired so long as most employees retain their jobs.[24]

Once eligibility is determined, the Federal Labor Institute authorizes the payment of specified benefit amounts to workers. The firm pays these benefits directly to its employees, and is reimbursed by the government. As in the California program, the amount of short-time benefits given to claimants is determined by the proportion of full-time unemployment that work-time reductions comprise. The program replaces between 60 and 68 percent of earnings lost because of reduced work time.[25] Short-time benefits have a ceiling but are tax free.[26] However, benefits are reduced by 50 percent of earnings received by recipients for work performed in excess of the reduced work hours provided by the primary employer.[27]

However, available data show that some 90 percent of German recipients do not have their payments limited by the maximum benefit ceiling; and among this large subgroup of participants take-home incomes are almost always maintained at 80 to 90 percent of regular earnings,[28] depending on the extent of work-time reduction.

Firms participating in the program are required to assume the full costs of public health insurance and retirement programs, which, outside the program, are split evenly between employer and employee. However, the government will, on occasion, reimburse firms for up to 50 percent of the cost of health insurance and 75 percent of the cost of retirement programs.[29] In some cases, curtailment of full private fringe benefits which are related to pay levels may occur, but such reductions are typically minor.[30]

The normal maximum duration of benefits is 6 months, but it can be extended for up to as much as 2 years.[31]

While the extent and duration of work-time reductions under the German program varies, a "rule of thumb" generalization is that most beneficiaries had their work time shortened by about 40 percent and that duration has been under 3 months for most participants. Between 1972 and 1977, some 92 percent of beneficiaries suffered a loss of work time of under 50 percent of standard hours, and 57 percent experienced a loss of less than 25 percent. Between June 1977 and June 1978, 56 percent of participating workers received benefits for under 3 months and only 6 percent received benefits for periods lasting longer than 1 year.[32]

Utilization of short-time compensation varies markedly with the business cycle, particularly during the early stages of an economic downturn when firms are not sure whether dismissals and long-term layoffs are necessary. This pattern is empirically dramatized by the rapid upsurge of utilization of short-time compensation at the beginning of the 1975 recession, followed by a decline in use despite the fact that unemployment levels did not fall appreciably. (See table 3.)[33]

Table 3. Annual averages of unemployment and workers under short-time compensation, West Germany, 1968–78

Year	Registered short-time workers	Registered unemployment (number)	Unemployment rate
1968	10	323	1.3
1969	1	179	.7
1970	10	149	.6
1971	86	185	.7
1972	76	246	.9
1973	44	273	1.0
1974	292	582	2.2
1975	773	1,074	4.7
1976	277	1,060	4.6
1977	231	1,030	4.5
1978[1]	250	1,000	...

[1] 1978 figures are preliminary.

NOTE: Unemployment figures are based on the number of registrations at government Employment Service Offices. It is estimated that about 75 percent of the unemployed workers in West Germany register. Unemployment rates are computed on the basis of registered unemployment figures.

SOURCE: *Annual Report for 1976*, Bundesanstalt Fur Arbeit, Republic of West Germany, pages 8 and 65; and *Arbeits-und Sozialstatistik*, Federal Ministry of Labor and Social Affairs, Republic of West Germany, March 1978. Data for 1977 and 1978 cited from Gunther Schmid, "Selective Employment Policy in West Germany: Some Evidence of Its Development and Impact," Discussion Paper Series, International Institute of Management, Berlin, July 1978, page 14.

Ninety-five percent of German workers receiving short-time payments are in manufacturing, mining, and construction. Within these sectors, payment of short-time benefits for shorter working hours is most widely used in all stages of the fabrication of metal products, ranging from the mining of iron and coal to the production of steel, machinery, automobiles, and ships. Electrical products, textiles and construction industries follow in that order.

In contrast to the California program, between one-third and one-half of all workers receiving short-time benefits were employed in large firms with more than 500 workers. Nonetheless, employers with more than 500 employees represented only 5.5 percent of the total number of firms using the program in 1978.

The widespread use of the program in Germany has led observers to conclude that the program has significantly attenuated unemployment. One study has estimated that use of the program reduced full-time unemployment by approximately 175,000 in 1975, and some 52,000 in 1977. (See table 4.)[34] Thus, some observers claim that without the program, full-time unemployment would have been about 16 percent higher in 1975, and about 5 percent higher in 1977.

Despite general agreement that short-time compensation effectively prevents layoffs, the available data leave a number of unanswered questions concerning its job-saving effects. It has been noted that the aggregate work-time reductions have been significantly greater than the estimated reductions of full-time unemployment. (See table 4.) Most analysts suggest that this difference comes primarily from a "silent reserve" (*Stille Reserve*) of employees on reduced work time who do not or cannot claim short-time benefits,[35] but the phenomenon is yet to be fully explained.

Questions and prospects

Despite generally laudatory reports from European representatives of labor, business, and government

Table 4. Estimated impact of short-time compensation on work time and unemployment, West Germany, 1973–77

[Numbers in thousands]

Year	Registered short-time employees	Reduction of full time equivalent work time (employees)	Reduction of full time equivalent unemployment due to short time (employees)
1973	44	16	11
1974	293	106	70
1975	773	272	175
1976	277	90	60
1977	231	77	52
1978[1]	250	84	56

[1] 1978 figures are preliminary.

SOURCE: *Mitteilungen aus der Arbeitsmarkt-und Berufsforschung* ("The Development of the Labor Market in the Federal Republic of Germany in 1977"), No. 1, 1977, page 8. (Interpretation of data provided by Beatrice Reubens, Conservation of Human Resources, Columbia University, New York.) Data for 1977 and 1978 cited from Gunther Schmid, "Selective Employment Policy in West Germany: Some Evidence of Its Development and Impact," International Institute of Management, Berlin, Discussion Paper Series, July 1978, page 14.

about short-time programs,[36] a number of reservations have been expressed about the applicability of the concept to the United States. For example, different levels of labor market competition would make the program far less attractive to U.S. firms. Furthermore, European legal restraints on layoffs, particularly those in Germany, are likely to make short-time compensation far more acceptable in Europe. Moreover, large portions of European fringe benefits are administered by the government, thus reducing fixed costs of labor which are likely to deter U.S. firms from participation. Finally, the maximum benefit ceiling for the German program is considerably higher than most American ceilings.[37] This difference is assumed to reduce opposition from senior employees in Germany to a much greater degree than would be likely in the United States.

While there are still many unanswered questions, available information suggests that short-time compensation can do little to help persons who are out of work because they have just entered or re-entered the labor force. Nor is it likely to help those who have already been laid off or voluntarily left their jobs. However, short-time compensation does have potential to prevent full-time job loss among the 3 to 5 million American workers subject to layoffs who comprise about half of the unemployed population.[38]

Despite the potentials of short-time compensation, there are many reservations about its widespread application in the United States. Some union representatives have expressed fear that use of short-time compensation would disrupt hard-won seniority provisions and established union procedures. It has been suggested that layoffs according to seniority are fair and that use of shorter workweeks as an alternative to layoffs would lead to wage losses among higher-paid senior workers. In addition, there is concern that use of the program would stimulate conflicts among workers, leading to a reduction of union solidarity and bargaining power and presenting numerous administrative complications which would effectively prevent certain types of workers from receiving benefits, encourage firms to instigate greater aggregate work-time reductions than would be the case under layoffs, and reduce political pressures for full employment.[39] Yet a 1978 survey of the American labor force indicates that the worksharing unemployment insurance concept is supported by an overwhelming majority of workers.[40]

Some members of the business community have also expressed concern that the program would ultimately be imposed on firms, encourage unions to push for shorter workweeks, and subsidize marginal firms at the expense of healthy ones. While these reservations are not unanimously expressed by all sectors and levels of labor and business,[41] they do represent important issues which must be dealt with prior to widespread acceptance of short-time compensation as a major social policy.

The future of short-time compensation within the United States will be determined ultimately by discussions among advocates and opponents, research and policy evaluation,[42] and perhaps further experimentation and trial runs. ☐

——— *FOOTNOTES* ———

[1] For a compendium of viewpoints on worksharing and its alternative forms, see *Work Time and Employment*, Special Report No. 28, National Commission for Employment Policy, Washington, D.C., October 1978. For a description and assessment of seventeen varied worksharing proposals, see Fred Best, *Work Sharing: Policy Options and Assessments*, Forthcoming Monograph, Upjohn Institute for Employment Research, Kalamazoo, Michigan, 1980.

[2] Daniel Hamermesh, "Unemployment Insurance, Short-Time Compensation and the Workweek," *Work Time and Employment*, pp. 235–238.

[3] Edith F. Lynton, "Alternatives to Layoffs," Conference Report for the New York City Commission on Human Rights, New York, April 1975.

[4] Elinor Holmes Norton has urged consideration of the concept ("Testimony of Emile Heller," *Leisure Sharing*, Hearings of the Senate Select Committee on Investment Priorities and Objectives, California State Senate, Sacramento, California, Nov. 1, 1977, pp. 153–163, and submitted statement); and Alfred Blumrosen and Ruth Blumrosen, "The Duty to Plan for Fair Employment Revisited: Work Sharing in Hard Times," *Rutgers Law Review*, Summer 1975, pp. 1082–1106.

[5] This bill was last submitted to the New York State Legislature on Mar. 30, 1976 under the Number 11819 by Assembly Member Seymour Posner.

[6] "Work Sharing in Canada," Department of Employment and Immigration, Ottawa, Canada, April 1978; and Peter Sadlier-Brown, *Work Sharing in Canada: Problems and Possibilities*, C.D. Howe Research Institute, Montreal, Canada, HRI Observations Report No. 18, June 1978.

[7] The reports prepared as a result on this committee's activities are summarized in *Short-Time Compensation, UI Occasional paper*, Office of Research, Legislation and Program Policies, Unemployment Insur-

ance Service, Employment and Training Administration, U.S. Department of Labor, Washington, D.C., Forthcoming in 1980.

[8] Legislation has been drafted for submission by Patricia Schroeder, U.S. House of Representatives.

[9] "Statement of Gene Livingston, Chief Deputy Director of the California Employment Development Department," *Leisure Sharing*, Hearings of the California State Senate Select Committee on Investment Priorities and Objectives, Sacramento, California, Nov. 1, 1977, pp. 66–81.

[10] Senate Bill No. 210, introduced by William Greene, California State Senate, Sacramento, California, May 7, 1979.

[11] For example, if a recipient was eligible for a total of $3,120 in UI benefits (which is the maximum 1980 weekly benefit of $120 for 26 weeks), and received a total of $480 or $24 a week in worksharing benefits for 20 weeks, he or she would have $2,640 ($120 a week for 22 weeks) worth of regular UI if laid off after using the shared work program.

[12] If individual annual incomes are over $10,000 or joint spouse annual incomes are over $25,000, unemployment insurance benefits are taxable under Federal law.

[13] In remarks to the National Commission on Unemployment Compensation in New York, New York on Aug. 24, 1979, John L. Zalusky, an economist with the AFL-CIO Department of Research, argued that the worksharing program may be used selectively so that lower-skilled and junior employees are laid off with the program being used to retain higher skilled or senior workers, thus defeating much of the affirmative action goals of the program.

[14] *UI Claimant Characteristics Study*, July 1, 1976, and June 30, 1977, Employment Data and Research Division Estimates Group, California Employment Development Department, Sacramento, California, January 1979, p. 9.

[15] Peter Henle, *Work Sharing as an Alternative to Layoffs*, Congressional Research Service, Library of Congress, July 19, 1976; and Richard Belous and Sar Levitan, *Shorter Hours, Shorter Weeks*, Baltimore, Johns Hopkins University Press, 1977.

[16] *Placement and Unemployment Insurance Act*, July 16, 1927, pp. 116–19.

[17] Paul Fisher, "Notes on Work Sharing in the Federal Republic of Germany in 1978," unpublished paper prepared for the Office of Research and Development, Employment and Training Administration, U.S. Department of Labor (Contract No. 20-24-78-48), July 1978, pp. 3–4.

[18] Paul Fisher, *op. cit.*, pp. 4–5.

[19] Paul Fisher, *op. cit.*, pp. 4–5.

[20] *Ibid.*, p. 4: and Fred Best, "Short-Time Compensation and Work Sharing," National Commission for Employment Policy, Washington, D.C., April 1978, p. 8.

[21] Paul Fisher, *op. cit.*, p. 5.

[22] Bruce Millen, "Job and Income Protection Measures for Worker in Sweden, Germany and England," Office of the Assistant Secretary for Policy, Evaluation and Research, U.S. Department of Labor, July 13, 1978, p. 10.

[23] Paul Fisher, *op. cit.*, p. 7.

[24] *Ibid.*, p. 6.

[25] *Ibid.*, p. 4; and Axel Mittelstadt, "Unemployment Benefits and Related Payments in Seven Major Countries," *Reexamining European Manpower Policies*, Special Report No. 10, August 1976, pp. 179–82.

[26] Paul Fisher, *op. cit.*, p. 8.

[27] *Ibid.*, p. 4.

[28] *Ibid.*, p. 17.

[29] *Ibid.*, pp. 5 and 8.

[30] *Ibid.*, p. 6.

[31] *Ibid.*, p. 4; and Sar Levitan and Richard Belous, *op. cit.*, p. 62.

[32] *Ibid.*, pp. 15–16.

[33] Gunther Schmid, "Selective Employment Policy in West Germany: Some Evidence of Its Development and Impact," Discussion Paper Series, International Institute of Management, Berlin, West Germany, July 1978, p. 14.

[34] Gunther Schmid, *op. cit.*, p. 14.

[35] *Ibid.*, p. 16.

[36] "Short-Time Compensation," *What's New In Labor and Social Policy*, Federal Republic of West Germany, Embassy to the United States, April–May 1976, p. 7; and Kurt W. Rothschild, "Working Time and Unemployment," paper prepared for the National Commission for Employment Policy, University of Linz, Austria, presented July 1978, pp. 5–10.

[37] In Germany, maximum UI and worksharing benefits are determined annually, to be 163 percent of average gross earnings for all insured workers, while the highest UI ceiling in the U.S. is a relatively low 67 percent of the average income of covered workers (Paul Fisher, *op. cit.*, p. 17).

[38] *1979 Employment and Training Report of the President*, p. 274, Table A–27.

[39] Zalusky, *op. cit.;* Howard Young, "Comment on the Need for Work Time Reduction," *Work Time and Employment, op. cit.;* "A Cure for Unemployment," *Business Week*, Oct. 29, 1979, pp. 163–64; Sadlier-Brown, *op. cit.*, pp. 16–17; and Fred Best, Gary Lefkowitz, Maureen McCarthy, Gail Rosenberg and Barry Stern, "Exploratory Survey on Short-Time Compensation," paper prepared for Office of Research and Development, Employment and Training Administration, U.S. Department of Labor, June 23, 1978.

[40] Fred Best, *Exchanging Earnings for Leisure: Findings of an Exploratory National Survey on Work Time Preferences*, Research and Development Monograph No. 79, Office of Research and Development, Employment and Training Administration, U.S. Department of Labor, Washington, D.C., 1980, pp. 111–18.

[41] Best, Lefkowitz et al., *op. cit.;* "A Cure for Unemployment," *op. cit.*, pp. 163–64.

[42] For example, the California "Work Sharing Unemployment Insurance" is now under an intensive 2-year evaluation sponsored by the California Employment Development Department and the U.S. Department of Labor. The final analysis will be issued before that date. Such research, ongoing dialogue, and possible experimental programs in other States should shed light on the applicability of short-time compensation in the United States.

APPENDIX: Economic Costs and Benefits

The economic costs and benefits of short-time compensation must be determined by empirical evaluation of working programs. However, data on the costs of labor and social programs can be used to illustrate likely economic impacts of using short-time compensation instead of layoffs. This can be accomplished by a hypothetical example developed to contrast laying off 20 percent of low seniority and low income employees with a 20 percent (1 day) work-time reduction with short-time benefits within a fictitious firm employing 100 wage earning workers. These workers, are postulated to have average 1980 U.S. pay levels and benefits under the income tax and unemployment insurance benefit conditions existing in California. Further, the income and fringe benefits are distributed within this fictitious group of workers roughly to reflect prevailing U.S. conditions. Thus, the highest paid 20 percent receives a gross weekly wage of $380, the average worker gross weekly earnings of $265, and the lowest 20 percent a gross weekly income of $155. The lowest paid 20 percent are assumed to have low seniority and be subject to layoffs when they occur. The estimated economic impacts of short-time compensation and layoffs under these conditions are shown in appendix table 1.

The use of short-time compensation as opposed to layoffs will produce economic gains for junior workers at the expense of those with seniority, minimize losses to all parties due to reduced income taxes and short-time benefits, and improve the aggregate economic well-being of the total work group with a 4-day workweek. For example, high seniority workers (top fifth earning level) would take home net weekly paycheck of $268.48 or about 91 percent of the $294.94 they would receive under full-time work conditions. Low-seniority employees (lowest earning levels) would take home $128.16 under short-time compensation, in comparison to the $74 in unemployment insurance benefits they would receive if totally laid off. The average worker would maintain about 92 percent of his or her regular take home earnings under short-time.

Under short-time compensation, all workers would maintain some degree of job attachment, as well as all or most of the fringe benefits which accompany employment. When the value of these benefits is added to net pay, the average employee under short-time compensation would maintain 94.2 percent of total full-time "take home" compensation as opposed to 92.5 percent under layoffs. Additionally, all workers experiencing reduced workweeks would have an additional day off and higher effective per hour pay rates due to the partial income subsidy. Finally, because approximately one-fifth of unemployment insurance applications are judged ineligible due to inadequate base earnings,[1] low seniority workers without eligibility would maintain at least partial wages as opposed to complete loss of income resulting from total layoff.

Although firms will spend more per hour of labor on fixed fringe benefit commitments, overall labor costs are likely to be lower under the program because reductions in work time for all employees will tend to reduce average weekly wages. The average sum of wage and benefit costs per hour in this example is $9.81 under the program as opposed to $10.22 under regular layoffs and $9.26 under standard full-time conditions. Lower turnover costs resulting from avoidance of recall, new hiring, and training would likely lead to further savings by firms. These savings are likely to be at least partly counterbalanced by a slight increase of unemployment compensation taxes on the firm as a result of higher partial unemployment insurance payment given to senior workers with large base earnings. Of course, hourly labor costs can be expected to be higher under both short-time compensation and layoffs than they would be under full-time conditions, suggesting that firms would not wish to utilize the program unless confronted with economic problems.

Presumed benefits to workers and firms resulting from use of short-time compensation may be gained

Appendix table 1. Hypothetical[1] comparison of costs and benefits of short-time compensation and layoffs to the firm, workers, and government

[Typical firm=100 production workers over one week]

Cost and income factors	Standard employment conditions: 100 workers on 40-hour workweeks						
	Average worker		Highest paid 20 percent of workers		Lowest paid 20 percent of workers		Total cost for 100 workers
	Cost per week	Cost per hour	Cost per week	Cost per hour	Cost per week	Cost per hour	
Impact on workers:							
Income and benefits							
Total gross wage, unemployment insurance an benefits	$349.60	$8.75	$501.60	$12.54	$204.60	$5.12	$35,112.00
Total net wage, unemployment insurance, and benefits	302.36	7.56	416.54	10.41	187.40	4.69	30,220.80
Total net wage and unemployment insurance	217.56	5.44	294.94	7.37	137.80	3.45	21,708.40
Wages							
Gross wages[2]	265.00	6.63	380.00	9.50	155.00	3.88	26,600.00
Net wages (after taxes)[3]	217.56	5.44	294.94	7.37	137.80	3.45	21,708.40
Total fringe benefits[4]	84.80	2.12	121.60	3.04	49.60	1.24	8,511.00
Unemployment insurance[5]	....	...	....	....	....	...	.....
Impact on firms:							
Total labor costs	368.96	9.22	527.81	13.20	217.06	5.43	37,035.40
Total gross wages	265.00	6.63	380.00	9.50	155.00	3.88	26,600.00
Total fringe benefits[4]	84.80	2.12	121.60	3.04	49.60	1.24	8,511.00
Payroll taxes:							
Unemployment insurance (year's average rate)[6]	2.92	.07	2.92	.07	2.98	.07	293.20
Social security[3]	16.24	.41	23.29	.58	9.50	.24	1,630.20
Turnover costs[7]	....	...	....	....	....	...	.....
Impact on Unemployment Insurance:							
Unemployment Insurance system							
Benefit payments[5]	....	...	....	....	....	...	.....
Tax revenues[6]	2.92	...	2.92	....	2.92	...	.....
Other Government programs							
Program expenditures[7]	....	...	....	....	....	...	.....
Social security tax revenues[3]	16.24	...	23.29	....	9.50	...	1,630.20
Income tax revenues[3]	47.44	...	85.06	....	17.20	...	4,891.80

Appendix table 1. Hypothetical[1] comparison of costs and benefits of short-time compensation and layoffs to the firm, workers, and government—Continued

[Typical firm=100 production workers over one week]

Cost and income factors	Comparison of alternative methods of reducing worktime by 20 percent													
	Layoffs of 20 percent of work force							Reduced workweek: 100 workers on 32-hour weeks						
	Retained workers				Laid off: lowest paid 20 percent of workers		Total cost for 100 workers	Average worker		Highest paid 20 percent of workers		Lowest paid 20 percent of workers		Total cost for 100 workers
	Average worker		Highest paid 20 percent of workers											
	Cost per week	Cost per hour	Cost per week	Cost per hour	Cost per week	Total cost		Cost per week	Cost per hour	Cost per week	Cost per hour	Cost per week	Cost per hour	
Impact on workers:														
Income and benefits														
Total gross wage, unemployment insurance, and benefits	$340.80	$8.75	$501.60	$12.54	$74.00	$1,480.00	$32,500.00	$318.20	$9.94	$449.60	$14.05	$188.40	$5.88	$31,852.00
Total net wage, unemployment insurance, and benefits	302.36	7.56	416.54	10.41	74.00	1,480.00	27,952.40	285.33	8.92	390.04	12.19	177.76	5.56	28,476.00
Total net wage and unemployment insurance	217.56	5.44	294.94	7.37	74.00	1,480.00	20,432.40	200.53	6.27	268.48	8.39	128.16	4.01	19,964.60
Wages														
Gross wages[2]	265.00	6.63	380.00	9.50	...	.....	24,980.00	212.00	6.63	304.00	9.50	124.00	3.88	21,280.00
Net wages (after taxes)[3]	217.56	5.44	294.94	7.37	...	.....	18,952.40	179.11	5.60	244.48	7.64	113.36	3.54	17,904.60
Total fringe benefits[4]	84.80	2.12	121.60	3.04	...	.....	7,520.00	84.80	2.65	121.60	3.80	49.60	1.55	8,511.00
Unemployment insurance[5]	....	...	....	....	74.00	1,480.00	.....	21.40	...	24.00	...	14.80	...	2,060.00
Impact on firms:														
Total labor costs	368.96	9.22	527.81	13.20	...	.....	32,693.80	312.73	9.77	447.19	13.97	184.15	5.75	31,390.60
Total gross wages	265.00	6.63	380.00	9.50	...	.....	23,500.00	212.00	6.63	304.00	9.50	124.00	3.88	21,280.00
Total fringe benefits[4]	84.80	2.12	121.60	3.04	...	.....	7,520.00	84.80	2.65	121.60	3.80	49.60	1.55	8,511.00
Payroll taxes:														
Unemployment insurance (year's average rate)[6]	2.92	.07	2.92	.07	...	.....	233.60	2.93	.09	2.95	.09	2.95	.09	293.80
Social security[3]	16.24	.41	23.29	.58	...	.....	1,440.20	13.00	.41	18.64	.58	7.60	.24	1,304.80
Turnover costs[7]	....	...	....	....	↑	↑	↑	....	...	....	...	....	...	.....
Impact on Unemployment Insurance:														
Unemployment insurance system														
Benefit payments[5]	....	...	....	....	74.00	1,480.00	1,480.00	21.40	...	24.00	...	14.80	...	2,060.00
Tax revenues[6]	2.92+	...	2.92	....	...	.....	233.60	2.93	...	2.95	...	2.95	...	293.80
Other Government programs														
Program expenditures[7]	....	...	....	....	↑	↑	↑	....	...	....	...	....	...	.....
Social security tax revenues[3]	16.24	...	23.29	....	...	.....	1,440.20	13.00	...	18.64	...	7.60	...	1,304.80
Income tax revenues[3]	47.44	...	85.06	....	...	.....	4,547.60	32.87	...	59.52	...	10.64	...	3,375.40

[1] The assumptions underlying the table are: (1) 40-hour workweek with no overtime, (2) all employees eligible for unemployment insurance, (3) lowest paid 20 percent of workers are also lowest seniority and subject to layoffs, (4) distribution and levels of wages and benefits approximate late 1979 conditions for nonsalaried U.S. production workers, and (5) taxes and unemployment insurance benefits based on California conditions.

[2] Gross average weekly wage approximated from August 1979 average U.S. manufacturing workers' weekly income (*Monthly Labor Review*, October 1979, page 96), and typical distribution of earnings within a work group of 100 employees into highest 20 percent and lowest 20 percent approximated from national income distribution patterns for male wage earners in manufacturing industries (*Current Population Reports, Consumer Income*, Series P. 60, No. 118, March 1979, pp. 228–29).

[3] Dollar amount of taxes deducted from gross weekly earnings to determine net earnings based on Federal and California income tax withholding rates for a worker with three exemptions (California Employment Development Department, January 1979), and 1979 Social Security tax rates requiring payment of 6.13 percent of the first $22,900 of individual annual earnings by both employer and employee.

[4] Dollar cost of fringe benefits such as medical care, private retirement pensions and paid time off computed as 32 percent of gross earnings based on available data (*Handbook of Labor Statistics 1977*, page 237) and *Employment Benefits* (U.S. Chamber of Commerce, 1975).

[5] Full weekly unemployment insurance benefits and 20 percent benefits based on California benefit determination formula in effect in January 1980. Full unemployment insurance benefits would be $74 a week for a fully unemployed worker earning $165 a week, $107 for a worker earning $265 a week, and $120 for a worker earning $380 a week or more. The California unemployment insurance benefit ceiling is $120 a week.

[6] Unemployment insurance tax payments computed from estimated typical employer unemployment insurance tax based on average 1977 California tax rate of 2.46 percent (*Actuarial Report of the California Unemployment Fund*, 1977, pp. 28–29) adjusted upward 4 percent to account for employee turnover (*Employment and Training Report of the President*, 1979, p. 332) and prorated over one-year period to represent average unemployment tax expenditures by employer on first $6,000 of employee earnings for varied levels of continuously earned annual income.

[7] Because of the unavailability of acceptable data showing dollar amounts of employer turnover costs resulting from hiring and training, and public program expenditures associated with varied levels and types of work losses, it was necessary to note expected impacts in terms of (↑) for increased expenditures, (—) for no change in expenditures, and (↓) for reduced expenditures.

through increased costs to the Nation. For instance, if the duration of unemployment is presumed to be equivalent, the level of average benefits is likely to be higher than unemployment insurance payments because benefits for senior workers with higher earnings will be greater than those collected by low-paid junior workers. Such extra costs are likely to be partially recouped over the long run by increased unemployment insurance taxes for firms participating in the program. Use of short-time compensation will also reduce general tax revenues received by the government. Because workers, particularly those with higher incomes, will pay proportionally less income taxes with reduced earnings, total revenues from income taxes will be lower. Specifically, the weekly State, Federal and social security taxes collected from the average program participant in our hypothetical example would be $59.88, as opposed to $46.80 for the same worker experiencing layoffs. To some degree, these losses will be slightly offset by lower expenditures on public programs such as food stamps, social security and medicare for work groups using short-time compensation as opposed to layoffs.[2]

——*APPENDIX FOOTNOTES*——

[1] *Actuarial Report of the California Unemployment Fund*, Milliman and Robertson, Inc., San Francisco, 1977.

[2] Fred Best, "Short-time Compensation and Work Sharing", p. 18.

Probing the issues of unemployment duration

Data ambiguity and measurement problems have created controversy in interpreting unemployment duration; after a careful review of the issues, most jobless spells appear short but persistent unemployment is important; recession extends duration for all

NORMAN BOWERS

If most persons experiencing unemployment remain jobless for only a short period, is the labor market so active that the unemployed easily find their usual kind of work? And, as a corollary, that chronic and persistent joblessness is unimportant? Or do such data merely reflect the frequent movement away for unstable and marginal jobs that are considered unsuitable?

Whatever one's belief concerning the efficacy of different theories of unemployment and the labor market, accurate measures of various dimensions of the incidence and duration of unemployment are important. The purpose of this article is to discuss some methodological, measurement, and interpretative issues surrounding existing statistics on unemployment duration. The primary data source for this analysis is the Current Population Survey (CPS).

Consistent with past research, a large number of spells of unemployment were found to be typically of short duration, although obvious cyclical patterns also were found. The implications for understanding how the labor market functions depend critically upon both the outcome of a spell of joblessness and the extent of multiple periods of unemployment per worker over time. Based on this analysis, unemployment appears to be concentrated among a relatively small group of workers who are unemployed for a rather extensive length of time. In addition, there appears to be a pronounced cyclical pattern to the concentration of unemployment, as long-term joblessness rises extensively in recessions. However, the data alone do not verify or refute any of the existing theories of labor market behavior.

Some methodological issues

For many analysts and policymakers the length of a spell of unemployment—whether 4 or 40 weeks—is viewed as an index of economic welfare. Thus, the plight of the long-term unemployed and the impact of economic downturns on duration are often discussed. However, the seemingly simple question—how long does an unemployed person remain unemployed?—is not easily answered on the basis of regularly published data from the CPS (or most other labor force surveys, for that matter). To understand this, a brief overview of the CPS is necessary.

The CPS is a monthly survey of a rotating group of approximately 65,000 households (strictly speaking, addresses). Each month, Census Bureau enumerators visit the households in the sample and ask a series of structured questions about the labor force status of each member 16 years of age and over during the preceding or reference week. Persons without a job but looking for work are asked how long they have been looking for work. Thus, what the CPS measures is the length of a spell that is still in progress, which is conceptually distinct from the length of a *completed* spell of

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unemployment. Published data measure a cross-section of the unemployed prior to the completion of their spells. The difference between an in-progress and a completed spell of unemployment is analogous to the difference between the average life span (the average of a completed life) and the mean age of the population (the average of lives currently in progress). In addition, some unemployment spells are not measured in the survey—those that occur between survey dates.

Before discussing the implications of this distinction, it might be fruitful to examine the distribution of unemployment by duration of spells in progress during 1968–79. Table 1 shows that, on average, about 6 million people were unemployed in 1979, and approximately 1.2 million were unemployed for more than 15 weeks. The average duration of these "in-progress" spells was 10.8 weeks. In general, average duration varies directly with the unemployment rate, as can be seen by simply contrasting 1969 with the recession year of 1975. As should be clear from the previous discussion, however, table 1 cannot be used as an estimate of, say, the number of completed long-term (15 weeks or more) spells of unemployment in a year. This is so for two reasons: first, many of the jobless remain among the long-term unemployed from month to month and are counted repeatedly; second, some of the unemployed reporting less than, say, 5 weeks will eventually experience more than 15 weeks of unemployment. At the same time, spells of unemployment that occur entirely between survey dates are missed.[1]

This suggests that there are two different measurement problems in using the data on spells in progress to estimate the length of completed spells. These phenomena will be labeled "interruption" and "length" bias, following Salant and others.[2] As noted earlier, the spells "captured" by the CPS are only part-way to their completion at the time of the survey—that is, they are "interrupted" spells. Thus, the average duration of spells in progress may underestimate the length of a completed spell. However, there is also a bias in the opposite direction. Longer spells have a better chance of being measured in the survey and so tend to make the measured average duration greater than the average duration of a completed spell—length bias.

Which of these effects will predominate depends on what is called the "escape rate" or the probability that a person's unemployment will end in "N" weeks provided that it has not ended before that time. Salant has shown that the relationship between the expected length of interrupted and completed spells can be deduced from a knowledge of "escape rates."[3] This technique is applied to CPS data in the next section; however, a brief discussion of escape probabilities derived from CPS data is necessary.

Past research using CPS data has shown that, in the aggregate, the likelihood of escaping unemployment declines with length of time unemployed. In other words, the probability of remaining unemployed increases with the length of unemployment already experienced.[4] It must be emphasized that this relationship is based on aggregate data and does not necessarily mean that individuals have declining propensities to escape unemployment. For example, individuals or homogenous groups of the unemployed could have constant but different escape rates over time, but as the duration of unemployment increases the unemployed will be disproportionately composed of those with low escape rates. On the other hand, there may, in fact, be a causal relationship between duration and escape, such that the longer a person is unemployed the less chance she or he has of reemployment.[5]

Methods to estimate the expected duration of a completed spell of unemployment, using supplementary data from the CPS, are described in the next section.

Table 1. Distribution of the unemployed by duration of in-progress spells of unemployment, 1968–79

[In thousands]

Year	Total unemployed	Number of weeks unemployed					Average duration (in weeks)	Unemployment rate
		Less than 5	5–10	11–14	15–26	More than 26		
1968 . . .	2,817	1,594	613	197	256	156	8.5	3.6
1969 . . .	2,831	1,629	827	200	242	133	8.0	3.5
1970 . . .	4,088	2,137	958	331	427	235	8.8	4.9
1971 . . .	4,993	2,234	1,143	435	665	517	11.4	5.9
1972 . . .	4,840	2,223	1,089	369	597	562	12.1	5.6
1973 . . .	4,304	2,196	966	330	475	337	10.0	4.9
1974 . . .	5,076	2,567	1,153	418	563	373	9.7	5.6
1975 . . .	7,830	2,894	1,738	714	1,290	1,193	14.1	8.5
1976 . . .	7,288	2,790	1,594	625	1,003	1,336	15.8	7.7
1977 . . .	6,855	2,856	1,507	582	898	1,012	14.3	7.0
1978 . . .	6,047	2,793	1,377	499	746	633	11.9	6.0
1979 . . .	5,963	2,869	1,366	496	684	516	10.8	5.8

Gross change data

Any longitudinal survey opens up the possibility of examining the movement of individuals from one labor force status to another—for example, from unemployed to employed. As noted previously, the CPS is a monthly survey of a rotating group of households. The CPS comprises eight independent panels or rotation groups. Each household is interviewed in each of 4 consecutive months, dropped from the sample for 8 months, and reinterviewed for 4 final months. Therefore, potentially three-fourths of the sample are common from month to month.[6]

Because of this overlap, it is possible to match a person's labor force status for the current and previous months and measure the number of people who remain employed, unemployed, or not in the labor force, or who move between each of these states. Although a variety of detailed information is available from the gross change data, here it is only necessary to concentrate on the nine possible labor force flows among the employed (E), unemployed (U), and not in the labor force (N), as represented in the following tabulation:

Labor force status in previous month	*Labor force status in current month*		
	E(t)	*U(t)*	*N(t)*
$E_{(t-1)}$	EE	EU	EN
$U_{(t-1)}$	UE	UU	UN
$N_{(t-1)}$	NE	NU	NN

The meaning of the flows is as follows: EE represents the number of workers who were employed for the 2 successive months, EU is the number who were employed the previous month (t−1) who became unemployed in the next month (t), and so forth. The probability of making a labor force status transition is simply the number of people who made any given change divided by the number in the original state. For example, the probability that an unemployed worker will remain unemployed is UU/U_{t-1}. Each probability is called a transition rate. Before estimating duration from the actual statistics, it is important to note some of the limitations of the data (for references, see footnote 6).

The accuracy of the gross change data has been questioned in part because they normally do not agree with the labor force status counts from the full CPS. For example, the change in unemployment in any 2 months can be calculated two ways: first, by subtracting the gross flows out of unemployment (UE + UN) from the flows into unemployment (EU + NU); or, second, by subtracting the number unemployed in the current month from the number unemployed in the previous month. The results are usually different in magnitude and, sometimes, in direction because the samples and estimating methods used differ significantly.

It is generally acknowledged that there are three types of errors in the gross change data.[7] First, and least important, is sampling variability; that is, the problem of estimating labor force status from less than a complete census. This is a problem of all sample surveys, but is likely to be more important for the gross change data because individuals must be surveyed 2 consecutive months. Therefore, movers, nonrespondents, and the first and fifth rotation groups are excluded from the gross change data, which are actually based on only about two-thirds of the full sample. This reduction in the sample may serve to bias the results, as some evidence exists that persons excluded have a more marginal labor force attachment than those who are matched.[8]

The second source of error is the result of misclassification of labor force status. Some evidence of the severity of misclassification is available from the CPS reinterview program.[9] Each month a sample from the CPS is selected for reinterview as a quality check. The reinterviews take place 1 week after the initial survey and use the regular CPS questionnaire. The results of the reinterview program suggest that, because of offsetting errors, net changes in labor force status are only moderately affected by misclassification. Despite this cancellation of errors in the published data, a substantial amount of apparently spurious volatility is present in gross changes. It should also be noted, however, that the CPS reinterview uses more experienced enumerators which may introduce measured changes between the original and reinterview surveys that would not exist between the original and subsequent surveys. Thus, the reinterview program may not give an exact measure of spurious movement in the gross change data. Whatever the cause of the misclassification, the effect on the gross change data is to magnify the flows between labor force categories.[10] It should be emphasized that the vast majority of people are classified correctly: the point, however, is that errors that cancel each other in the full CPS are cumulative in the gross change data. The extent of, or direction of, bias to estimates of the duration of a completed spell of unemployment is uncertain, though some researchers have argued that, in the absence of the errors, duration measures would be much higher because the correct measure of changes in labor force status would be lower.[11]

The third source of error, which is seemingly inherent in any panel surveys, is "rotation group bias": respondents are conditioned by the process of reinterview.[12] That is, responses to the survey questions change simply as a result of length of time in the survey. In addition, the probability of being reinterviewed in, say, 2 consecutive months is different among various labor force and demographic groups. The probability of reinterview can be affected by a variety of reasons, such as changing place of residence and refusing to be reinterviewed. The evidence we have on rotation group bias suggests that the movement between unemployment and not in the labor force is most affected by these problems.[13]

Despite these problems, the gross change data do provide a wealth of useful information on the U.S. labor force: in particular, the data can be used to estimate the duration of completed spells of unemployment.[14]

Estimating duration of unemployment. Estimating the expected duration of unemployment, E(D), from the gross change data is straightforward. Recall that a person unemployed in one month can, in the subsequent month, remain unemployed (UU), become employed (UE), or drop out of the labor force (UN). The expected duration of unemployment is dependent upon the probability of escaping or leaving unemployment, which is the sum of the probability of withdrawing from the labor force or becoming employed. Formally, expected duration is

$$E(D) = \frac{1}{ESC}$$

where ESC is the probability of escape from unemployment from month-to-month. To impute expected duration from a given escape probability it is necessary to assume that individuals have a constant escape rate while unemployed. That is, an individual's escape probability is independent of duration of joblessness.[15] This assumption is critical because otherwise the expected duration of a completed spell is also dependent upon the current length of unemployment experienced, and the calculations become very complicated.

Table 2 contains information on the probability of leaving or continuing unemployment for selected years. Taking 1969 as an example, if on average 100 people were unemployed in month t−1, then 35 of those people were employed, 29 withdrew from the labor force, and 36 remained unemployed in the following month. The fourth column of table 2 shows the estimate of the expected duration of a spell of unemployment. These estimates are presented as "weeks of unemployment." This was done by multiplying expected duration, E(D), from the above equation, which is based on monthly probabilities of labor force movement, by 4.3—the average number of weeks in a month (thus, $E(D) = 1/ESC \times 4.3$). The final column in table 2 shows the expected duration of unemployment for a "persistent jobseeker." This is a measure of unemployment duration conditional upon not withdrawing from the labor force (UN); rather, the "persistent jobseeker" searches until he or she finds a job (UE). The implications of these data will be discussed in detail later, but for now it should be noted that the expected duration of the persistent jobseeker is the probability of moving from unemployed to employed plus the probability of remaining unemployed divided by the probability of moving from unemployed to employed, all multiplied by 4.3 weeks.

Table 2. Probability of leaving or continuing unemployment, by duration of unemployment, annual averages, selected years, 1969–79

Year and current duration	Probability of moving from unemployment to—		Probability of continuing unemployment	Expected duration of a completed spell of unemployment (in weeks)	
	Employment	Not in labor force		All workers	Persistent jobseekers
1969					
Total	.3516	.2910	.3570	6.7	8.7
Less than 5 weeks	.4019	.2999	.2982		
5 to 10 weeks	.3069	.2916	.4015		
11 to 14 weeks	.3143	.2571	.4286		
15 to 26 weeks	.2390	.2550	.5060		
More than 26 weeks	.2158	.2950	.4892		
1971					
Total	.2770	.2409	.4821	8.3	11.8
Less than 5 weeks	.3368	.2788	.3844		
5 to 10 weeks	.2667	.2409	.4924		
11 to 14 weeks	.2488	.2019	.5493		
15 to 26 weeks	.2043	.1659	.6298		
More than 26 weeks	.1591	.2004	.6405		
1975					
Total	.2338	.2028	.5634	9.8	14.7
Less than 5 weeks	.3083	.2531	.4386		
5 to 10 weeks	.2381	.1987	.5632		
11 to 14 weeks	.2139	.1761	.6100		
15 to 26 weeks	.1734	.1437	.6829		
More than 26 weeks	.1234	.1669	.7101		
1978					
Total	.2855	.2319	.4826	8.3	11.6
Less than 5 weeks	.3418	.2604	.3978		
5 to 10 weeks	.2694	.2246	.5060		
11 to 14 weeks	.2336	.2008	.5656		
15 to 26 weeks	.2227	.1743	.6030		
More than 26 weeks	.1831	.2091	.6078		
1979					
Total	.2906	.2283	.4813	8.3	11.4
Less than 5 weeks	.3450	.2560	.3990		
5 to 10 weeks	.2835	.2132	.5033		
11 to 14 weeks	.2422	.1942	.5636		
15 to 26 weeks	.2169	.1837	.5994		
More than 26 weeks	.1514	.2072	.6414		

There are a number of interesting features in table 2. First, in each year the probability of remaining unemployed increases as current duration increases. This may result from the "sorting" effect, or there may be a causal relation between an individual's likelihood of exiting unemployment the longer he or she is out of work. Again, to estimate the expected duration it is necessary to assume that the sorting effect is true. Second, there is a strong cyclical pattern to the data. The jobless in the recession year of 1975 had a much higher chance of remaining unemployed and a much lower chance of going from unemployed to employed.

The formula for expected duration results in estimates for completed durations ranging from a low of 6.7 weeks in 1969 to 9.8 weeks in 1975 (column 4 in table 2). This compares to the average duration of an in-progress spell of 8 weeks in 1969, and 14.1 weeks in 1975 (table 1). This result indicates that the length bias dominates the interruption bias in the published statistics.[16]

The data on the transition probabilities also permit the estimation of the number of completed spells of unemployment within any given period, both overall and within each transition field. There are at least two sources of bias to this estimate. First, it is important to note that the estimate will be a lower bound of the actual number of spells because several short spells may occur between the survey dates and, therefore, will be missed. Second, as a result of errors in the gross change data, it is likely that the true transition probabilities are lower than the measured probabilities: thus, the true number of unemployment spells will be lower than the estimates presented here. These two problems have opposite effects on the estimates. However, it would be exceedingly difficult to measure the actual magnitude of the bias introduced because of these problems.

Both tables 1 and 2 are necessary to estimate the number of spells of unemployment in a year. Table 1 shows, for example, that in an average month in 1969, 1.6 million people had been unemployed for less than 5 weeks. From table 2, it is possible to calculate the probability that a person unemployed less than 5 weeks will exit unemployment by the next survey month. The number of completed spells in any given transition field is calculated as follows:

$$\text{Spells} = \text{Number of in-progress spells} \times \text{Probability of escape} \times 12$$

Table 3 contains the results of this exercise. Thus, in 1969, there were an estimated 22 million spells of unemployment, and 14 million of these spells were less than 5 weeks. In 1975, on the other hand, there were 42 million spells; compared to 1969, there were proportionately more long-term spells in 1975, which is exactly what one would expect in a cyclical downturn.

Of course, the estimates in table 3 pertain to spells of unemployment. The estimated 37 million spells in 1979, for example, include a number of individuals who experienced more than one spell of joblessness over the year. This is particularly true of those completed spells of relative short duration. However, because of their length, the 2.2 million spells of 27 weeks or longer may correspond roughly to the number of people who were out of work that long in one spell (but not those who experienced a total of more than 26 weeks of unemployment over the course of the year).

In summary, the measurement of the length of a completed spell of unemployment is conceptually simple; but, the empirical difficulties are important enough that the estimates should be taken as rough guides only. The fact that these estimates are generally comparable to those obtained in research utilizing different methods increases the confidence in the estimates. Given these caveats, the comparison of tables 1 and 3 suggests some interesting interpretations of the structure of unemployment. On average, the estimated duration of a completed spell is just about 75 percent of the duration of the (measured) in-progress spell. And, while there are important cyclical patterns, a large number of spells are typically of very short duration.

Table 3. Estimated completed spells of unemployment, by duration of unemployment, 1968–79

[In thousands]

Year	Total spells	Number of weeks unemployed					Expected duration of a completed spell (in weeks)
		Less than 5	5–10	11–14	15–26	More than 26	
1968	21,587	12,372	4,474	1,272	1,519	964	6.8
1969	21,841	13,718	4,503	1,371	1,434	815	6.7
1970	27,323	16,445	5,933	1,711	2,075	1,159	7.7
1971	31,002	16,503	6,962	2,353	2,945	2,230	8.3
1972	31,023	16,755	6,729	2,024	2,981	2,534	8.0
1973	29,661	17,018	6,267	1,895	2,520	1,961	7.5
1974	32,854	19,330	7,092	2,017	2,677	1,738	8.0
1975	41,012	19,496	9,110	3,341	4,909	4,156	9.8
1976	39,613	18,926	8,527	2,760	4,193	5,207	9.5
1977	39,878	19,874	9,091	2,774	3,998	4,141	8.9
1978	37,480	20,183	8,163	2,601	3,554	2,979	8.3
1979	37,126	20,691	8,321	2,597	3,288	2,229	8.3

Interpreting duration data

As noted at the outset of this article, the meaning of the apparently short durations estimated in table 3 is fraught with difficulties. For example, one economist has asserted that the data support the notion of "an active labor market in which almost everyone who is out of work can find his usual type of job in a relatively short time."[17] Another perspective contends that the data indicate that, while many workers pass through the state of unemployment, chronic and persistent joblessness is unimportant.[18] Another group of theorists, ranging from those who argue that the labor market is divided into segments between which mobility is constrained to those who utilize labor turnover models, has argued that duration statistics are simply inadequate as any measure of economic welfare: rather, short spells of measured unemployment could be the result of frequent movement from jobs that are unstable, menial, or otherwise unpreferred.[19] Finally, it must be emphasized that the gross change statistics do not provide a complete picture of the labor market. In particular, a large proportion of job changes occur without any intervening period of unemployment. Thus, sole reliance on the gross change data may lead one to exaggerate the overall importance of labor force flows.

The effects of labor force withdrawal. As the preceding discussion indicates, one important issue in interpreting duration statistics concerns the outcome of a spell of unemployment. Measured short durations may not imply much about the ease of finding one's "usual line of work" if individuals escape unemployment by withdrawing from the labor force or, perhaps, by adjusting to poor labor market conditions and taking a temporary job while waiting for job prospects to improve.[20] As an example of the magnitude of labor force exit, it has recently been estimated that 45 to 50 percent of all unemployment spells end by withdrawal from the labor force.[21]

Some additional information about the impact of labor force withdrawal on duration is contained in the last column of table 2. Here, the expected duration of unemployment for those who do not withdraw from the labor force has been calculated. The expected duration of the persistent jobseeker is substantially higher than the conventional calculation which includes the effect of labor force withdrawal: in 1969, 8.7 versus 6.7 weeks; in 1975, 14.7 versus 9.8 weeks; and, in 1979, 10.8 versus

8.3 weeks. It is crucial to note that this calculation is simply illustrative and is not based on the actual experience of people who do not leave unemployment until they find a job. The calculation assumes that those persons who end their unemployment by dropping out of the labor force would have had the same likelihood of finding a job if they had continued to search as those who actually did continue to search. Moreover, it is precisely those groups that are most marginally attached to the labor force—for example, school age youth—who tend to experience frequent spells of short-term joblessness. Nevertheless, the data do underscore the necessity to exercise caution in the interpretation of unemployment duration statistics.

Some perspective on the meaning of labor force exit can be gained by looking at the patterns of labor force transitions. Table 4 contains this information for selected years. The flows have been calculated as probabilities.

The probabilities of moving from employment or unemployment to not in the labor force can provide some (limited) information on the interpretation of labor force withdrawal. That is, if withdrawal is truly voluntary—given real life ambiguities—then, even if exits are large in magnitude, they might, nevertheless, be of little concern for understanding the labor market.

The question of interest: to what extent do people drop out of the labor force because they choose not to work rather than because they become discouraged about the prospects of finding a job? This is a very difficult question to answer precisely on the basis of existing data. However, George Perry has suggested that if all labor force leaving is truly voluntary, then one might expect that the employed and unemployed would be equally as likely to drop out of the labor force.[22] Here, the rate of withdrawal from employment might be thought to represent a "normal" rate of withdrawal resulting from things like home responsibilities. This might be considered a rough measure of purely voluntary withdrawal.

As table 4 shows, in each of the years presented, the rate of withdrawal from unemployment swamps the withdrawal rate from employment. On average, in 1969 only 4 percent of the employed withdrew while 29 percent of the unemployed withdrew. Although these exit rates differ by demographic groups, the data strongly suggest that only some small proportion of labor force exit from unemployment is strictly voluntary in the sense of not depending on the prospects of finding an acceptable job. This, admittedly rough, evidence has received substantial support from other research as well.[23]

However, before too much reliance is placed on the suggestion that labor market discouragement is the primary cause of withdrawal from the labor force following unemployment, other evidence needs to be examined. BLS currently compiles quarterly data on discouraged workers—persons who want a job but who are not looking for work because they believe they could not find it. The average number of discouraged workers was 574,000 in 1969; 1,082,000 in 1975; 1,010,000 in 1977; and 750,000 in 1979. The interesting question, however, is not how many workers become discouraged but, rather, what proportion of the people who leave unemployment to move outside the labor force subsequently are classified as discouraged workers? The one piece of evidence that is available on this question is based on the research of Kim Clark and Lawrence Summers. (See footnote 11.) They calculated that, in 1977, just 15 percent of the outflow from unemployment became classified as discouraged workers. However, fully 46 percent of this group said they wanted a job now.[24] Exactly where the truth lies in assessing whether labor force withdrawal is really "voluntary" or "involuntary" cannot be pinpointed solely on the basis of scanning a wide array of data; adequate answers will only be forthcoming with the development of robust explanatory theories of labor market dynamics.[25]

Table 4. Probability of moving from one labor-market state to another in different business cycle conditions, 1969, 1975, and 1978

Labor force flow from—	1969	1975	1978
Employment to unemployment	0.0100	0.0191	0.0145
Employment to not in labor force	.0434	.0351	.0340
Unemployment to employment	.3516	.2336	.2855
Unemployment to not in labor force	.2910	.2028	.2319
Not in labor force to employment	.0507	.0445	.0492
Not in labor force to unemployment	.0162	.0271	.0251
Average unemployment rate	3.5	8.5	6.0

Ambiguity of labor force classification. The unemployed/not in the labor force distinction has recently been criticized for being too ambiguous and arbitrary. Clark and Summers, in particular, have argued that the flow between unemployment and not in the labor force in table 4 might be primarily the result of the misclassification of consistent behavior.[26] They cite evidence—discussed earlier in this article—on the existence of rotation group bias and other classification problems. Because Clark and Summers see the crucial concept of "looking for work" as too ambiguous, particularly in light of evidence they have presented on the relative brevity of labor force withdrawal, they conclude that

> "It appears that many of those who withdraw experience a brief spell outside the labor force and a further period of "reentrant" unemployment. The official statistics capture two relatively brief spells of unemployment, yet the evidence presented here suggests that the experience might be more appropriately characterized as a single lengthy spell of unemployment."[27]

Undoubtedly, for some people at least, the distinction between being unemployed and not in the labor force is unclear. However, the phenomenon of temporary labor force withdrawal is not well understood theoretically. Further examination of this issue is certainly desirable.

One thing stands out from this discussion on labor force exit: irrespective of one's view as to how labor force flows should be interpreted, accounting for the flows is necessary to render the meaning/significance of duration statistics intelligible.

The meaning of unemployment duration might be sharpened by considering the unemployment experience over a period longer than the "average" month and by analyzing the concentration of unemployment.

Multiple spells of unemployment and the concentration of total unemployment. The length of time an individual spends unemployed is the product of both the average duration of an unemployment spell and the number of separate spells. In an economy where repeated spells of unemployment are not unusual, the short average duration of completed spells of unemployment may understate the impact of joblessness on individuals.[28] First, many people may suffer multiple spells of unemployment, so that average duration understates their total unemployment experience. Second, persons experiencing only one spell may have more unemployment than suggested by the data on average duration of a completed spell, because single spells tend to be longer than the average of multiple spells.

Data on the prevalence and average duration of unemployment spells are available from the "Work Experience" supplement to the CPS. But these data have important limitations.

Every March, a series of questions about the previous year's labor force experience is asked of respondents in the Current Population Survey. Included are questions on the total length of time the respondent was unemployed and on the number of spells of unemployment experienced. The major potential biases of the data result from recall problems and interruption bias. In addition, the work experience questions do not appear well suited to measure jobseeking activity associated with labor force entry. Recall problems are straightforward: people may have trouble accurately remembering what they were actually doing, say, 8 months ago; in particular, individuals may not recall a brief period in which they were unavailable for work and, therefore, report one longer spell of unemployment.[29] The evidence suggests that the data for prime working age males are consistent with the monthly CPS, but that women and teenagers tend to report fewer weeks of unemployment than implied in the monthly figures. Interruption bias concerns the fact that the period of observation is 1 year, so that some spells of unemployment will be interrupted by both the beginning and ending of the year. This means that even work experience data do not translate into completed spells of unemployment.

Table 5. Average duration of unemployment by spells of unemployment, for all persons with some work experience, 1967–78

Year	Total duration of unemployment (in weeks) for people with:			Average spell length (in weeks) for people with:			Total number of spells (in thousands)[2]	Percent unemployed with more than one spell
	1 spell	2 spells	3 spells or more[1]	1 spell	2 spells	3 spells or more[1]		
1967	7.6	13.3	16.5	7.6	6.7	4.7	16,449	31.6
1968	7.2	13.3	16.5	7.2	6.7	4.7	15,681	31.0
1969	7.5	12.4	16.5	7.5	6.2	4.7	16,719	32.2
1970	10.0	15.4	19.1	10.0	7.7	5.5	20,489	33.6
1971	11.8	17.6	20.4	11.8	8.8	5.8	21,515	32.5
1972	11.2	16.4	19.4	11.2	8.2	5.5	20,855	32.6
1973	9.7	15.2	18.3	9.7	7.6	5.2	20,325	32.4
1974	9.8	15.7	18.0	9.8	7.9	5.1	25,569	36.0
1975	14.4	19.2	19.4	14.4	9.6	5.6	27,422	31.3
1976	13.8	18.4	20.3	13.8	9.2	5.8	27,405	32.7
1977	12.9	17.1	18.8	12.9	8.6	5.4	26,399	32.6
1978	12.0	16.1	18.1	12.0	8.1	5.2	24,400	32.5

[1] Assumes average of 3.5 spells.

[2] Excludes persons who looked for work but did not work.

Table 5 contains information on the total duration and average duration by number of reported spells. The last two columns of table 5 show the total number of spells reported and the percent of those who experienced more than one spell of unemployment. The average durations in table 5 are based on the number of persons reporting both some work experience and unemployment. It excludes all persons who looked for work but did not work at all because there is no information on the number of spells of unemployment. The average duration of unemployment was taken as the midpoint of the following intervals: 0–5; 6–10; 11–14; 15–26; and 27–52. This is a simple assumption, but it should not affect the relative values of the estimates because it is used consistently.

The data are suggestive of several phenomena. First, as expected in a retrospective framework, the total number of spells reported is less than the estimated number of spells from table 3. Second, repeat spells seem to be frequent enough that they cannot be ignored when considering the overall experience of unemployment. For example, in 1978, more than 30 percent of all persons with some unemployment reported more than one spell. Many persons with multiple spells of unemployment work in industries that are highly seasonal or cyclical, or both. The construction industry is one of the best examples; whereas in 1978 construction workers made up only about 6 percent of those with work experience, about one-fifth of all persons with 3 or more spells in 1978 were in the construction industry. Production workers in the automobile industry often experience multiple spells of unemployment because of effects of both model changeover and economic downturns. Not all persons who experience multiple spells can be neatly classified into a particular industrial situation, however. There is some evidence that some people are frequently unemployed because they leave jobs to escape from menial tasks and end up moving form one unsatisfactory job to another, often experiencing a spell of unemployment or exiting the labor force for a brief period.

Another important feature of table 5 is that the average duration of unemployment consistently decreases with the number of spells experienced. That is, while the total amount (in weeks) of unemployment increases as number of spells increase, it does so less than proportionately. Similar patterns of diminishing duration for additional unemployment spells have also been found from direct observations of individuals.[30]

Table 5 indicates that the estimated average duration of unemployment is dependent upon the number of spells the average unemployed person will experience. Statistics on the estimated duration of a completed spell of unemployment are underestimates of the total experience of unemployment: persons with a single spell suffer longer average durations than those with multiple spells; those with multiple spells experience more total unemployment than the average because of the multiplicity of their spells.[31]

The concentration of unemployment. The picture presented thus far has focused on the average duration of unemployment and the number of unemployment spells. It is incomplete: the differential impact of unemployment throughout the labor force can change the meaning and significance of the aggregate data. For example, a minority of people may account for the bulk of the total weeks of unemployment within any given period. The same unemployment statistic, however, could indicate a situation in which most people experience a short bout of unemployment at some time, but each only loses a small proportion of his or her potential work time. Not much information is available on this issue primarily because of the difficulties in obtaining unemployment spell histories. Nevertheless, data from the "Work Experience" supplement of the CPS can provide some aggregate information on the distribution of weeks of unemployment. These data will be supplemented by recent information from the Panel Studies on Income Dynamics Survey conducted by the University of Michigan.

Table 6. The distribution of weeks of unemployment, 1969, 1975, and 1978

Duration measure	1969	1975	1978
Percent of labor force unemployed by duration:			
Year-round workers[1]	1.5	0.8	0.6
Other workers[2]			
1 to 4 weeks	4.5	4.5	4.2
5 to 14 weeks	3.8	6.1	5.5
15 to 26 weeks	1.7	4.4	3.2
More than 26 weeks	1.0	4.4	2.3
Weeks unemployment by duration as a percent of total weeks unemployed:			
Year-round workers[1]	1.8	.4	.4
Other workers[2]			
1 to 4 weeks[3]	9.0	3.4	4.8
5 to 14 weeks	28.5	17.3	23.4
15 to 26 weeks	28.3	27.2	29.4
More than 26 weeks	32.5	51.7	42.2

[1] Year-round workers experienced 1 to 2 weeks of unemployment.

[2] Other workers includes those who looked for work but did not work during the year.

[3] Calculations are based on the mid-range of the unemployment duration categories.

Table 6 contains the CPS "work experience" information. It is critical to understand the limitations of the data. From table 2, it was noted that, in the aggregate, the probability of escaping unemployment declined significantly with time unemployed. This will naturally tend to show up as a concentration of unemployment in longer spells simply because the longer a spell has lasted, the lower the probability of escape. Even if the probability of escape for each individual is constant, a large share of unemployment would be the result of the individuals who have lower escape probabilities. To get the "true" picture one must be able to test for heterogeneity between individuals—sorting—or duration dependence—as unemployment lengthens, the escape rate for individuals declines.[32]

Given these caveats, table 6 contains some interesting information. The concentration of unemployment is stark. In 1969, the 1 percent of the labor force unemployed more than 27 weeks accounted for 32 percent of total weeks unemployed. There is also a pronounced cyclical pattern to the distribution. In 1975, the proportion of the labor force unemployed at least 27 weeks jumped fourfold from 1969 and accounted for 52 percent of total unemployment. The distribution in 1978 lies between 1969 and 1975.

Because table 6 provides only annual data and contains no information on spells of unemployment, it is not possible to determine whether the same group of people become unemployed over and over again. Perhaps the most important information is the cyclical pattern; it is exactly what one would predict from an examination of escape probabilities. If nothing else, it is clear that a key to understanding unemployment duration involves explaining its behavior over the course of a business cycle.

A last bit of information on the concentration of unemployment is from a study on the 10-year (1968–77) work history of married adult males.[33] Although the data suffer many of the defects of table 6 (multiple spells in a year are not measured) it does follow the same individuals over a long period of time. The results are fairly consistent with the CPS "work experience" data. A large number of people experienced some unemployment over the 10-year period, but just 5 percent accounted for about half (46.6 percent) of the total time unemployed among the entire sample. The poor, blue-collar workers, and construction workers were disproportionately concentrated in this small group.

Some analysts have claimed such data challenge most theories of the labor market (for example, on search and turnover, dual labor markets, and others) because these theories focus on the relative brevity of completed spells of unemployment and are based on the notion that, except in recessions, jobs are readily available. Yet, the data are neither capable of evaluating the efficacy of various theories nor, more importantly, are they inconsistent with different versions of each theory. The data show only that some people are unemployed a lot; they do not show that jobs are never held between periods of joblessness. Data encompassing unemployment and employment spell histories would be necessary to determine the existence of a group of workers who are more or less permanently unemployed.

THIS ARTICLE has presented one method to estimate the expected duration of a completed spell of unemployment and the number of spells of unemployment. Data and measurement problems associated with unemployment were also discussed. From this review, it is clear that five issues are most important in analyzing unemployment patterns. First, a sharp conceptual distinction exists when measuring the duration of completed spells of unemployment and in-progress spells. In general, the estimates of the average length of a completed spell were about 75 percent of the average of an in-progress spell. Second, duration statistics may be a very unreliable guide on the relative ease of finding work; one necessary complement to the data is analysis of the causes of labor force withdrawal. Third, it is important to gauge the importance of multiple spells of unemployment to adequately interpret duration data. Fourth, information on the concentration of unemployment is important. For example, while most spells of unemployment may be relatively short, most unemployment may be accounted for by those with many spells or with long periods of joblessness. Last, and very important, an understanding of the business cycle and its impact on the labor market is essential to any analysis of unemployment duration. □

FOOTNOTES

[1] See Hyman Kaitz, "Analyzing the length of spells of unemployment," *Monthly Labor Review*, November 1970, pp. 11–20. Kaitz's path-breaking work was the first to estimate the duration of completed spells of unemployment in the United States. For an early application to data from England, see R.F. Fowler, "Duration of Unemployment on the Register of the Wholly Unemployed," Studies in Official Statistics, Research Series 1, London, Her Majesty's Stationary Office, 1968.

[2] Stephen W. Salant, "Search Theory and Duration Data: A Theory of Sorts," *Quarterly Journal of Economics*, February 1977, pp. 39–57 George Akerlof and Brian Main, "Unemployment Spells and Unemployment Experience," Special Studies Paper, Federal Reserve Board, Number 123, Oct. 23, 1978; and Robert Frank, "How Long is a Spell of Unemployment," *Econometrica*, March 1978, pp. 285–301.

[3] Salant, "Search Theory . . . ," has shown that three propositions concerning the measure of interrupted and completed spells of unemployment follow from a knowledge of escape rates: (1) If the probability of escape increases the longer one is unemployed, the expected length of a completed spell, E(C), is greater than the expected length of an interrupted spell, E(T). This results from the fact that interruption bias predominates; (2) If the probability of escape is constant, the two measures, E(C) and E(T), are the same. In this case, the effects of interruption bias and length bias exactly offset each other; and (3) if the probability of escape declines, E(T) is greater than E(C), and the effect of length bias predominates.

[4] See Kaitz, "Analyzing . . . ," for one example of this.

[5] For a discussion of this issue see, John Barron and Wesley Mellow, "Changes in Labor Force Status Among the Unemployed," *Journal of Human Resources* (forthcoming); A. McGregor, "Unemployment Duration and Re-employment Probability," *Economic Journal*, December 1978, pp. 693–706; Stephen Nickell, "Estimating the Probability of Leaving Unemployment," *Econometrica*, September 1979, pp. 1249–66; Anders Bjorklund, "On the Duration of Unemployment in Sweden, 1965–1976," *Scandanavian Journal of Economics*, Vol. 80, No. 4, 1978, pp. 421–439; and Timothy Carr, "A Comparative Study of the Duration of Unemployment of Young and Middle-Aged Men," Center for Human Resource Research, Ohio State University, Columbus, Ohio, 1978.

[6] For more detailed discussion of the gross change data, see Harvey Hilaski, "The Status of Research on Gross Changes in the Labor Force," *Employment and Earnings*, October 1968, pp. 6–13; Robert Pearl, "Gross Changes in the Labor Force: A Problem in Measurement," *Employment and Earnings*, April 1963, pp. IV–X; and Ralph Smith and Jean Vanski, "Gross Change Data: The Neglected Data Base," National Commission on Employment and Unemployment Statistics, Background Paper No. 11, July 1978. A discussion of gross change data from the Canadian labor force survey appears in Frank Denton, "A Simulation Model of Month-to-Month Labor Force Movement in Canada," *International Economic Review*, June 1973, pp. 293–311.

[7] See Smith and Vanski, "Gross Change . . . ," pp. 17–25.

[8] For an extended discussion of these problems see Philip J. McCarthy, "Some Sources of Error in Labor Force Estimates from the Current Population Survey," Background Paper No. 15, National Commission on Employment and Unemployment Statistics, 1978; and Hilaski, "The Status . . . ," pp. 6–13.

[9] See *The Current Population Survey Reinterviews Program, January 1961 through December 1966*, Census Bureau, Technical Paper 19, 1968.

[10] *Ibid.;* and Henry Woltman and Irv Schreider, "Possible Effects of Response Variance on the Gross Changes from Month to Month in the Current Population Survey," Census Bureau, Memorandum, May 11, 1979.

[11] Kim Clark and Lawrence Summers, "Labor Market Dynamics and Unemployment: A Reconsideration," *Brookings Papers on Economic Activity*, No. 1, 1979, pp. 13–72.

[12] See McCarthy, "Some Sources of Error . . . ," pp. 62–76; Barbara Bailar, "The Effects of Rotation Group Bias on Estimates from Panel Surveys," *Journal of the American Statistical Association*, March 1975, pp. 23–30; and "Current Population Survey Rotation Group Bias," presented to the Census Advisory Committee of the American Statistical Association, Mar. 4–5, 1976.

[13] Smith and Vanski, "Gross Change . . . ," pp. 20–21; Smith, Vanski, and others have developed various ad hoc procedures to correct the gross change data. On the basis of recommendations from the National Commission on Employment and Unemployment Statistics, the Bureau of Labor Statistics is beginning an intensive study of the data problems and how they might be corrected.

[14] One such study is Stephen Marston, "Employment Instability and

High Unemployment Rates," *Brookings Paper on Economic Activity,* No. 1, 1976, pp. 169–210. Also see George Perry, "Unemployment Flows in the U.S. Labor Market," *Brookings Papers on Economic Activity,* No. 2, 1972, pp. 245–78.

[15] See Kaitz, "Analyzing . . . ," pp. 11–20; Salant, "Search Theory . . . ," pp. 39–57; and John Barron and Wesley Mellow, "Unemployment Insurance: The Recipients and Its Impact," BLS Working Paper 82, September 1978.

[16] Our estimates differ somewhat from those of Kaitz and Salant. Because they used different methods, it is not surprising. Which results are "best" would be difficult to determine.

[17] Martin Feldstein, *Lowering the Permanent Rate of Unemployment* (Washington, Joint Economic Committee, U.S. Congress, 1973), p. 11.

[18] "Comments and Discussion" on George Perry, "Unemployment Flows in the U.S. Labor Market," *Brookings Papers on Economic Activity,* No. 2, 1972, pp. 245–78.

[19] Robert Hall, "Why is the Unemployment Rate So High at Full Employment," *Brookings Paper on Economic Activity,* No. 3, 1970, pp. 369–402; Richard Edwards, "The Social Relations of Production in the Firm," *Politics and Society,* No. 1, 1975; and Martin Carnoy and Russell Rumberger, "Segmented Labor Markets: Some Empirical Forays," Discussion Paper 75-2, Center for Economic Studies, Palo Alto, 1975.

[20] Both George Perry, "Unemployment Flows . . . ," and Stephen Marston, "Employment Instability . . . ," have emphasized the problems with interpreting duration data because of the possibility of exiting from the labor force. Also see Stuart Garfinkel, "The outcome of a spell of unemployment," *Monthly Labor Review,* January 1977, pp. 54–57; and T. Aldrich Finegan, " The Measurement, Behavior, and Classification of Discouraged Workers," National Commission on Employment and Unemployment Statistics, Background Paper No. 12, June 1978.

[21] Clark and Summers, "Labor Market . . . ," p. 19. Exit from the labor force varies widely among different demographic groups and there may be different explanations for each. Thus, some caution is required in interpretating the aggregate statistics. Furthermore, unless otherwise noted, we have assumed that the labor force movements are real and not the result of misclassification or other errors. Lastly, none of our data are appropriate for explaining unemployment differentials among social groups, for example, teenagers and adults.

[22] Perry, "Unemployment Flows . . . ," pp. 270–75.

[23] See Ralph Smith, "A Simulation Model of the Demographic Composition of Employment, Unemployment and Labor Force Participation," in Ronald Ehrenberg, ed., *Research in Labor Economics,* Volume 1 (Greenwich, Conn., JAI Press, 1977) pp. 259–304; and Ralph Smith and Charles Holt, "Recession and the Employment of Demographic Groups," *Brookings Papers on Economic Activity,* No. 3, 1974, pp. 737–60.

[24] Clark and Summers, "Labor Market . . . ," p. 26. To be classified as discouraged a person must *only* cite reasons of discouragement. If the respondent cites other reasons, such as home responsibilities, even if along with reasons of discouragement, the person is not counted as discouraged. For a more in-depth analysis of discouraged workers, see Finegan, "The Measurement . . . ," pp. 3–11.

[25] Another hypothesis is that the unemployed remain in the labor force in order to collect unemployment compensation. When the benefits are exhausted they withdraw from the labor force. It is doubtful that this is very important in explaining labor force exits overall because the probability of withdrawal is greatest among those groups less likely to be eligible for benefits. In addition, over time, there seems to be no trend in the proportion of unemployment spells that ended in withdrawal, yet there have been important modifications in unemployment compensation, for example, extensions in the benefit period. There is some (tentative) evidence that the unemployment insurance system may induce some labor force participation among those eligible to receive benefits who otherwise might have stopped looking for work. See Gary Solon, "Labor Supply Effects of Extended Unemployment Benefits," *Journal of Human Resources,* Spring 1979, pp. 247–55.

[26] Clark and Summers, "Labor Market . . . , pp. 28–31.

[27] Clark and Summers, "Labor Market . . . ," p. 31.

[28] See Perry, "Unemployment . . . ," pp. 248–78; Marston, "Employment Instability . . . ," pp. 169–210; Richard Disney, "Recurrent Spells and the Concentration of Unemployment in Great Britain," *Economic Journal,* March 1979, pp. 109–19; Richard Freeman and Robert Frank, "The Distribution of the Unemployment Burden," *Review of Economics and Statistics,* August 1978, pp. 380–91; Robert Hall, "Turnover in the Labor Force," *Brookings Paper on Economic Activity,* No. 3, 1972, pp. 709–56; and David Stevens and McNeil Gima, "The 'Incidence' Theory of Black-White Unemployment Differentials Revisited," Unpublished paper, University of Missouri, 1975, pp. 1–16.

[29] See Dale Morgenstern and Nancy Barrett, "The Retrospective Bias in Unemployment Reporting by Sex, Race, and Age," *Journal of the American Statistical Association,* June 1974, p. 356. Clark and Summers, "Labor Market . . . ," argue that a benefit of the work experience data is that its retrospective nature reduces problems associated with "spurious" movements into and out of the labor force.

[30] Stevens and Gima, "The 'Incidence' Theory . . . ," pp. 5–7.

[31] Similar results have been obtained using data from the National Longitudinal Survey. See Akerloff and Main, "Unemployment Experience . . . , " pp. 14–18.

[32] One attempt to test this using data from England is contained in A. McGregor, "Unemployment Duration . . . ," pp. 693–706. The results, though not flawless, suggest that individual escape rates do decline with time unemployed even after controlling for other characteristics.

[33] Martha Hill and Mary Corcoran, "Unemployment among family men: A 10-year longitudinal study," *Monthly Labor Review,* November 1979, pp. 19–23. Disney, "Recurrent Spells . . . ," presents estimates of the concentration of unemployment among three cohorts of males in England. The results are similar to those of Hill and Corcoran.

Construction machinery industry posts slow rise in productivity

Growth was slower than manufacturing average in 1958–78, with 4 years recording declines, despite considerable capital expenditure and new technology; 1977–78, however, showed strong productivity advances

JOHN DUKE

Output per employee-hour in the construction machinery industry rose at an average annual rate of 2.0 percent between 1958 and 1978,[1] compared with a 2.6-percent rate for the entire manufacturing sector. This was the result of an average annual increase of 4.5 percent in output, and 2.5 percent in employee-hours. (See table 1.) The long-term trend was marked by cyclical swings. In 1977 and 1978, there were strong gains.

Productivity declines occurred in 4 of the 21 years between 1958 and 1978. In two of them, 1959 and 1968, increases in employee-hours exceeded output gains. In the other two years of decline, 1960 and 1975, productivity fell because sharp drops in output exceeded reductions in employee-hours.

The long-term gain in productivity resulted mainly from innovations in the machining and welding operations at the industry's plants, and from improvements in handling and storing materials. Computerization of accounting functions also helped to increase productivity.

Following 2 years of decline in 1959 and 1960, productivity increased at an average annual rate of 4.8 percent per year during 1960–65, induced largely by a strong rise in output, averaging 9.1 percent per year. Between 1965 and 1970, productivity slowed to an average rate of only 0.8 percent per year, as output gains slackened to an average annual rate of 2.4 percent. Productivity rebounded once again in the early 1970's, increasing at an average annual rate of 4.4 percent between 1970 and 1974, with output increasing 11.8 percent. Output per employee-hour declined 6.9 percent in 1975, as output fell 12.8 percent, but rose again in 1976, by 1.6 percent, when a 4.7-percent drop in output was exceeded by a decrease in employee-hours. Productivity rose by 5.0 percent in 1977 and 2.8 percent in 1978 as output recorded strong gains.

The construction equipment industry produces a variety of machines for earthmoving, hauling, lifting, grading, and paving. The machines are used not only in the construction industry, but also in mining, logging, railroad track maintenance, agriculture, and military operations.

Most construction equipment has not undergone major change over the past 20 years, but there has been a steady increase in the size, power, and flexibility of the machinery produced. For example, in 1958 only about 15 percent of new crawler tractors had greater than 160 horsepower. By 1977, nearly 40 percent were that powerful.[2] Demand for more powerful machines has come from construction contractors seeking to boost the efficiency of their operations.

Table 1. Productivity and related indexes for the construction machinery industry

Year	Output per employee-hour			Output	Employee-hours		
	All employees	Production workers	Nonproduction workers		All employees	Production workers	Nonproduction workers
1958	90.1	97.4	73.0	62.6	69.5	64.3	85.8
1959	84.4	86.3	78.9	74.0	87.7	85.7	93.8
1960	75.5	80.4	63.7	63.2	83.7	78.6	99.2
1961	82.7	86.8	72.6	59.0	71.3	68.0	81.3
1962	89.8	92.0	83.6	67.5	75.2	73.4	80.7
1963	90.9	91.3	89.7	73.1	80.4	80.1	81.5
1964	94.4	93.2	98.3	85.4	90.5	91.6	86.9
1965	96.9	95.3	102.2	91.4	94.3	95.9	89.4
1966	98.5	94.9	111.9	94.3	95.7	99.4	84.3
1967	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1968	99.6	101.5	94.1	104.3	104.7	102.8	110.8
1969	100.7	101.0	99.5	107.1	106.4	106.0	107.6
1970	101.0	103.6	93.9	99.4	98.4	95.9	105.9
1971	103.9	107.9	93.1	94.3	90.8	87.4	101.3
1972	111.4	112.5	108.0	114.5	102.8	101.8	106.0
1973	113.2	113.1	113.5	132.9	117.4	117.5	117.1
1974	119.9	119.9	119.9	146.3	122.0	122.0	122.0
1975	111.6	114.6	103.2	127.6	114.3	111.3	123.6
1976	113.4	120.6	96.0	121.6	107.2	100.8	126.7
1977	119.1	124.4	105.0	135.5	113.8	108.9	129.0
1978	122.4	127.2	109.6	151.3	123.6	118.9	138.1
	Average annual rates of change (percent)						
1958–78 ...	2.0	2.0	2.0	4.5	2.5	2.5	2.4
1973–78 ...	1.1	2.2	–1.8	1.1	0	–1.1	2.9

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Output doubles

Output of construction machinery more than doubled over the 1958–78 period. The increase was generated by expanding overall construction activity and strong export demand. The value of total new construction (in constant dollars) rose 60 percent during 1958–72, before turning flat in 1973, and dropping sharply in 1974 and 1975. Since 1975, new construction has risen nearly 20 percent.[3] Exports of construction machinery, which currently account for nearly one-third of U.S. production, almost quadrupled between 1960 and the mid-1970's. Construction and related activities in foreign countries during this period rose considerably faster than did U.S. construction, providing a strong impetus to U.S. exports.[4]

Although overall construction activity remains the most important determinant of construction equipment output, the cyclical and year-to-year variations in construction equipment output during 1958–78 did not always closely follow changes in construction activity. One reason is that the use of construction equipment varies greatly, depending upon the type of construction. The different types have widely varying ratios of cost between construction equipment and total contract.[5] For example, in the construction of single family housing, machinery is a relatively minor factor, while for projects such as sewer lines and highways, large amounts of construction equipment are employed. Some types of construction machinery, such as crawler tractors and tractor shovel loaders, are used to prepare many kinds of construction sites, making it difficult to associate changes in production of these units with those in specific construction markets.

Changes in output in the industry were large over the period. In only 5 years were year-to-year output changes less than 6 percent. After an 18-percent increase in 1959, when nearly all segments of construction activity showed strong gains, output fell by 15 percent in 1960. This decline resulted from a downturn in many construction markets, and from the existence of a large inventory of machines in operation. The downturn continued with a 7-percent drop in 1961. Sustained high levels of construction and an expansion in exports during 1962–65 led to strong increases in construction machinery output, particularly in 1962 and 1964, 14 percent and 17 percent, respectively.

After 1965, output gains narrowed, as activity in many construction markets dropped from the high levels of the early 1960's. An acceleration in exports during this period helped maintain continued increases in output. Declines in construction activity during 1969–70 led to an output drop of 7 percent in 1970 and 5 percent in 1971. But output rebounded during 1972–74, posting consecutive gains of 21 percent, 16 percent, and 10 percent for the 3-year period. Expanding construction activity boosted demand for construction equipment in the United States; foreign demand for U.S.-built machinery soared during 1973–74, aided by changes in the relative values of national currencies. The severe drop in construction activity during 1974–75 caused machinery output to fall sharply, 13 percent in 1975, despite continued strength in foreign demand. The decline continued into 1976, with a 5-percent decrease. Output rebounded in 1977 and 1978, rising 11 and 12 percent, in response to the upturn in construction.

Employment and investment

The construction machinery industry is characterized by large scale production. In 1977, the average plant employed 169 persons, more than triple the average of 53 employees for the entire manufacturing sector. Establishments with 500 or more employees account for more than two-thirds of industry's value of shipments. Industry operations are concentrated in the North Central region of the United States, with more than three-fourths of employment located in those States.

Between 1958 and 1977, the number of establishments rose 57 percent to 910. The increase was somewhat less than the gain in employment, resulting in a slight rise in the average number of employees per plant. The increase in establishments was associated with a slight shift in industry operations to the Southern region. The number of establishments in the South doubled during 1958–72 to 162, raising the South's regional share of employment in the industry from 5 to 11 percent.

Currently at 165,000 persons, employment in the construction machinery industry rose 74 percent during 1958–78. However, the upward trend was not steady; employee-hours fluctuated considerably over the period, because of large swings in output. For example, output rose 18.2 percent in 1959, with a 26.2-percent gain in employee-hours. In 1961, employee-hours dropped 14.8 percent, following 2 consecutive years of declines in output. Sharp output increases in 1964, 1972, and 1973 accompanied large increases in employee-hours in those years.

Production workers accounted for 72 percent of total employment in the industry during 1978, virtually unchanged from the 1958 proportion, and about the same as the manufacturing average. Women accounted for only 8 percent of total employment, compared with 30 percent for manufacturing as a whole. Hourly earnings averaged $8.01 in the industry, about 30 percent above the manufacturing average. Regional and skill factors as well as the high degree of unionization account for the higher wage levels.[6] The North Central region, where construction machinery manufacturing operations are concentrated, had earnings about 10 percent above the average for all manufacturing, according to 1972 Census data. Skill levels in the industry are also above the average for manufacturing in general. Professional, technical, and kindred workers accounted for 11.8 percent of construction machinery employees, while total manufacturing had 10.2 percent of its employees in such positions. Crafts and kindred workers represented 21.4 percent of workers in the industry, while manufacturing in general had 19.7 percent of its employees in these positions. Although the proportion of operatives (less-skilled employees) was only slightly lower (39.4 percent) for this industry than for the manufacturing average (42.2 percent), almost half of these employees in construction machinery were semiskilled metalworkers, whose earnings exceed that of most other groups of operatives.

Labor turnover in the industry has been well below that for all manufacturing during 1958–78. For example, in the average month of the study, quits per 100 employees were 1.0 for construction machinery and 1.9 for all manufacturing. New hires and layoffs per month averaged 1.7 and 1.0 percent, respectively, for this industry, compared with 2.8 and 1.6 for all manufacturing.[7] The comparatively low rates of turnover reflect the above-average skill levels and high degree of unionization in the industry. Firms are more reluctant to lay off skilled employees during downturns, because of the cost of training new employees when production again increases. Also, unionized workers resign less frequently.[8]

Capital expenditures per employee averaged $3,212 in 1977, considerably above the $2,587 average for all of manufacturing. However, above-average capital expenditures did not occur in the industry until the mid-1970's. Industry expenditures per employee in 1958 were below that of all manufacturing but rose faster during the study period, 10 percent per year on average, compared with 8 percent. Total assets per employee per establishment were $21,879 in 1976, below the $22,326 all-manufacturing average, but they had risen slightly faster than average since the early 1960's. Nearly half of the capital expenditures for equipment during the mid-1960's went for machine tools.[9] Although no precise data are available on the proportion of machine tools that are numerically controlled, industry sources indicate that the use of these tools increased significantly during the late 1960's and the 1970's.

Technological gains

The basic processes in the production of construction machinery, parts machining, heat treating, welding and fabrication, and assembly, did not change significantly during 1958–78. However, there were productivity gains from gradual technological improvements in them. Capital investment in improved machine tools with increased horsepower, and faster operating speeds, have increased productivity in the machining processes. Numerical control has speeded up the machining of parts. This involves the automatic setting of machining angles, speeds, and feeds by electronic control units. Tools such as gear cutting and grinding machines have been used for many years, but the operator had to manually place the material into position, set the speeds for the feeding and machining of the material, and monitor the machining process. Numerical control is considerably faster and allows one operator to monitor several machines.[10] Since the mid-1970's, the industry has been investing in manufacturing systems, comprised of groups of machine tools linked by material handling equipment, which greatly reduce machine set-up and component handling time.[11]

The heat treating process has been largely unaffected by technological changes in the industry. Machined parts are fed into a furnace, heated, and then quenched in oil or water. This process strengthens the parts and relieves stress, for greater durability. Feeding parts through the furnace automatically has been introduced, but the process has remained mostly a manual operation.

There have been significant labor-saving innovations in welding operations in construction machinery manufacturing plants during 1958–78. In earlier years, the most prevalent welding techniques produced "slag," a film of debris that had to be cleaned from the weld surface. In the early 1960's, improved welding techniques were introduced which produced very little slag. Their rapid diffusion greatly reduced the labor time in cleaning welded parts. Also, the new welding process is quicker; the welding electrode is continuously fed to the welding surface. Under the old process, individual "sticks" of electrode material were used and replaced manually.

Other improvements include the introduction, in some plants, of conveyor systems to transfer parts between stations. These systems, which have been replacing hand carts, reduce bottlenecks in the production flow. The introduction of computers has saved labor in purchasing and accounting functions, and has helped maintain better inventory control.[12]

Future developments

Although the pace of construction activity is difficult to predict, some factors that will probably affect construction machinery demand in the near future are evident. The interstate highway system, which helped boost purchases of construction equipment in the late 1950's and 1960's, is more than 90 percent complete, and real expenditures for construction of new highways and streets have trended downward since 1970. In addition, export demand for construction equipment, which had risen rapidly in the early and mid-1970's, may stabilize. Foreign manufacturers are becoming increasingly competitive in the construction machinery market, and U.S. subsidiaries abroad are also increasing their market share. These factors portend a slackening in the years ahead in the booming export market for U.S.-built construction equipment. However, offsetting these factors will be increased demand from specific domestic markets. Sewer and water projects are expected to increase significantly, due to pollution control mandates. Also, mining, particularly strip-mining of coal, should show a strong rise in the near future, increasing the demand for large excavating and earthmoving machines. Overall, construction equipment output is expected to grow about 3 percent per year over the next 5 years, significantly below the long-term rate.[13]

The slackening in demand anticipated for the next few years will tend to retard productivity improvement. However, the quickening pace of adoption of technological innovations should offset this to some extent. Investment in numerically controlled machine tools is expected to increase, with emphasis on more flexible machines that can perform a number of different functions. Many machines in the industry have limited capabilities, and the set up and material handling time inherent in them have proven to be bottlenecks in the production flow. The low volume of production for individual types of construction equipment, combined with the specialized nature of most conventional machine tools, has limited the diffusion of numerical control. In recent years, however, advanced manufacturing systems have been developed which greatly facilitate smooth production flow and which are efficient for the low-to-medium volume in the industry. Capital expenditures increased greatly during the mid-1970's and there is evidence that a significant amount is being invested in these advanced systems.[14] The industry's substantial investment in this equipment should cause productivity gains to accelerate. □

FOOTNOTES

[1] The construction machinery industry is composed of establishments primarily engaged in producing heavy machinery and equipment used by the construction industries; it produces items such as bulldozers, concrete mixers, cranes, pavers, and power shovels. It is designated as industry number 3531 in the *1972 Standard Industrial Classification Manual* of the Office of Management and Budget. Data for this productivity measure first became available in 1958. All average annual rates of change are based on the linear least squares trend of the logarithms of the index numbers. A technical note describing the methods used in the construction of the indexes is available upon request.

[2] *Current Industrial Reports*, series M35S and MQ35D (Bureau of the Census) July 1958, 1959, 1977, September 1978).

[3] *Construction Reports*, series C30-74S, December 1975 and C30-80-2, April 1980 (Bureau of the Census).

[4] Out of 51 countries, 47 had higher rates of growth in construction between 1960 and 1970 than did the United States *Statistical Abstract of the United States 1974*, (Bureau of the Census, 1974), p. 823.

[5] Bureau of Labor Statistics, Office of Productivity and Technology, Division of Technological Studies.

[6] A recent study by the Bureau of Labor Statistics found that the weekly earnings of workers represented by labor organizations were 18 percent higher than those of workers not represented. *Earnings and Other Characteristics of Organized Workers May 1977*, Report 556 (Bureau of Labor Statistics, 1979).

[7] The turnover rates cited here for construction machinery actually comprise both construction and mining machinery. However, because construction machinery employs about 80 percent of the total work force in both groups, these rates should be representative for construction machinery alone.

[8] See Charles Brown and James Medoff, "Trade Unions in the Production Process," *Journal of Political Economy, 1978*, Volume 86, No. 3, p. 357.

[9] *Interindustry Transactions in New Structures and Equipment, 1963 and 1967, Volume 2*, U.S. Department of Commerce, Bureau of Economic Analysis, September 1975.

[10] See Lloyd T. O'Carroll, "Technology and Manpower in Nonelectrical Machinery," *Monthly Labor Review*, June 1971, p. 58-59.

[11] See, for example, Raymond J. Larsen, "Taking the Wraps Off Flexibility in Manufacturing," *Iron Age*, Nov. 20, 1978, p. 75-91.

[12] Information on technological developments was provided by various industry representatives.

[13] *U.S. Industrial Outlook 1980*, Domestic and International Business Administration, U.S. Department of Commerce, January 1980.

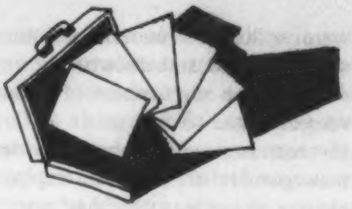
[14] Jack Thornton, "Big Metalcutting Systems," *American Metal Market*, Nov. 12, 1979.

APPENDIX: Measurement techniques and limitations

The productivity indexes in this study measure the change over time in industry output per unit of labor input. They do not measure the specific contribution of labor, but reflect the influence of many factors such as technology, capital investment, and managerial skills, as well as skill and effort of the work force.

The output index for this industry is based upon value of shipments data, published by the Bureau of the Census. Detailed data from the Census of Manufactures for 1958, 1963, 1967, and 1972 were used to derive benchmark indexes, to which the annual indexes for intervening years, based on the Annual Survey of Manufactures, were adjusted. The value of shipments of the various product classes were adjusted for price changes by appropriate Producer Price Indexes to derive constant dollar output measures. These, in turn, were combined with employee-hour weights to derive the overall output measure. Employment and employee-hour indexes were derived from Census and Bureau of Labor Statistics data. Employees and employee-hours are considered homogeneous and additive, and thus do not reflect changes in the qualitative aspects of labor such as skill and experience of persons constituting the aggregate.

Conference Papers



Although the phrase "quality of worklife" has been part of the industrial relations vocabulary for more than a decade, the concept has not yet found wide acceptance. Some practitioners view it with enthusiasm, others with cynicism. Among the former are Stephen H. Fuller, a vice president of the General Motors Corp., Irving Bluestone, who recently retired as a vice president of the United Auto Workers, and Barry A. Macy, director of the Texas Center for Productivity and Quality of Work Life. Fuller and Macy spoke at last December's annual meeting of the Industrial Relations Research Association in Atlanta, Ga., Bluestone at a December conference on "Critical Economic and Work Force Issues Facing Western Nations," sponsored by the Work in America Institute and the International Institute of Labor Studies in Washington, D.C.

How quality-of-worklife projects work for General Motors

STEPHEN H. FULLER

Quality of worklife is not a happiness program, although happy employees may certainly be a byproduct. It is not a personnel department program, although quality of worklife has important implications for personnel management. It is not a sublte employee incentive program, although employees motivated to achieving the goals of the organization certainly ought to be one of the outcomes. And, it is not another productivity program, although better productivity is certainly one of the important results.

Quality of worklife *is* all of these things and more:

- A continuing process, not something that can be turned on today and turned off tomorrow.
- Using all resources, especially human resources, better today than yesterday . . . and even better tomorrow.
- Developing among all members of an organization an awareness and understanding of the concerns and needs of others, and a willingness to be more responsive to those concerns and needs.
- Improving the way things get done to assure the long-term effectiveness and success of organizations.

General Motors is making a concerted effort to improve the quality of worklife for its employees. Projects are underway in most North American operations and in many overseas operations as well. The approach was not developed overnight. It evolved from a philosophy of management, shaped by events and experiences occurring over a considerable period of time.

A key component of our quality-of-worklife process is union participation. Quality of worklife became a joint effort of General Motors and the United Auto Workers in 1973, when a National Committee to Improve the Quality of Work Life was established. Representing the UAW on the committee are two officials of the international union. The corporation is represented by two personnel officers. The committee meets periodically to discuss activities underway in the corporation. One of its chief functions is to educate executives of the union and the corporation in order to encourage cooperative quality-of-worklife ventures at the local level.

The committee adopted minimum standards to assure that every GM plant has the basics of a quality-of-worklife effort. Each operation is expected to have:

- A group to oversee the quality of worklife process.
- A statement of long-term objectives incorporating quality of worklife along with other desirable business targets.
- Regular measurement of quality of worklife.
- Seminars and other activities to make the organization more knowledgeable about quality-of-worklife concepts and techniques.
- Adequate internal resources and skills to assure the developmental process is moving ahead and accomplishing its objectives.

Approaches vary

A quality-of-worklife improvement program is mandatory at GM, however, specific approaches are optional. Following are some examples of approaches being applied at existing and new plants.

A decade ago, one of our assembly plants could have been characterized as a problem plant. There was an air of hostility between management and the union. Costs were high. Performance was poor. Something had to be done. Fortunately, the local management and union

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Stephen H. Fuller is a vice president of General Motors Corp.

were willing to undertake some initiatives. As both sides explored and discussed their mutual problems and concerns, an atmosphere of understanding and mutual respect began to emerge. In 1972, the plant faced a major rearrangement which provided an opportunity for management to involve employees in planning the change, something that had not been done before. The rearrangement went well, due, in part, to the employees' suggestions.

Then, following the lead set by the GM-UAW National Quality of Work Life Committee, plant management and the union established their own committee. In 1977, management and the union initiated a 3-day training program providing employees at the plant training in team problem-solving. Although the program was voluntary, nearly all of the 3,600 employees participated. Today, employee morale at that plant is high, grievances are only a fraction of what they were a decade ago, and the plant has become one of the best-performing assembly plants at General Motors.

Another GM plant abandoned the traditional organizational structure a few years ago. Today, the plant is organized into six business teams, each consisting of the necessary production activities and support elements: engineering, scheduling, material handling, quality control, maintenance, and accounting. The system has made support employees an integral part of the plant's business operations. The quality-control circle concept, which has flourished in Japan and is being introduced by a growing number of firms in this country, has been incorporated into the business-team structure. The circle concept gives employees the opportunity to meet regularly to discuss problems affecting their work environment and the plant's performance.

These are only two of many approaches underway in established GM plants. New plants provide a unique opportunity to design an organization from a blank sheet of paper. Free from the constraints of past practice and stereotyped roles, each plant is an opportunity to introduce new approaches.

There are three important considerations underlying quality-of-worklife initiatives in new plants: (1) there is no best system or organizational design, (2) there is an ongoing interaction among the parts of the system—a change in one part of the system can have a significant impact on the entire system, and (3) each part of the system must reinforce consistency of operations and facilitate employee involvement.

To achieve an organizational system in which each part is congruent with the rest, careful consideration is given to the basic values, principles, and objectives held by local management. The development of a philosophy and goals is viewed as a necessary first step in the planning process. (The philosophy and goals are statements reflecting the local management's beliefs about people and work and the relationship between those beliefs and the plant's objectives.)

A team concept is a major feature of many new GM plants. Job rotation within the team is encouraged. Employees thus acquire broader skills which, in turn, allows for greater flexibility in performing all of the tasks within the team. This concept tends to promote employee involvement and satisfaction, and to minimize the disruptive effects of occasional absenteeism and turnover. Employees are encouraged to move from one team to another once they have learned all of the jobs in the team. This further adds to the fulfillment of employee interests and to the expansion of experiences and achievements.

The team concept encourages employee responsibility and involvement. For example, employees may have responsibility for training team members; assessing individual team members' progress in satisfactorily performing job assignments; forecasting efficiency, scrap, and manpower requirements in their operating areas; recommending corrective action for improper conduct of team members; contributing to the selection of new employees; selecting team leaders; and maintaining operation of tools and equipment within process standards.

Employee-management communications essential. In our plants, emphasis is placed on effective communication, particularly face-to-face communication. It begins with the orientation, which includes, in addition to traditional topics, a thorough review of the plant's philosophy and goals. Periodic plant meetings and team meetings are used to discuss aspects of the business—for example, quality, schedules, scrap and rework, housekeeping, safety, employee facilities, production facilities, and customer orders. There also is ample opportunity for employees to discuss their concerns with management.

The role of the personnel department at General Motors is to facilitate the development of the quality-of-worklife process by consulting with management, with employees, and with their elected representatives. Well-conceived and effectively administered personnel programs are absolutely essential for a strong quality-of-worklife effort.

One such program is a system of redress for those employees not represented by a union. A formal "open door policy" is one approach, but it must have the support of all levels of management. An effective appraisal system for all employees, including managers and executives, also is essential. The appraisal also should evaluate managers' support and implementation of quality-of-worklife principles.

Training for all employees is an absolute necessity. If employees are to be involved in the decisionmaking process, if they are to grow and develop, they must have the opportunity to acquire the necessary knowledge and skills.

Finally, it is necessary to have a statement of philosophy that spells out the general role workers have in the organization and how they are to be treated. A statement of philosophy that represents the consensus of senior management provides a basis for encouraging managerial behavior consistent across plants and functions. The philosophy also lets employees know how they can expect to be treated.

All efforts at General Motors require a firm commitment at the top levels of the corporation. Such support, combined with a variety of successful projects has led to the creation of a quality-of-worklife program in nearly all plants. This does not mean that GM has all the answers or that quality of worklife is fully developed in General Motors. There is much to be done, but the corporation is on the right track and making progress.

Future of the projects

An important shift in union-management relations began in the decade of the 1970's. Unions and management showed a willingness to explore new alternatives and, in some instances, levels of cooperation once thought impossible produced dramatic results. What about the decade of the 1980's? What is the future of quality of worklife in America?

Two critical forces will have a significant impact on the future of quality-of-worklife projects. One is the changing values of workers. Increased sense of entitlement, disregard for authority, and a general low esteem of our institutions have been major factors in the developmental years of quality of worklife. Today's workers place less emphasis on material achievement and more on personal fulfillment. The value shift of Americans will significantly impact the future of quality of worklife.

The second force is economic. While business is being challenged to respond to dramatically changing values, our country is facing economic problems. The fact is, the United States is locked in a fiercely competitive economic struggle which could have either a positive or negative impact on quality of worklife—positive if it leads to innovative solutions and negative if it results in simply greater emphasis on traditional approaches.

Our Nation's poor productivity improvement rate is a major factor contributing to our economic ills. The problem has not come about overnight. Between 1947 and 1967, output per hour of work in the United States nearly doubled. Since 1967, output per hour worked has risen only about one-fifth. And in 1978, the U.S. productivity growth rate was an alarming one-half of 1 percent, a dismal performance compared to the rate of growth of other major industrial nations, particularly Japan.

In the past, America has been able to compete with cheap overseas labor because of our capital investment. In 1978, however, capital investment per worker in this country amounted to less than $3,700, compared with nearly $5,000 per Japanese worker. There are many factors in addition to capital investment which contribute to Japan's envious productivity growth rate. Among them are government policies and programs that actively support economic expansion, technological innovation, harmonious union-management relations, and a totally dedicated work force. Group goals are far more important than individual successes in the Japanese structure.

I do not think we can ignore the traits present in the Japanese system. In this country, we have been overly loyal to organizational tradition. But, today, we cannot afford not to take new risks. The joint efforts of business, government, and labor are essential if we are to respond to the needs of a changing workforce and resolve our economic problems.

Stumbling blocks. As we push forward the frontiers of quality of worklife there are some formidable obstacles to overcome. One is the issue of control. Should control be viewed as external to the individual, as provided for through a supervisor and shop rules? Or should it lie within the individual's self-regulating ability and value system and based upon mutual influence and interest that leads to "win-win" rather than "win-lose" relationships? Moving from external to self-regulating sources of control would seem to be consistent with the quality-of-worklife viewpoint. How much training and how much information is management willing to provide if employees are to be self-regulating? Many organizations in the past have been cautious about sharing information, particularly financial information, for fear employees will use this knowledge to make "unfair" claims on the enterprise. □

How quality-of-worklife projects work for the United Auto Workers

IRVING BLUESTONE

In 1973, in bargaining with General Motors Corp. for a new national agreement, the United Auto Workers (UAW) proposed the establishment of a National Joint Committee to Improve the Quality of Worklife. The parties agreed to a document which set forth their gen-

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Irving Bluestone recently retired as a vice president of the United Auto Workers and director of the union's General Motors department.

eral understanding on the subject and pledged to urge their respective local managements and local unions to cooperate "in (quality-of-worklife) experiments and projects."

How, where, and when to go about the task were left open for the parties to consider. Over time, certain generalized concepts have become accepted. However, the approach varies in each situation because the program is not imposed from the top down, but must be cooperatively and voluntarily developed and implemented from the bottom up—at the local union-management level.

Today, there are approximately 50 quality-of-worklife programs in UAW-GM bargaining units. Most are still in the early stages—an indication that such programs are not "instant utopias" but rather follow a slow, cautious, deliberate pace.

How did the UAW and GM go about setting up a quality-of-worklife program? What were the "nuts and bolts" steps taken and how were they implemented? While no two projects are identical, the following describes in concrete terms what happened.

The fact that the National Joint Committee to Improve the Quality of Worklife exists and urges the local parties to consider undertaking a project supplies the initiative to create interest in the subject. A local management may contact the local union shop committee (or vice versa) suggesting the local parties discuss the possibility of initiating a quality-of-worklife project. The local union as a rule will contact the international union and ask for a thorough explanation of the concept, how it works, what it entails, and its advantages and disadvantages.

An international union representative will meet with the local union official and describe in detail the meaning and purpose of the concept and what has been done elsewhere and why. The representative will set forth certain guiding principles which are usually agreed upon as a basis for proceeding:

- There must be no increase in production standards as a result of the quality-of-worklife program—an assurance against speed-up. (Naturally, increased production due to technological change is another matter.)
- There must be no loss of jobs as a result of the program—an assurance of job security. (Obviously, layoffs due to business cycles are another matter.)
- The provisions of the national agreement and of the local agreements and practices remain inviolable.
- The program will be voluntary. No worker will be compelled to participate.
- The union representatives will be involved in all aspects of the program—sharing with management equally in the development and implementation of the program.
- Either party may cancel the program at any time—an assurance against either being tied to a project in which it has lost faith.

The local, after full discussion, will decide whether to proceed. It is advised to "go slow," to experiment with a pilot project at first and approach the program on a "cut and try" basis. The local understands that normal collective bargaining continues, that a quality-of-worklife program will not solve all the plant problems.

In the UAW-GM approach, no separate quality-of-worklife committee is formed. The local union shop committee—the elected representatives of the workers for purposes of handling grievances and bargaining—is the union counterpart in the program. This avoids any conflict in determining which subjects fall within the purview of adversarial collective bargaining and which are subject to the cooperative effort of quality of worklife.

A quality-of-worklife program cannot succeed unless the local parties develop a collective bargaining climate of mutual respect, a climate in which solving problems supersedes beating the other party down. Therefore, the first phase, before the parties can move significantly toward worker participation programs, entails fostering a mutually respectful relationship as the groundwork for a program which will involve the workers directly.

This is no overnight task. It may take months of getting together and talking things through. Essentially the problem is attitudinal, and breaking down distrust and cynicism on both sides is a slow but extremely rewarding process.

Once phase one is well underway, the road is paved for the local parties to embark on pilot projects in which workers on a volunteer basis become involved in problem solving and participate in making decisions regarding the workplace which, heretofore, have been denied them. By now, the parties have learned to work together more cooperatively. Without pervasive rancor and suspicion beclouding their efforts, they can join mutually in analyzing the problems which trouble the workers and create the opportunity for workers to help resolve them.

The overriding consideration is that all decisions are by mutual desire and consent at the local level. Neither the corporation nor the international union instructs the local parties; each is merely a catalyst (to advise and consult) when called upon.

There is ample evidence that the introduction of a quality-of-worklife program has a salubrious effect upon the adversarial collective bargaining system. For example, simultaneously with national negotiations between the UAW and GM, the local parties negotiate on local issues, including seniority, transfer, shift preference, equalization of overtime agreements, and other proposals to improve working conditions and health and safety, grievances, and other issues. Of the first 90 local settlements in 1979, all of which were accomplished without a strike threat, 44 were engaged in some stage of a quality-of-worklife program. Considering there are about 50 programs at GM, this represents a noteworthy achievement.

Studies at locations where a quality-of-worklife program has existed long enough to be meaningful indicate a more constructive collective bargaining relationship; a more satisfied workforce; improved product quality; a reduction in grievance handling, absenteeism, labor turnover, and disciplinary layoffs and discharges.

These are all mutually desirable objectives; they represent benefits for the workers and advantages for both the union and the management. But above all, from the workers' point of view, they add up to one of the most fundamental objectives of unionism: the enhancement of human dignity and self-fulfillment at work.

For decades, we have heard corporation executives exclaim: "Our workers are our most valuable resource." Quality-of-worklife programs are designed to make that slogan a reality. How? By altering the autocratic climate of the workplace and providing workers, through their union, with the opportunity to participate meaningfully in the decisionmaking process at the workplace; by focusing management's orientation toward concern for the needs and aspiration of the workers; and by creating an atmosphere of cooperative effort between union and management to achieve the above noted objective. □

The quality-of-worklife project at Bolivar: an assessment

BARRY A. MACY

The quality-of-worklife project[1] at Harman International Industries, Inc., in Bolivar, Tennessee, is a cooperative change effort between the company and the United Automobile Workers of America (UAW). The project is structured so that both parties can jointly determine and implement organizational change according to mutually agreed-upon principles. The objectives of the project are to improve employees, quality of worklife and enhance organizational effectiveness.

The explicit internal goals were identified as job security, job equity, worker humanization, and worker democracy. These were ambitious undertakings in 1973—ahead of their times in many respects—particularly because they were shared and agreed to by both labor and management. However, some of the objectives of the project have been reached and surpassed, while others have yet to be reached. Other outcomes and critical process events are discussed in an assessment study by Macy and others.[2]

According to the five intervention phases of the Bolivar experiment, each composed of 11 months beginning with the baseline phase through plant-wide experimentation to coincide with the change program, the following changes were measured:

Job security. More jobs were created, as the hourly employment level rose 55 percent to 839. Once the program was underway, the cooperative union-management climate stimulated an effort to develop a joint bid on a particular product, and the company and the UAW established joint efficiency rates with the goals of increasing employees' quality of worklife and improving job security. Ultimately, this venture saved 70 jobs. Voluntary turnover rates declined by 72 percent, while involuntary turnover (discharges, retirements, and so forth) rates decreased by 95 percent.

Health and working conditions. Accident rates, as defined by the Occupational Safety and Health Administration, declined 60 percent, while minor accidents decreased 20 percent even with the presence of many new and inexperienced employees. Rates of short-term absences due to sickness declined 16 percent. However, not all of the changes were favorable, as the rate of minor illnesses rose 71 percent and the rate of medical leaves increased 19 percent. (Perceptions of Bolivar employees' health appear later in this report.)

Financial security. The average hourly rate remained constant and the wage rates relative to area standards did not change (during this time, the wage rates for the whole country did not increase relative to real wages). The fringe benefit package increased by a small amount. Proposals for the introduction of a gain-sharing compensation plan (a negotiable issue) were discussed but none was adopted.

Job security based on organizational performance. Daily output per hourly-paid employee, adjusted for inflation, rose 23 percent. Two other measures of productivity—efficiency and standard performance—verify this positive change in plant performance. On the product side of the financial ledger, net product reject cost rates declined 39 percent, while the rate of customer returns decreased by 47 percent. Once again, not all was positive

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as the rate of manufacturing supplies used rose 22 percent and the rate of machine downtime increased slightly. What is so striking about productivity and product quality at the Harman International plant is the fact that both of these performance measures increased. Moreover, these measures have held positive and significant trends for approximately 3 years. Some of the gains are attributable to technological and capital inputs; however, many can be attributed to the cooperative labor-management change.

Cost-benefit. The cost-benefit calculations for the project reflect the program costs and benefits per hourly-paid employee per phase, summed over 55 months. The results show a net discounted benefit per hourly-paid employee to the company of more than $3,000. There are multiple reasons for this net savings, but nevertheless, the plant improved its performance through a combination of forces, including the cooperative quality-of-worklife program.

In summary, the evidence shows that because of the quality-of-worklife program, jobs objectively became more secure; productivity and product quality rose; accidents decreased at a faster rate than their industry average; minor accidents declined while minor illnesses rose; short-term absences due to sickness declined; manufacturing supplies and machine downtime increased; and employee earnings held steady. Also, grievances decreased 51 percent and absences due to lack of work decreased 94 percent.

Table 1. Assessment of quality-of-worklife indicators and work environment characteristics

Gains	No change	Losses
	QUALITY OF WORKLIFE	
Less alienation	Job satisfaction	More reports of physical stress symptoms
Treated in a more personal way	Job offers opportunity for personal growth	More reports of psychological stress symptoms
Job involved more use of, or higher level, skills	Working conditions	Less satisfaction with pay level
	Work equity	
Job is more secure	Fringe benefits	Less satisfaction with pay equity
	WORK ENVIRONMENT	
Supervisors more participative	Role conflict	Supervisors are less work-facilitating, supportive, and respectful
	Job variety	
More work-group participation	Supervisory closeness, favoritism, and feedback	
More employee influence over task-related decisions	Work-group feedback	Less satisfaction with work group
More adequate work resources	Employee influence over work-schedule decisions	Less association between work performance and reward received (3 indicators)
More work improvement ideas provided by employees	Association between job security and intrinsic motivation with work performance	Less job feedback
	General organizational climate	
	Work improvement suggestions	

NOTE: Assessment based on 85 matched UAW members.

These positive behavioral and organizational performance gains seem to have had some practical implications for both the company and the union in their contractual process. The company's 1976 contract with the UAW was signed earlier than ever before and benefited both the company and the union membership by reducing the need for higher product inventories while maintaining the same employment level. These bargaining sessions, as contrasted to previous ones, were accomplished and concluded in a mutual atmosphere of cordiality, creativity, and trust. Absent was the win-lose philosophy and counterthreats that often accompany traditional labor-management bargaining. This is not to indicate that the adversary relationship between the UAW and Harman International Industries has vanished. It has not! The union still grieves contract issues; however, the spirit or climate in which grievances are handled has improved.

Generally, the behavioral and performance findings were positive, while the attitudinal indicators showed mixed results. Thirteen indicators of the quality of worklife and 24 measures of job and work environment characteristics known to be associated with higher quality of worklife are assessed in table 1. (The data refer only to UAW members; however, these indicators represent fairly well the different types of employees surveyed at the Bolivar plant.) Some of the gains have been offset by losses or no change. It must be remembered, however, that over the extended period studied, there were some unmeasured changes in the employees' level of aspirations and expectations. These changes in expectations and aspirations were enhanced by the quality-of-worklife program and the later conditions were probably judged more critically than the earlier conditions. When asked a series of questions pertaining to the goals and outcomes of the quality-of-worklife program, the employees responded generally with positive opinions about the impact, the desirability of the program, the effectiveness of the union-management relationships, and the ability of the UAW to represent membership concerns. For example, 60 percent found the program to be desirable; a majority found the joint union-management committee responsible for designing and implementing the program to be effective without domination from either party; and 67 percent indicated that the program strengthened the local union. In addition, 90 percent of the UAW membership were satisfied with the local union in 1976, compared with 78 percent in 1973. This is substantially higher than the satisfaction level of a national sample of blue-collar union members with their union during this period.[3] Moreover, union membership at the Bolivar plant has increased from 65 percent to more than 90 percent, and 100 percent of the union membership responded affirmatively when asked: "If there were an election today on whether or not the union should be kept at Harman International Industries, how would you vote?"

These results and other outcomes not reported here[4] seem to indicate that the union members perfer to use joint union-management programs to deal with quality of worklife and other important domains of their life at work. Recently, many other reports and studies[5] have indicated similar trends and like results with other union members. One trend seems very clear. The time is ripe for the U.S. industrial relations system to seriously consider cooperative union-management programs along with their traditional contractual and collective bargaining structures and processes. ☐

FOOTNOTES

[1] The project was independently assessed during 1972–79. The behavioral and performance outcomes were evaluated for 55 consecutive months during 1972–76. Support for this article was provided by the Ford Foundation and the Economic Development Administration, U.S. Department of Commerce.

[2] B. A. Macy, G. E. Ledford, Jr., and E. E. Lawler III, *An Assessment of the Bolivar Quality of Work Life Experiment: 1972–1979* (New York, Wiley-Interscience, forthcoming).

[3] R. P. Quinn and G. L. Staines, *The 1977 Quality of Employment Survey* (Ann Arbor, University of Michigan, Survey Research Center, 1978). A general discussion of the survey results is described in an article by G. L. Staines and R. P. Quinn, "American workers evaluate the quality of their jobs," *Monthly Labor Review*, January 1979, pp. 3–12. For a more in-depth discussion of union attitudes, see T. A. Kochan, "How American workers view labor unions," *Monthly Labor Review*, April 1979, pp. 23–31.

[4] See Macy et al, *An Assessment.*

[5] For example, see T. A. Kochan, D. Lipsky, and L. Dyer, "Collective Bargaining and the Quality of Work—the Views of Local Union Activists," *Proceedings of the Twenty-Seventh Annual Meeting* (Madison, Wis., Industrial Relations Research Association, 1975), pp. 150–62; A. Ponak and C. Fraser, "Union Activists' Support for Joint Programs," *Industrial Relations*, Spring 1979, pp. 197–209; B. A. Macy, "A Progress Report on the Bolivar Quality of Work Life Project," *Personnel*, August 1979, pp. 527–30 and 557–59; P. S. Goodman and E. E. Lawler III, *New Forms of Work Organization in the United States* (Geneva, Switzerland, International Labor Organization, 1977); J. Drexler and E. E. Lawler III, "A Union-Management Cooperative Project to Improve the Quality of Work Life," *The Journal of Applied Behavioral Science* (July-August-September, 1977), pp. 351–86; I. Bluestone, "The Quality of Work Life Project Between UAW and Harman International Industries," paper presented at the Thirty-Seventh Annual Meeting, The Academy of Management, Aug. 14–18, 1977; E. E. Lawler III and L. Ozley, "Winning Union-Management Cooperation," *Management Review* (March 1979), pp. 19–24; E. E. Lawler III, and J. Drexler, "The dynamics of establishing cooperative quality-of-worklife projects," *Monthly Labor Review*, March 1978, pp. 23–28; D. Nadler, "Hospitals, Organized Labor and Quality of Work: An Intervention Case Study," *The Journal of Applied Behavioral Science* (September 1978), pp. 366–81; J. Perry and others, *The Impact of Labor-Management Relations on Productivity and Efficiency in Urban Mass Transit* (Institute of Transportation Studies and Graduate School of Administration, University of California at Irvine, 1979); B. A. Macy and M. Peterson, "Evaluating Attitudinal Change in a Longitudinal Quality of Work Life Intervention," in S. Seashore, E. Lawler III, and others, eds., *Observing and Measuring Organizational Change: A Guide to Field Practice* (New York, Wiley-Interscience, forthcoming); P. S. Goodman, *Assessing Organizational Change: The Rushton Quality of Work Experiment* (New York, Wiley-Interscience, 1979); B. A. Macy and A. Nurick, *Assessing Organizational Change and Participation: The TVA Quality of Work Experiment* (New York, Wiley-Interscience, forthcoming); and M. Duckles, R. Duckles, and M. Maccoby "The Process of Change at Bolivar," *The Journal of Applied Behavioral Science* (July-August-September, 1977), pp. 387–99.

Special Labor Force Reports–Summaries

Trends in educational attainment among workers in the 1970's

ANNE MCDOUGALL YOUNG

The proportion of working men and women with some college education increased steadily throughout the 1970's. By March 1979, 36 percent of all workers age 18 and over had completed at least 1 year of college, up from 26 percent 9 years earlier; about half of those with some college education had completed at least 4 years. The proportion of workers whose formal education had ended with high school graduation remained close to 40 percent throughout the decade, but the percent who had not completed high school declined considerably (table 1).[1]

Labor force participation. During the 1970's, the proportion of men participating in the labor force continued to fall. The decline was steepest for those with less than a high school education—from 73 percent in 1970 to 62 percent in 1979 (table 2). As might be expected, the decrease was greatest among dropouts 55 years old and over, who were least equipped educationally to compete in an increasingly technological and specialized labor market, and who, in many cases, qualified for social security or other retirement benefits. But even the labor force participation rates of males with a high school education or better, with the exception of those under 25, tended to edge downward over the decade.

In contrast to the situation for men, women with at least a high school education sharply increased their labor force participation during the 1970's. When ranked by age and years of school completed, the greatest surge occurred among those 25 to 34 with 1 to 3 years of college. Their labor force participation rate rose from 45 percent to 67 percent between March 1970 and March 1979. The pattern of rising labor force participation also extended to younger women who had dropped out of high school and who lacked job market experience as well.

The increasing labor force participation of women is related, in part, to the growing proportion of women with post-secondary education. By 1979, 34 percent of female workers had completed at least 1 year of college, compared with 24 percent in 1970. Over the same 9-year period, the number of women awarded associate degrees[2] nearly tripled, while the number of men receiving such degrees almost doubled.[3] As a result, women accounted for 50 percent of all associate degrees in 1979—up from 42 percent in 1970—and nearly equaled men in the proportion completing vocationally oriented science and engineering-related courses. The availability of occupational training at community colleges, as well as the convenient locations of such schools, have particularly benefited women, both recent high school graduates and older workers, by providing an opportunity to acquire

Table 1. Educational attainment of the labor force 18 and over, by sex and race, March 1970 and March 1979

[Percent distribution]

Characteristic		Total		Men		Women	
		1970	1979	1970	1979	1970	1979
ALL PERSONS							
Labor force:	Number (in thousands)	78,955	97,906	48,891	56,646	30,064	41,260
	Percent	100.0	100.0	100.0	100.0	100.0	100.0
Elementary:	8 years or less[1]	17.5	9.0	19.9	10.5	13.7	6.9
High school:	1 to 3 years	17.3	13.1	17.5	13.4	16.9	12.7
	4 years	39.0	41.4	35.1	37.9	45.5	46.3
College:	1 to 3 years	13.3	18.2	13.5	17.9	13.2	18.5
	4 years	7.7	10.6	8.0	11.2	7.3	9.7
	5 years or more	5.1	7.7	6.2	9.1	3.4	5.8
WHITE							
Labor force:	Number (in thousands)	70,186	86,177	43,962	50,526	26,224	35,651
	Percent	100.0	100.0	100.0	100.0	100.0	100.0
Elementary:	8 years or less[1]	16.2	8.2	18.3	9.7	12.5	6.2
High school:	1 to 3 years	16.4	12.3	16.7	12.6	15.8	11.8
	4 years	40.0	42.0	35.8	38.1	47.1	47.4
College:	1 to 3 years	13.9	18.4	14.1	18.3	13.6	18.6
	4 years	8.1	11.1	8.4	11.8	7.6	10.1
	5 years or more	5.4	8.1	6.6	9.6	3.5	5.9
BLACK AND OTHER[2]							
Labor force:	Number (in thousands)	8,769	11,729	4,929	6,120	3,840	5,609
	Percent	100.0	100.0	100.0	100.0	100.0	100.0
Elementary:	8 years or less[1]	28.0	14.4	32.5	17.0	22.2	11.6
High school:	1 to 3 years	24.7	19.4	24.6	19.9	24.8	18.9
	4 years	31.0	37.4	28.3	36.2	34.5	38.8
College:	1 to 3 years	9.0	16.7	8.0	15.2	10.3	18.3
	4 years	4.7	6.9	4.3	6.5	5.1	7.3
	5 years or more	2.6	5.1	2.4	5.2	2.9	5.1

[1] Includes persons reporting no school years completed.
[2] Includes blacks, American Indians, Japanese, Chinese, and any other race, except white.

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Table 2. Labor force participation rates and unemployment rates by years of school completed, sex, and age, March 1970 and March 1979

Characteristic	Less than 4 years of high school		4 years of high school		1 to 3 years of college		4 years of college or more	
	1970	1979	1970	1979	1970	1979	1970	1979
LABOR FORCE PARTICIPATION RATES								
Men								
Total, 18 years and over	72.5	62.1	90.1	86.1	80.6	81.7	90.2	90.2
18 to 24 years	77.5	76.0	82.8	86.4	59.9	66.7	75.4	84.2
25 years and over	71.9	59.8	92.0	85.4	90.8	87.4	91.5	90.6
25 to 54 years	93.5	88.3	97.6	95.8	97.1	95.2	97.1	97.0
25 to 34 years	95.1	89.6	98.2	96.5	95.7	95.2	97.2	97.6
35 to 44 years	94.7	91.1	98.2	97.0	98.7	96.4	99.5	98.2
45 to 54 years	91.5	85.6	96.3	93.5	97.5	93.7	97.6	96.5
55 years and over	48.8	34.6	70.2	57.3	67.0	59.2	70.8	63.9
Women								
Total, 18 years and over	33.0	32.6	50.3	57.1	48.6	59.8	59.7	67.1
18 to 24 years	37.5	48.4	59.7	71.3	53.8	65.1	82.5	86.6
25 years and over	32.5	30.5	47.7	53.5	46.1	57.8	56.3	64.8
25 to 54 years	45.7	48.8	51.6	62.7	50.9	66.9	60.2	74.9
25 to 34 years	40.3	46.9	45.5	61.9	45.5	67.4	54.1	73.6
35 to 44 years	47.6	51.2	52.7	65.6	52.7	67.2	49.7	67.8
45 to 54 years	47.9	48.2	57.8	60.6	57.0	65.6	60.6	64.5
55 years and over	19.8	16.2	34.3	31.6	34.0	31.3	46.1	30.5
UNEMPLOYMENT RATES								
Men								
Total, 18 years and over	4.8	8.3	3.4	5.5	3.8	4.2	1.2	1.8
18 to 24 years	11.8	17.6	7.6	10.0	7.0	8.0	3.9	4.0
25 years and over	4.1	6.2	2.4	4.1	2.7	3.1	1.1	1.7
25 to 54 years	4.2	7.0	2.4	4.1	2.5	3.3	1.0	1.6
55 years and over	3.8	4.7	2.3	3.9	3.9	1.9	1.3	2.6
Women								
Total, 18 years and over	6.8	10.4	4.6	6.0	4.0	4.3	2.0	3.0
18 to 24 years	16.7	22.2	7.6	10.2	5.8	5.7	3.0	4.0
25 years and over	5.5	7.8	3.5	4.6	3.0	3.7	1.8	2.8
25 to 54 years	6.2	9.2	3.8	4.9	3.7	3.0	2.0	2.8
55 years and over	3.8	4.6	2.1	3.2	.7	3.4	1.0	2.4

para-professional training for a wide variety of jobs.

Historically, college graduates have maintained relatively high labor force participation rates. As expected, rates for male graduates under age 55 remained high during the 1970's. Among female graduates, however, the growth in labor force participation rates was truly startling. The rate increased nearly 20 percentage points for graduates age 25 to 34 and by almost as much among those 35 to 44. Apparently, women college graduates have become more determined to use their skills in the labor market.

Women have been keeping up with men in terms of the proportion receiving a bachelor's degree, but still lag far behind in the acquisition of advanced degrees.[4] However, women continued to increase, at least slightly, their percentage representation among graduates in the various fields at all degree levels over the decade. Among bachelor's and master's degree recipients, representation increased most in those fields which had relatively few female graduates in the early 1970's. Among Ph.D recipients, the opposite relationship prevailed; the smaller the representation of women early in the decade, the smaller the percentage-point gain. In the words of one observer, "It may be conjectured that the complex sociocultural forces which are influencing women to enter nontraditional fields of study have not been operating long enough to be manifest at the highest degree levels. If this is so, then the trends already observed at the bachelor's and master's degree levels may soon be evident at the doctoral degree level."[5]

Unemployment. In March 1980, unemployment rates continued their traditional relationship to years of school completed; that is, the more years of education, the lower the unemployment rate (table 2). As might be expected, older workers were less likely than younger ones to be unemployed, regardless of their educational attainment. Black workers had higher unemployment rates than whites at every level of educational attainment. The difference was greatest for men who had completed only 1 to 3 years of high school, but black unemployment rates were double those of whites even among college graduates.

Occupations. The steady rise in average years of school completed by American workers has led to a substantial upward shift in the educational levels of workers in major occupational groups. College graduates dominated high-level white-collar occupations to a much greater extent in 1979 than in 1970. Over the same period, the proportion of blue-collar workers who were at least high school graduates also increased (table 3).

During the 1970's, college graduates filled an increasing proportion of professional and technical jobs formerly held by persons with only a high school diploma. The proportion of workers in professional and technical occupations who were college graduates grew from 61 to 71 percent for men and from 54 to 63 percent for women over the decade. Similarly, the proportion of managers who had either attended or graduated from college rose, while the proportion of such positions held by high school dropouts declined sharply. The latter change also reflected the retirement from the labor force of older workers who had attained positions of responsibility many years earlier.

The proportion of sales and clerical workers of both sexes who were college graduates almost doubled over the decade, while the percentage with fewer than 12 years of high school fell by more than half. Among male clerical workers, for example, the proportion without a high school diploma dropped from 30 to 13 percent, and among women, from 20 to 8 percent. Computerization of business transactions and other changes in office practices have obviously generated a need for more highly trained workers. The increase in the supply of such workers thus coincided with, and made possible, the use of more complex information processing techniques. The upgrading of the educational level of workers was apparent among other occupations as well. For example, in 1970, more than half of all blue-collar and service workers had completed fewer than 4 years of high school, but by 1979, 44 percent were high school graduates and the proportion with 1 or more years of college had doubled.

Over the decade, the content of many jobs has changed drastically because of technological advances. Nonetheless, the data appear to indicate that many better educated persons are entering jobs for which formal educational requirements in previous years were far lower. This trend could have negative repercussions. "To the extent that growing numbers of workers may perceive themselves to be overqualified for their jobs," writes one analyst, "declining job satisfaction may reflect a worsening match between workers' educational attainment and the actual requirements of the work

Table 3. Proportion of workers 25 years and over in major occupational groups, by educational attainment and sex, March 1970 and March 1979

Sex and occupation	Total employed, 25 years and over (in thousands)		Percent with less than 4 years of high school		Percent with 4 years of high school only		Pecent with 1 to 3 years of college		Percent with 4 years of college or more	
	1970	1979	1970	1979	1970	1979	1970	1979	1970	1979
MEN										
Total	40,889	44,154	42.3	23.6	30.7	35.3	11.6	17.2	15.4	23.9
White-collar workers	16,863	20,434	18.0	7.7	28.4	24.8	18.9	21.0	34.7	46.5
Professional and technical workers	6,141	7,902	6.0	2.0	16.3	11.1	17.2	16.2	60.5	70.6
Managers and administrators	5,107	7,356	22.6	11.3	32.1	30.5	19.7	22.2	25.6	35.9
Sales workers	2,789	2,858	23.8	8.7	35.0	31.6	22.0	26.9	19.2	32.8
Clerical workers	2,826	2,618	29.5	12.9	41.8	42.8	18.4	25.8	10.3	18.5
Blue-collar workers	19,318	18,829	59.2	36.7	33.0	45.8	6.2	13.8	1.6	3.6
Craft workers	9,242	9,583	52.1	30.3	37.7	48.7	8.0	16.4	2.2	4.6
Operatives, except transport	5,236	4,538	62.4	40.6	31.5	45.2	5.0	11.7	1.1	2.4
Transport equipment operatives	2,466	2,610	64.8	43.8	29.8	41.6	4.6	11.4	.9	3.0
Laborers	2,374	2,098	73.9	48.4	21.2	39.2	3.7	10.0	1.1	2.4
Service workers	2,994	3,210	53.6	36.0	30.1	39.5	8.5	16.8	2.6	7.7
Farmers and farmworkers	1,869	1,681	65.1	46.9	26.1	35.8	5.7	9.6	3.2	7.7
WOMEN										
Total	23,249	30,283	37.8	20.2	39.3	44.9	11.4	17.1	11.4	17.8
White-collar workers	13,746	19,858	19.2	7.7	45.7	45.6	16.5	21.1	18.6	25.6
Professional and technical workers	3,784	5,603	6.7	2.2	19.7	15.4	19.1	18.1	54.2	63.3
Managers and administrators	1,000	2,190	27.0	10.9	42.5	42.6	16.7	22.3	13.9	24.2
Sales workers	1,686	1,868	38.8	17.6	46.8	52.0	10.8	19.1	3.6	11.3
Clerical workers	7,276	10,197	20.0	8.0	59.4	61.7	16.4	22.4	4.2	7.9
Blue-collar workers	4,493	4,485	66.4	48.2	29.9	43.4	3.0	6.1	.7	2.3
Craft workers	465	556	52.5	33.6	37.8	46.0	7.3	13.1	2.4	7.2
Operatives except transport	3,681	3,398	68.7	52.6	28.4	41.7	2.4	4.3	.5	1.4
Transport equipment operatives	120	209	50.0	23.4	42.3	56.9	5.8	16.7	.8	2.9
Laborers	227	322	64.3	41.9	30.8	48.1	4.0	6.2	.9	3.7
Service workers	4,798	5,630	63.4	41.6	30.4	43.6	5.1	11.8	1.1	3.0
Farmers and farmworkers	208	310	65.4	35.5	28.0	44.2	6.3	11.9	2.4	8.4

they perform,"[6] and emerge as a major problem for workers and employers in the 1980's. □

FOOTNOTES

[1] Data for this report are based primarily on special annual tabulations of information obtained through the Current Population Survey, conducted monthly for the Bureau of Labor Statistics by the Bureau of the Census. The data relate to the civilian noninstitutional population 16 years and over (unless otherwise specified) in the week ending Mar. 17, 1979. Because the estimates are based on a sample, they may differ from the figures that would have been obtained from a complete census. Sampling variability may be relatively large in cases where the numbers are small. Small estimates, or small differences between estimates, should be interpreted with caution. This report is the latest in a series on this subject. The most recent was published in the *Monthly Labor Review*, February 1979, pp. 54–58, and reprinted as Special Labor Force Report 225. Data on the educational attainment of the population are published by the Bureau of the Census in *Current Population Reports*, Series P-20.

[2] A degree awarded for completion of programs below the baccalaureate level, based on fewer than 4 years of work beyond high school in an accredited institution of higher learning.

[3] Marie Evans Hooper, "Associate Degrees and Other Formal Awards Below the Baccalaureate, 1969–70" (National Center for Educational Statistics, U.S. Department of Health, Education, and Welfare), Publication No. (OE) 72-48, table C, and unpublished data for 1977–78 from the National Center for Education Statistics.

[4] George H. Brown, "Degree Awards to Women: An Update" (National Center for Education Statistics, U.S. Department of Health, Education, and Welfare), January 1979, p. 3.

[5] Ibid., p. 17.

[6] Denis Johnston, *Social Indicators III*, Ch. VII (U.S. Bureau of the Census, forthcoming).

A note on communications

The *Monthly Labor Review* welcomes communications that supplement, challenge, or expand on research published in its pages. To be considered for publication, communications should be factual and analytical, not polemical in tone. Communications should be addressed to the Editor-in-Chief, *Monthly Labor Review*, Bureau of Labor Statistics, U.S. Department of Labor, Washington, D.C. 20212.

Research Summaries

Wage gains in 1979 offset by inflation

JOAN D. BORUM

Although workers received large pay gains in 1979, prices rose at an even higher rate and their purchasing power fell. Many of the key statistical series discussed in this article posted smaller money wage increases in 1979 than in 1978. And, for the first time since 1974, they all showed declines when adjusted for inflation. A number of forces tempered 1979 wage increases, including the voluntary wage and price standards announced by President Carter in late 1978, a slowdown in employment growth, and a decline in productivity.

Compensation measures

The Bureau publishes several measures of changes in employee compensation.[1] Some cover rates of pay, others study workers' earnings. Depending on the series, the data may reflect payments for benefits as well as wages and may show the influence of weekly hours and Federal tax rates. Data usually are available in both current dollars and 1967 dollars. A brief review of key measures in 1979 follows. Earnings data reflect percent changes from December to December; average hourly compensation data reflect percent changes from fourth quarter to fourth quarter.

Gross average hourly earnings, one of the basic measures, covers production and nonsupervisory workers in the private nonfarm sector. In 1979, these earnings rose 7.9 percent, considerably less than the 9.4-percent rise in 1978. (See table 1.) When adjusted for inflation, real earnings were down by 4.8 percent, compared with a 0.3-percent increase in 1978.

The *Hourly Earnings Index* is widely used for measuring the general movement in wages because it eliminates from the gross hourly earnings the effects of interindustry employment shifts (that is, changes in the relative number of workers in high-paying and low-paying industries) and overtime fluctuations in manufacturing. This index increased 8.4 percent—about the same as in 1978. However, after adjustment for price increases, the index was down 4.4 percent, compared with a 0.5-percent decrease in 1978.

Average weekly earnings reflect both gross hourly earnings and the number of weekly hours. Because of a decline in weekly hours during 1979, average weekly earnings rose at a 7.6-percent rate, slightly less than gross average hourly earnings. Real average weekly earnings declined at a 5.1-percent rate, after rising slightly (0.1 percent) in the previous year.

Spendable weekly earnings measure weekly earnings after deductions of Federal social security and income taxes for a worker earning the average weekly pay, taxed at the rates applicable to a married worker with three dependents. This series posted a 7.6-percent gain in 1979, considerably more than in 1978 (5.7 percent). When adjusted for inflation, spendable weekly earnings were down 5.1 percent, a steeper drop than in 1978 (−3.1). Unlike other earnings measures, this series was affected by an increase in social security taxes. The 1979 tax paid by employees (and matched by their employers) was 6.13 percent of the first $22,900 of annual earnings; in 1978, the tax was 6.05 percent of the first $17,700 of earnings. The series was also influenced by revisions in the Federal income tax laws.

Compensation per hour, a more inclusive measure, in-

Table 1. Percent change in employee compensation measures, 1974–79[1]

Measure	1974	1975	1976	1977	1978	1979
Gross average hourly earnings:[2]						
Current dollars	8.4	6.1	7.7	7.6	9.4	7.9
1967 dollars	−3.4	−1.1	2.9	.7	.3	−4.8
Hourly Earnings Index:[2]						
Current dollars	9.2	7.2	7.5	7.4	8.5	8.4
1967 dollars	−2.8	.1	2.6	.6	−.5	−4.4
Average weekly earnings:[2]						
Current dollars	6.3	6.7	6.8	7.3	9.1	7.6
1967 dollars	−5.4	−.4	1.9	.4	.1	−5.1
Spendable weekly earnings:[2]						
Current dollars	5.6	10.7	5.0	10.4	5.7	7.6
1967 dollars	−5.7	3.3	.2	3.4	−3.1	−5.1
Average hourly compensation:[3]						
Current dollars	10.9	8.6	9.2	7.2	9.1	9.2
1967 dollars	−1.2	1.1	4.0	.5	.1	−3.2

[1] Changes are based on seasonally adjusted data and reflect fourth quarter to fourth quarter change for average hourly compensation and December to December change for other measures.

[2] Covers production and nonsupervisory workers in the private nonfarm economy.

[3] Covers all persons in the private business sector.

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cludes wages and salaries plus employer contributions for social insurance and private benefit plans.[2] Hourly compensation for all persons in the private business sector increased 9.2 percent; for those in the private nonfarm business sector, 9.0 percent; and in manufacturing, 9.2 percent. Comparable changes in 1978 were 9.1, 9.1 and 8.7 percent. Although hourly compensation rose substantially in the private business sector, productivity—output per hour of labor input—fell 1.7 percent. As a result, labor costs per unit of output rose even more rapidly than hourly compensation.

The *Employment Cost Index*, a relatively new series, provides a more refined measure of change in the "price" of labor. Covering both supervisory and nonsupervisory workers, this series measures changes in pay rates of a standardized mix of labor services. It is, therefore, unaffected by shifts of workers among occupations, firms, and industries. Data currently available pertain to wage and salary rates in the private nonfarm economy, excluding households, as approximated by straight-time hourly earnings.

In 1979, overall pay increases, as measured by the index, averaged 8.7 percent, up from 7.7 percent in 1978. (See table 2.) Pay in manufacturing was up 8.6 percent, nearly the same as in nonmanufacturing (8.8 percent). Among industries, pay increases ranged from 7.2 percent in construction to 13.2 percent in finance, insurance, and real estate—where compensation is largely influenced by fluctuations in commission earnings for sales workers. Among occupational classifications blue-collar workers received the highest 1979 pay increase, averaging 9.0 percent, followed by white-collar workers (8.6 percent), and service workers (7.2 percent). As in previous years, union workers received larger increases than nonunion workers. The differential can be attributed largely to wage increases in manufacturing where pay advanced 9.4 percent for union workers, compared with a 7.9-percent increase for nonunion workers.

Wage changes under major labor contracts

Data on wage changes in major collective bargaining units are restricted to bargaining units covering 1,000 workers or more in the private nonfarm sector. About 1 worker in 10 in the civilian labor force is covered by a major bargaining agreement. The agreements are usually in key industries and often set wage patterns for other establishments. Two basic types of data are available—data limited to contract settlements negotiated in the current period and all general wage changes put into effect in the period.

Table 2. Rate of wage and salary changes in Employment Cost Index, 1979
[In percent]

Characteristics	3 months ended				12 months ended Dec.	
	Mar. 1979	June 1979	Sept. 1979	Dec. 1979	1978	1979
All private nonfarm workers	2.0	1.9	2.1	2.4	7.7	8.7
Occupation:						
White-collar	1.9	1.7	2.3	2.4	7.2	8.6
Blue-collar	1.9	2.3	2.0	2.5	8.2	9.0
Service	3.2	.9	1.1	1.6	8.7	7.2
Industry:						
Manufacturing	1.7	1.8	1.8	3.1	8.3	8.6
Nonmanufacturing	2.2	2.0	2.3	2.0	7.4	8.8
Construction	1.3	2.6	2.0	1.1	7.8	7.2
Transportation and public utilities	2.6	1.6	2.9	2.0	7.6	9.4
Wholesale and retail trade	2.1	2.4	1.9	1.3	8.3	7.9
Finance, insurance and real estate	3.1	3.2	1.9	4.3	(1)	13.2
Services	2.1	1.1	2.6	2.5	6.7	8.5
Region:						
Northeast	1.5	1.7	1.7	2.1	7.1	7.3
South	2.6	1.7	1.7	2.4	9.3	8.5
North Central	1.9	2.5	2.0	2.6	6.9	9.4
West	2.0	2.0	2.5	1.8	7.8	8.5
Bargaining status:						
Covered by collective bargaining agreement	1.8	2.1	2.2	2.6	8.0	9.0
Not covered by collective bargaining agreement	2.1	1.9	1.9	2.3	7.6	8.5
Area:						
Metropolitan areas	2.0	2.0	2.2	2.5	7.5	8.9
Other areas	2.1	2.1	1.6	1.9	9.0	7.9

[1] Not available.

NOTE: The statistics are percent changes in straight-time average hourly earnings over the period indicated. They are not annualized, nor are they adjusted for seasonal influences.

Negotiated wage settlements affect a limited number of workers each year, but generally are reflective of current economic conditions and, because they usually cover 2 or 3 year periods, tend to influence wage increases in the following years. New contracts negotiated during 1979 provided for average first-year wage gains of 7.4 percent, the lowest since 1973. Annual wage adjustments over the life of the contracts averaged 6.0 percent, less than in any year since 1973, except 1977. (See table 3.)

In bargaining units with 5,000 workers or more, 1979 wage and benefit adjustments averaged 9.0 percent in the first contract year and 6.6 percent annually over the life of the agreement, compared with 8.3 and 6.3 percent in 1978.

About 58 percent of the workers covered by contracts negotiated in 1979 had cost-of-living adjustment (COLA) provisions in their agreements (37 percent in 1978), and most of these workers also had escalator provisions in their prior agreements. The existence of COLA clauses influences the size and the duration of settlements. (However, actual COLA increases are not included in the data presented here.) Agreements without automatic escalator provisions usually specify higher annual rates of change over the contract life. In units with 1,000 workers or more, 1979 contracts without COLA clauses specified an average annual wage increase of 8.0 percent; those with COLA's averaged 4.6 percent.

Agreements with COLA provisions are generally for a longer duration than those without escalator clauses. In 1979, the average duration for settlements with COLA

Table 3. Percent change in wages and wages and benefits in major collective bargaining agreements, 1974–79

Measure	1974	1975	1976	1977	1978	1979
Settlements:[1]						
Wage rate settlements (1,000 workers or more):						
First-year adjustment	9.8	10.2	8.4	7.8	7.6	7.4
Annual rate over life of contract	7.3	7.8	6.4	5.8	6.4	6.0
Contracts with COLA clauses	6.1	7.1	5.7	5.0	5.3	4.6
Contracts without COLA clauses	9.1	8.3	7.3	6.9	7.1	8.0
Wage and benefit settlements (5,000 workers or more):						
First-year adjustment	10.7	11.4	8.5	9.6	8.3	9.0
Annual rate over life of contract	7.8	8.1	6.6	6.2	6.3	6.6
Contracts with COLA clauses	7.1	7.5	6.2	5.9	5.3	5.9
Contracts without COLA clauses	9.4	8.5	7.6	7.0	7.2	8.0
Effective wage-rate changes:						
Total effective wage-rate adjustment	9.4	8.7	8.1	8.0	3.2	9.1
Adjustment resulting from:						
Current settlement	4.8	2.8	3.2	3.0	2.0	3.0
Prior settlement	2.6	3.7	3.2	3.2	3.7	3.0
Escalator provision	1.9	2.2	1.6	1.7	2.4	3.1

[1] Data exclude possible increases under escalator provisions, except for minimum increases guaranteed by the contract.

NOTE: Data relate to private nonfarm agreements.

was 35.9 months, 6 months longer than those without such clauses.

Effective wage-rate changes are more comprehensive than the settlement data and are more comparable to the earnings measures. This measure comprises all changes put into effect in a given period, including gains won in current settlements, increases negotiated in earlier years (deferred changes), and payments triggered by automatic cost-of-living escalator clauses. The size of each type of increase and the number of workers affected determine the total effective adjustment. Although the 9.1-percent average adjustment in 1979 for 9.3 million production and nonsupervisory workers was the highest since the 9.4-percent increase in 1974, it was considerably less than the 13.4-percent rise in prices (as measured by the Consumer Price Index for Urban Wage Earners and Clerical Workers—CPI-W). This is the second consecutive year in which wage changes in bargaining units averaged less than the change in prices.

The following tabulation compares the percent increase in the Consumer Price Index for Urban Wage Earners and Clerical Workers with wage changes in major collective bargaining units:

	CPI	*Total effective adjustment*	*Average escalator increase*
1975	7.0	8.7	4.8
1976	4.8	8.1	3.5
1977	6.8	8.0	3.9
1978	9.0	8.2	5.0
1979	13.4	9.1	6.8

The current settlement component of the effective-change measure is normally the largest of the three components in terms of the size of increase. During 1979, 3.5 million workers received increases averaging 7.9 percent as a result of settlements during the year. When prorated over the 9.3 million workers in the bargaining universe, this accounted for 3.0 percentage points of the total adjustment. (See table 3.)

The deferred component is more influential in light bargaining years, when fewer workers are covered by settlements and more receive deferred wage increases. In 1979, 5.5 million workers had deferred increases averaging 5.1 percent, accounting for 3.0 percentage points of the total effective adjustments.

Although a smaller portion of workers under major agreements received increases from COLA (44 percent, compared with 48 percent in 1978), the average size of their increases was larger (6.8 percent compared with 5.0). Prorated over all workers in major bargaining units, the average escalator adjustment was 3.1 percent. Interestingly, both the size of the average escalator adjustment and its share of the total adjustment were higher in 1979 than in any year since data became available in 1968.

The size of cost-of-living adjustments reflects the type of COLA formula, the timing of COLA reviews, and possible "caps" or limits on increases. In 1979, workers receiving COLA increases under major agreements recovered an average 51 percent of the rise in consumer prices. The most common formula, calling for a 1-cent an-hour increase for each 0.3-point rise in the CPI, affected about 2.1 million workers.[3]

In 1979, a heavy bargaining year, 3.5 million workers negotiated new contracts. The transportation equipment manufacturing industry accounted for about one-fifth of the total; the transportation industry accounted for another one-fifth; and many of the remaining workers were in the apparel, construction, electrical equipment, food manufacturing, and retail food store industries. More than 3.7 million workers are covered by contracts either expiring or permitting wage reopenings in 1980, another heavy bargaining year.[4] Key agreements to be negotiated are in the petroleum refining, construction, steel, telephone, and aerospace industries. Although the size of new settlements and the effective adjustments to be implemented cannot be predicted, it is known that 4.9 million workers are scheduled to receive deferred increases averaging 5.1 percent and that cost-of-living reviews are scheduled for 3.6 million workers.[5] □

———FOOTNOTES———

[1] For an overall description of the programs, see *BLS Measures of Compensation*, Bulletin 1941 (Bureau of Labor Statistics, 1977).

[2] Except for nonfinancial corporations in which there are no self-

employed, data also include an estimate of wages, salaries, and supplemental payments for the self-employed.

[3] For additional analysis of current escalator coverage and provisions, see Edward Wasilewski, "Scheduled wage increases and escalator provisions in 1980," *Monthly Labor Review*, January 1980, pp. 9–13.

[4] For a more detailed discussion of the collective bargaining schedule for 1980, see Mary A. Andrews and Winston Tillery, "Heavy bargaining again in 1980," *Monthly Labor Review*, December 1979, pp. 20–28.

[5] The remaining 1.1 million workers are under clauses that do not provide for a review in 1980, primarily in contracts scheduled to expire during the year.

Working wives reduce inequality in distribution of family earnings

FRANCIS W. HORVATH

Past studies have shown that working wives move the aggregate family earnings distribution towards greater equality.[1] That is, the distribution of *family* earnings has shown more relative equality than the distribution of *husbands'* earnings. This effect occurred, in part, because the wives entered the labor force in greater numbers from families with lower than average earnings. Labor force participation of wives had been found to be negatively related to the earnings of their husbands.[2]

In recent years, more wives from higher income families have been entering the labor force.[3] In the absence of other changes that would affect the earnings distribution of families (for example, changes in the participation rate or earnings of wives of low earners), an increase in the labor force participation rate of wives of high earners would increase family earnings inequality *regardless* of the level of wives' earnings. This occurs because families already near the top of the earnings distribution with only the husband working will move farther up the distribution with any additional earnings of the wife. In addition, if these wives display earnings which are higher than average for women, the increase in inequality would even be greater.[4] Such a positive relationship between earnings of husbands and wives can be expected, given the observed tendency of men and women to marry persons with socioeconomic characteristics and hence earnings capacities similar to their own. While the extent to which earnings capacities are translated into current earnings is tempered by a variety of institutional and personal factors, including the individual's lifetime labor force participation and the degree of discrimination in the labor market, an emerging positive relationship between observed earnings of husbands and wives will tend to increase inequality in the family earnings distribution.

The question is: is the distribution of the combined earnings of husbands and wives still more equal than the distribution of earnings of husbands alone? Ideally, the appropriate test would involve a comparison of standardized inequality measures over time. The test here involves a single point in time. Nevertheless, it is possible to highlight the increasing influence of working wives on earnings inequality by contrasting two work experience groupings: all husband-wife families and families with both spouses working year round, full time. If two-earner families continue to increase as a proportion of husband and wife families, a comparison of earnings inequality between couples who each work full time and overall families may provide some indication of future trends.

The difference between the distribution of husbands' earnings and the distribution of the combined earnings of husbands and wives can be accounted for completely by three factors: the distributions of wives' earnings, husbands' earnings, and the interrelationship between husbands' and wives' earnings. The impact of working wives' earnings will be reflected by a difference in the measures of inequality between the earnings distributions for husbands and the combined husband-wife earnings distribution.

To examine inequality, we employ a method similar to that used by Jacob Mincer in *Schooling, Experience, and Earnings*.[5] Simply stated, inequality is measured by the size of the standard deviation of the natural logarithm of earnings. The lower this measure is, the more equal is the distribution of earnings. (See appendix.)

The data used here are for 1977 and are based on a subsample of the Current Population Survey of March 1978. The sample included only husband-wife families who were living together during March 1978. Excluded were families with husbands who were self employed, farmers, students, or over 64 years of age—persons whose earnings are known to vary widely. Because the log of zero is undefined, husbands with no earnings and families with zero total earnings also were omitted.

Table 1 shows the mean values for husbands' earnings, husbands' and wives' earnings, the respective standard deviations and the standard deviations of the natural logarithms of earnings. The data are displayed by age of the husband and two work experience classifications. The first set of data shows all families in the sample regardless of work experience; the second grouping contains only families in which both husband and wife worked year round, full time.

The difference in inequality between husbands and husbands and wives in the first set is related to both the labor force participation of wives and earnings levels. The second grouping, however, contains no variation in

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Table 1. Earnings of husbands and combined earnings of husbands and wives by age of husbands and work experience, 1977

Age	Earnings		Standard deviations			
			Absolute		Logarithms	
	Husbands	Husbands and wives	Husbands	Husbands and wives	Husbands	Husbands and wives
Husband-wife families:						
16–24	$ 9,234	$12,309	$ 4,467	$ 5,810	.668	.606
25–34	14,260	17,988	7,113	8,306	.570	.522
35–44	17,787	21,301	9,465	10,317	.599	.554
45–54	17,918	21,621	9,966	10,851	.772	.600
55–64	15,241	18,362	9,747	11,031	.916	.828
Families with working spouses:[1]						
16–24	$10,678	$18,258	$ 3,783	$ 5,534	.370	.288
25–34	14,256	23,720	5,416	7,730	.366	.326
35–44	16,705	25,987	8,328	10,437	.456	.388
45–54	16,929	26,148	8,006	10,334	.565	.388
55–64	15,641	25,039	8,328	11,332	.767	.573

[1] Both spouses employed year round, full time.

labor force participation. Here, the impact of the presumed positive correlation of husbands' and wives' earnings may contribute to inequality of earnings because there is no participation-income relationship as in the first set.

The main issue is the comparison of the standard deviations of the logarithms of earnings of the husbands and the combined earnings of husbands and wives. (Smaller values indicate lesser relative inequality.) In all age groups, the combined earnings distribution shows greater relative equality than the husbands' earnings distribution alone. This was true even for families in which both husbands and wives worked year round in full-time jobs. In fact, the drop in relative inequality appears to be greater for working families than for the overall groups. That is, in families with both spouses working full time, where observed earnings more closely approximate potentials, the equalizing effect of working wives was more apparent.

This finding becomes more intuitive after consideration of some of the facts which underlie the data. The earnings distribution of full-time, year-round working wives tends to be highly concentrated about its mean. Until this earnings distribution of wives begins to spread out, the impact on the family earnings distribution is roughly equivalent to the addition of a constant amount to each husband's earnings, which causes relative inequality to fall.

Despite larger numbers of wives from higher income families in the labor force, working wives still tend to be an equalizing force on the distribution of family earnings. The combined earnings distribution, whether for all husband-wife families or husband-wife families in which both spouses work full time year round, shows more equality than the husbands' earnings distribution. ☐

FOOTNOTES

[1] Works include Jacob Mincer, *Schooling, Experience and Earnings* (New York, National Bureau of Economic Research, 1974), Herman P. Miller, *Income Distribution in the United States* (Washington, Government Printing Office, 1966), and James Sweet, "The employment of wives and the inequality of family income", *Proceedings of the American Statistical Association*, 1971. A more complete discussion of some of the issues presented here appeared in James P. Smith, "The Distribution of Family Earnings", *Journal of Political Economy*, 1979, Vol. 87, No. 5, pp. S163–92. That study, which used the Census Public Use Samples and the Michigan Income Dynamics Survey Panel, comes to conclusions analogous to those here.

[2] Glen Cain, *Married Women in the Labor Force* (Chicago, University of Chicago Press, 1966).

[3] Paul Ryscavage, "More wives in the labor force have husbands with 'above-average' incomes", *Monthly Labor Review*, June 1979, pp. 40–42.

[4] David Ignatius, "Women at Work The Rich Get Richer As Well-to-Do Wives Enter the Labor Force," *The Wall Street Journal*, Sept. 8, 1978, pp. 1, 33 and Alice Rivlin, "Income Distribution—Can Economists Help?" *American Economic Review*, May 1975, pp. 1–19.

[5] Mincer compared the inequality of the husbands' earnings distribution to the inequality of the total family income distribution. The use of the combined distributions of husbands' and wives' earnings differs slightly from Mincer's method. We chose this procedure because the possibility exists that family income may include other incomes besides those of the earnings of husbands and wives.

APPENDIX: Variance of the natural logarithm as a measure of inequality

The variance (or standard deviation) of the natural logarithm (s^2) is one of the most frequently used measures of inequality. The larger the variance, the greater the inequality evidenced in the data. If each of the observations on earnings in a data set is increased by the same percentage, the value of the variance of the logs remains the same. However, if each of the observations is increased by a constant amount, the variance of the logs will diminish. This occurs because a fixed amount will represent a greater percentage increase for those at the bottom of the earnings distribution than those at the top. While the absolute spread between the bottom and the top of the distribution remains the same size, inequality has lessened since the spread is around a higher mean.

The relationship between husbands' earnings and combined earnings of husbands and wives is not completely obvious, and in moving from the absolute standard deviations to the log measures, some pitfalls in interpretation can arise. In absolute terms, the relationship between husbands' earnings and combined earnings follows the general form of the variance of a sum. If

$$E_T = E_H + E_W$$

where E_T is combined earnings, E_H earnings of the husband, and E_W earnings of the wife, then

$$\mathrm{Var}\,(E_T) = \mathrm{Var}\,(E_H) + \mathrm{Var}\,(E_W) + 2\,\mathrm{Cov}(E_H, E_W).$$

The variance of the total must be greater than the variance of the husbands' and wives' earnings unless the covariance between husband and wife earnings is negative and large enough to overwhelm the variance of wives' earnings.

The relationship between the relative values is not as simple. Consider the following:

$$E_T = E_H + E_W$$

which we may write as:

$$E_T = E_H(1 + E_W/E_H) = E_H(1 + R_F)$$

where R_F is the ratio of wife's to husband's earnings. Taking the logarithm of this product yields:

$$\ln E_T = \ln E_H + \ln(1 + R_F)$$

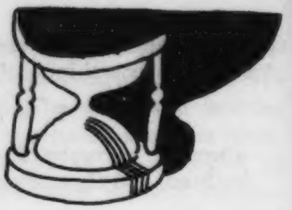
on which we may apply the variance operator as above:

$$\mathrm{Var}(\ln E_T) = \mathrm{Var}(\ln E_H) + \mathrm{Var}(\ln(1 + R_F)) + 2\,\mathrm{Cov}(\ln E_H, \ln(1 + R_F))$$

It should be noted that it is possible for absolute earnings of husbands and wives to be positively related ($\mathrm{Cov}(E_H, E_W) > 0$), and yet to observe a drop in relative inequality ($\mathrm{Var}\ \ln E_T < \mathrm{Var}\ \ln E_H$).

Indeed, among families in which both husband and wife work full time year round, a positive relationship was found between husband and wife earnings (not shown here) together with a large drop in relative inequality. While a positive relation between husbands' and wives' earnings will tend to reduce the equalizing effect of working women on inequality, it is only one part of the total effect. The other consequence is to reduce the variation in $\ln(1 + R_F)$, which may be closely identified with the ratio of wives' to husbands' earnings. As wives enter the full-time labor force, the bottom end of the distribution (those with a ratio of zero) drops in size, and the total variation of $\ln(1 + R_F)$ diminishes.

Major Agreements Expiring Next Month



This list of collective bargaining agreements expiring in August is based on contracts on file in the Bureau's Office of Wages and Industrial Relations. The list includes agreements covering 1,000 workers or more.

Employer and location	Industry	Union[1]	Number of workers
Air Conditioning and Refrigeration Contractors Association of Southern California (California)	Construction	Plumbers	1,200
Al Tech Specialty Steel Corp. (Dunkirk & Watervliet, N.Y.)	Primary metals	Steelworkers	2,000
Alabama Power Co. (Alabama)	Utilities	Electrical Workers (IBEW)	3,500
Allegheny Ludlum Industries, Inc. (Interstate)	Primary metals	Steelworkers	5,800
American Telephone and Telegraph Co., Long Lines Department (Interstate)	Communication	Communications Workers	22,600
Armco, Inc. (Interstate)	Primary metals	Steelworkers	12,100
Babcock & Wilcock Co., Tubular Products Division (Beaver Falls, Pa.)	Primary metals	Steelworkers	5,050
Bell Telephone Co. of Pennsylvania:			
Commercial and Marketing Departments	Communication	Pennsylvania Telephone Guild (Ind.)	2,700
Comptrollers and Treasurers Department	Communication	Federation of Telephone Workers of Pennsylvania (Ind.)	1,300
Plant Department	Communication	Federation of Telephone Workers of Pennsylvania (Ind.)	12,150
Traffic Department	Communication	Electrical Workers (IBEW)	5,250
Bell Telephone Laboratories, Inc. (Illinois and New Jersey)	Electrical products	Communications Workers	1,450
Bethlehem Steel Corp. (Interstate)	Primary metals	Steelworkers	50,000
Cameron Iron Works, Inc. (Texas)	Machinery	Machinists	3,300
CF&I Steel Corp. (Pueblo, Colo.)	Primary metals	Steelworkers	6,000
Chesapeake and Potomac Telephone Co. (Interstate)	Communication	Communications Workers	31,750
Cincinnati Bell, Inc. (Ohio and Kentucky)	Communication	Communications Workers	3,500
Cleveland Cliffs Iron Co. (Interstate)	Mining	Steelworkers	3,800
Cleveland Food Industry Committee, 2 Agreements (Interstate)	Retail trade	Food and Commercial Workers	11,900
Consumers Power Co. (Michigan)	Utilities	Utility Workers	4,500
Cooper Industries, Inc., Cooper Energy Services Division (Grove City, Pa.)	Machinery	Steelworkers	1,100
Copperweld Steel Co. (Warren, Ohio)	Primary metals	Steelworkers	1,950
Crucible, Inc. (New York and Pennsylvania)	Primary metals	Steelworkers	6,300
Diamond State Telephone Co. (Pennsylvania)	Communication	United Telephone Workers of Delaware (Ind.)	1,300
Fisher Controls Co. (Marshalltown, Ia.)	Fabricated metal products	Auto Workers (Ind.)	1,700
Fluid Milk-Ice Cream Agreement (California)[2]	Food products	Teamsters (Ind.)	1,350
Fry's Food Stores of Arizona, Inc. (Arizona)	Retail trade	Food and Commercial Workers	1,000
General Telephone Co. of Pennsylvania (Pennsylvania)	Communication	Electrical Workers (IBEW)	2,400
Glass Packaging Institute (Interstate)	Stone, clay, and glass products	Flint Glass Workers	3,500
Great Atlantic & Pacific Tea Co., Inc. (New York)	Retail trade	Food and Commercial Workers	1,700
Gulf Resources and Chemical Corp., Bunker Hill Co. subsidiary (Kellogg, Idaho)	Mining	Steelworkers	1,400
Harnischfeger Corp. (Milwaukee, Wis.)	Machinery	Steelworkers	2,350
Illinois Bell Telephone Co.:			
Commercial and Marketing Departments	Communication	Telephone Commercial Employees Union (Ind.)	1,800
Commercial Operations & others	Communication	Telephone Commercial Employees Union (Ind.)	2,000
Comptrollers Department & 3 others (Illinois and Indiana)	Communication	Electrical Workers (IBEW)	1,100
Military Agreement (Illinois & Indiana)	Communication	Communications Workers	13,500
Traffic Department (Illinois & Indiana)	Communication	Electrical Workers (IBEW)	6,350
Indiana Bell Telephone Co., Inc. (Indiana)	Communication	Communications Workers	7,600
Industry Food Agreement (Arizona)[2]	Retail trade	Food and Commercial Workers	2,800
Inland Steel Co. (Interstate)	Primary metals	Steelworkers	18,000
Interlake, Inc., 2 Agreements (Kentucky & Illinois)	Primary metals	Steelworkers	3,200

See footnotes at end of table.

Continued—Major Agreements Expiring Next Month

Employer and location	Industry	Union[1]	Number of workers
Jones & Laughlin Steel Corp. (Interstate)	Primary metals	Steelworkers	18,900
Joy Manufacturing Co. (Franklin, Pa.)	Machinery	Machinists	1,850
Kaiser Steel Corp., Steel Manufacturing Division (Fontana, Calif.)	Primary metals	Steelworkers	6,300
Latrobe Steel Co. (Latrobe, Pa.)	Primary metals	Steelworkers	1,100
Lukens Steel Co. (Coatesville, Pa.)	Primary metals	Steelworkers	2,700
Master Plumbers' Association of Boston and Vicinity, Inc. (Massachusetts)	Construction	Plumbers	1,100
McGraw-Edison Co., Power Systems Division (Canonsburg, Pa.)	Electrical products	Steelworkers	1,500
Michigan Bell Telephone Co. (Michigan)	Communication	Communications Workers	19,850
Microdot, Inc., Valley Mould and Iron Co. Division (Ohio and Illinois)	Primary metals	Steelworkers	1,200
Mountain States Telephone and Telegraph Co. (Interstate)	Communication	Communications Workers	27,050
National Electrical Contractors Association and 1 other association (Boston, Mass.)	Construction	Electrical Workers (IBEW)	2,300
National Steel Corp.:			
Granite City Steel Division (Granite City, Ill.)	Primary metals	Steelworkers	2,500
Great Lakes Steel Division (Ecorse and River Rouge, Mich.)	Primary metals	Steelworkers	9,000
Midwest Steel Division (Portage, Ind.)	Primary metals	Steelworkers	1,300
Weirton Steel Division (Weirton, W. Va.)	Primary metals	Independent Steelworkers Union	15,000
New England Telephone and Telegraph Co. (Interstate):			
Accounting Department	Communication	Electrical Workers (IBEW)	1,500
Plant Department	Communication	Electrical Workers (IBEW)	16,000
Traffic Department	Communication	Electrical Workers (IBEW)	7,500
New England Mechanical Contractors Association, Inc. (Boston, Mass.)	Construction	Plumbers	1,350
New Jersey Bell Telephone Co.:			
Commercial and Marketing Departments	Communication	Communications Workers	3,450
Plant and Engineering Departments	Communication	Electrical Workers (IBEW)	11,200
Traffic Department	Communication	Communications Workers	4,700
Vice President and Comptroller and General Departments	Communication	Electrical Workers (IBEW)	1,300
New York Telephone Co.:			
Accounting Department (New York City area)	Communication	Telephone Employees' Organization (Ind.)	2,850
Commercial, Directory, Public Telephone, Sales and Headquarters Departments (Downstate)	Communication	Union of Telephone Workers (Ind.)	8,050
Customer Services, Directory, Accounting, Network Operations (New York)	Communication	Telephone Commercial Union (Ind.)	2,000
Empire City Subway Co. (New York City area)	Communication	Communications Workers	30,800
Traffic Department (Downstate)	Communication	Telephone Traffic Union (New York) (Ind.)	10,000
Traffic Department (Upstate)	Communication	Telephone Traffic Union (Ind.)	3,700
Northwestern Bell Telephone Co. (Interstate)	Communication	Communications Workers	20,900
Northeastern Ohio Food Industry Employers (Ohio)	Retail trade	Food and Commercial Workers	1,200
Northwestern Steel and Wire Co. (Sterling, Ill.)	Primary metals	Steelworkers	4,000
Ohio Bell Telephone Co. (Ohio)	Communication	Communications Workers	17,250
Pacific Northwest Bell Telephone Co. (Interstate)	Communication	Communications Workers	17,800
Pacific Telephone and Telegraph Company and 1 other, 3 agreements (California and Nevada)	Communication	Communications Workers and Electrical Workers (IBEW)	59,450
Phoenix Steel Corp. (Claymont, Del.)	Primary metals	Steelworkers	1,050
Quester Corp., Spalding Division (Chicopee, Mass.)	Miscellaneous manufacturing	Boilermakers	1,300
Republic Steel Corp. (Interstate)	Primary metals	Steelworkers	27,900
Reserve Mining Co. (Silver Bay and Babbitt, Minn.)	Mining	Steelworkers	2,300
Roofing Contractors Association of Southern California, Inc. (California)	Construction	Roofers	1,650
South Central Bell Telephone Co. (Interstate)	Communication	Communications Workers	60,650
Southern Bell Telephone and Telegraph Co. (Interstate)	Communication	Communications Workers	50,000
Southern New England Telephone Co. (Connecticut)	Communication	Telecommunications (Ind.)	9,000
Southwestern Bell Telephone Co. (Interstate)	Communication	Communications Workers	62,000
Teletype Corp., 2 agreements (Illinois and Arkansas)	Electrical products	Electrical Workers (IBEW) and Teletype Employees' Industrial Union (Ind.)	3,300
Timken Co. (Canton, Ohio)	Machinery	Steelworkers	8,400
U and I, Inc., Sugar Division (Interstate)	Food products	Grain Millers	3,000
United States Steel Corp.:			
American Bridge Division (Interstate)	Fabricated metal products	Steelworkers	2,300
Master Nation-wide agreement (Interstate)	Primary metals	Steelworkers	90,000
Minnesota Ore Operations (Minnesota)	Mining	Steelworkers	4,000
Salaried Employees (Interstate)	Primary metals	Steelworkers	5,800

See footnotes at end of table.

Continued—Major Agreements Expiring Next Month

Employer and location	Industry	Union[1]	Number of workers
Western Electric Co.:			
Allentown Works (Allentown, Pa.)	Electrical products	Electrical Workers (IBEW)	3,250
Atlanta Works (Norcross, Ga.)	Electrical products	Communications Workers	1,350
Baltimore Works (Maryland)	Electrical products	Communications Workers	2,200
Denver Works (Colorado)	Electrical products	Electrical Workers (IBEW)	1,850
Hawthorne Works, 2 agreements (Illinois)	Electrical products	Electrical Workers (IBEW)	6,800
Indianapolis Works (Indianapolis, Ind.)	Electrical products	Electrical Workers (IBEW)	6,250
Installation Department (Interstate)	Communication	Communications Workers	17,300
Kansas City Works (Jackson County, Mo.)	Electrical products	Communications Workers	3,350
Kearny Works (New Jersey)	Electrical products	Electrical Workers (IBEW)	5,150
Montgomery Works (Interstate)	Electrical products	Electrical Workers (IBEW)	1,550
Merrimack Valley Works (Massachusetts)	Electrical products	Communications Workers	5,250
North Carolina Works	Electrical products	Communications Workers	3,750
Oklahoma City Works (Oklahoma)	Electrical products	Electrical Workers (IBEW)	4,200
Omaha Works (Omaha, Neb.)	Electrical products	Electrical Workers (IBEW)	3,400
Phoenix Works (Arizona)	Primary metals	Communications Workers	1,150
Reading Works (Pennsylvania)	Electrical products	Electrical Workers (IBEW)	1,650
Service Division (Interstate)	Communication	Communications Workers	14,200
Shreveport Works (Shreveport, La.)	Electrical products	Electrical Workers (IBEW)	5,700
Wheeling Pittsburgh Steel Corp., 2 agreements (Ohio and Pennsylvania)	Primary metals	Steelworkers	14,400
Wisconsin Electric Power Co. (Wisconsin)	Utilities	Electrical Workers (IBEW)	1,050
Wisconsin Telephone Co. (Wisconsin)	Communication	Communications Workers	6,500
Youngstown Sheet & Tube Co. (Ohio and Pennsylvania)	Primary metals	Steelworkers	13,000

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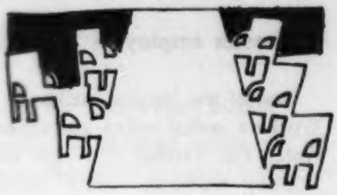
[1] Affiliated with AFL-CIO except where noted as independent (Ind.).

[2] Industry area (group of companies signing same contract).

Developments in Industrial Relations



AFL-CIO remains committed to 'national accord'

At its spring meeting, the Executive Council of the AFL-CIO contended that President Carter's efforts to counter inflation by cutting the Federal budget had resulted in a "budget that was 'balanced' in dollars, but which was unbalanced in human terms, creating increased joblessness and needless suffering and hardship for millions." The Council asserted that the President's actions amounted to abandonment of some of the principles and commitments of the "national accord" between organized labor and the Administration on stemming inflation. However, the 35-member Council reaffirmed the AFL-CIO's commitment to the accord; the only dissenting vote was cast by Rubber Workers president Peter Bommarito.

Federation President Lane Kirkland said there was no other choice because "we're here to maintain representational relations with the institutions of policy and of power and of government in this country. . . . The game may be rigged, but it's the only game in town."

Turning to the issue of wage negotiations, Kirkland said he would "advise our members to engage in vigorous collective bargaining in representing their members as forcefully as they can." Asked if this meant ignoring the current 7.5- to 9.5-percent annual pay guideline first advocated by himself and the other members of the Pay Advisory Committee established in conjunction with the national accord, Kirkland replied that the voluntary pay program hadn't "repealed" Federal labor laws requiring union leaders to represent their members' best interests. However, he later softened his stance, saying that the pay standard is flexible enough to generally permit union negotiators to negotiate economic gains approaching those that could be won if there was no pay standard.

Master agreement covers Atlantic and Gulf ports

The International Longshoremen's Association and shipping associations along the Atlantic and Gulf Coasts tentatively agreed on the first master contract for all major ports, except New Orleans. In the past, a master agreement was reached for the major North Atlantic Coast ports which set the pattern for agreements in other Atlantic and Gulf Coast ports.

The agreement, subject to worker ratification after local port agreements have been reached, covers 45,000 workers. The agreement will be effective on the October 1, 1980, termination date of existing contracts. The early settlement on master terms was part of the parties' plan to permit the maximum possible time for settlement of difficult local port issues, such as guaranteed annual income plans, which vary from port to port and guarantee eligible ILA members specified numbers of hours of pay per year.

The new 3-year agreement provided for increases in the basic wage rate of $1.20 an hour on October 1, 1980 (the previous rate was $10.40) and on October 1, of 1981 and 1982. The current employer contribution to the pension funds of $2.25 an hour will increase by 25 cents in each year of the contract and the current contribution to the health and welfare funds of $1.50 an hour will increase by 17 cents in each of the first 2 contract years and 16 cents in the third year. Also, the contract permits the union to refuse to load and unload ships of ocean carriers which refuse to subscribe to the Job Security Program, which requires ocean carriers to pay uniform assessments, regardless of the port, into a common pool to meet shortfalls in local guaranteed annual income, pension, and health and welfare funds.

During the first bargaining sessions, which began in February, the parties reviewed the legal status of the Rules on Containers—a key contract item—which have been in litigation before the National Labor Relations Board and the Federal courts for nearly 7 years. The rules were developed over the years to preserve specified container cargo handling work for ILA members. In 1977, an adverse ruling on the legality of the container clause precipitated strikes aimed at containerships. No such problem was expected in 1980 because the Supreme Court is scheduled to review the rules. However, the union can cancel the agreement on 60 days' notice after December 1, 1980, if the Supreme Court strikes down the Rules on Containers.

"Developments in Industrial Relations" is prepared by George Ruben and other members of the staff of the Division of Trends in Employee Compensation, Bureau of Labor Statistics, and is largely based on information from secondary sources.

Harvester employees end 172-day strike

One of the longest strikes in the history of the Auto Workers ended when employees of International Harvester Co. ratified a 3-year contract. Throughout the 172-day walkout, which involved 35,000 workers in nine States, the chief issues were demands for changes in overtime work and job transfer provisions the company said were needed to reduce a labor cost imbalance with its competitors in the farm and construction equipment industry.

International Harvester did not gain its demand for the right to require employees to work overtime, but there were some changes in the voluntary approach to overtime. The company will be permitted to establish a pool of volunteers who will work the overtime, if enough regular employees refuse the work. If this pool is not adequate, additional volunteers will be available from a pool of laid-off employees who are not eligible for Supplemental Unemployment Benefits or have exhausted their benefits. The final source will be a pool of retirees who have volunteered to perform overtime work.

The company's demand that employee-initiated job transfers be limited to two a year was shifted from the national bargaining table to the local bargainers for resolution, resulting in some variation in the final provisions. Reportedly, most of the local agreements continue to permit employees to make an unlimited number of upward transfers in a year but limit the number of lateral and downward moves.

According to the union, the economic terms of the national contract meet or exceed the pattern established by the union with the International Harvester's competitors, such as Deere and Co.

Continued cutbacks in steel and auto industries

The depressed state of the steel industry was reflected in U.S. Steel Corp.'s announcement that its management employees will not receive a general salary increase in 1980. In the letter to the employees, distributed after U.S. Steel and other major basic producers settled with the Steelworkers for production and related workers (see *Monthly Labor Review*, June 1980, p. 57), the company indicated that funds had beenallocated for merit increases. The management employees are not represented by a union. U.S. Steel, like other steel producers, also was cutting back output and employment to counter the industry's problems, which, it says, stemmed from continuing increases in steel imports and production cuts by steel-using industries, such as construction and automobile manufacturing.

The continuing decline in sales of domestically manufactured automobiles and trucks was evident, as steel manufacturers announced some permanent plant closings as well as some short-term closings. About 300,000 workers were affected by layoffs or permanent job losses, and about 40,000 salaried jobs were expected to be eliminated by June. During the last sales slump, in 1974–75, fewer salaried employees were affected and virtually all of them were recalled when the slump ended. The latest announcement of white-collar job terminations came at the end of April, when General Motors Corp. said that it was reducing its worldwide staff of 180,000 salaried workers about 10 percent, on top of some 2,000 jobs it had eliminated earlier. Cuts in salaried jobs at Ford Motor Co. had reportedly totaled more than 6,000 in recent months and, at Chrysler Corp., more than 15,000 white-collar employees have been terminated since last fall.

The manufacturers also were making other moves to reduce labor costs. Ford Motor Co. ceased granting merit increases to its 70,000 salaried workers for at least the balance of 1980 and also ceased contributing to the workers' investment plan for an indefinite period. The 56,000 participants in the investment plan were permitted to invest a portion of their salary in Ford stock, with the company contributing 60 cents for each dollar. For 1979, Ford's contribution totaled $78 million.

New contract for General Telephone employees

More than 20,000 employees of General Telephone Co. of California are covered by a 3-year contract negotiated by the Communications Workers. It provides for a wage increase of 7 percent, retroactive to the March 5 termination date of the prior contract, and for increases of 2.5 percent in October 1980, 3 percent in March 1981, and 2.5 percent in March 1982. The agreement also establishes a wage escalator clause providing for increases of up to 6 percent in October 1981 and 6.5 percent in October 1982, calculated at the rate of 0.7 percent for each 1-percent rise in the BLS Consumer Price Index for Urban Wage Earners and Clerical Workers for the Los Angeles area during the preceding 12 months.

Benefit improvements included a fifth week of paid vacation after 25 years of service (beginning in 1982), a 12th annual paid holiday, and an increase in the annual pension rate to 1.35 (formerly 1.3 percent) percent of average annual preretirement earnings for each year of credited service.

Union president Glenn E. Watts said that the agreement was within the 7.5- to 9.5-percent guidelines for increases in employee compensation specified in President Carter's anti-inflation program. Watts, an alternate member of the President's Pay Advisory Committee, earlier had said that the Communications Workers would stay within the pay guidelines in its negotiations with the Bell telephone system companies to replace contracts expiring in August 1980 for more than 500,000 workers. General Telephone Co. of California is not part of the Bell system.

Workers gain access to medical records

Another development in the continuing effort to improve job safety and health occurred when the Department of Labor announced a new rule giving employees access to their on-the-job medical records. Effective August 21, employers must furnish medical records within 15 days after an employee requests them. The only information that can be withheld is that regarding a terminal illness or mental problems; such information will be furnished to a person chosen by the employee, who will decide if it is in the employee's best interest to see it.

Employers are also required to furnish medical records to unions representing the workers, if the workers give their consent. However, OSHA investigators can obtain the records without the prior consent of the employees. Another provision of the rule requires that medical records be kept for up to 30 years after an employee stops working.

OSHA officials indicated that the new rule will not require additional recordkeeping by employers. Eula Bingham, Assistant Secretary of Labor for Occupational Safety and Health, said that the regulation fulfills a basic right of workers—the right to know "what they are working with and its effect on them," vital information which previously has been "locked away in employers' files."

Jewelry Workers to merge with Service Workers

Delegates to the Jewelry Workers triennial convention voted to merge their 10,000-member union into the Service Employees union, which currently has about 625,000 members. Jewelry Workers President Leon Sverdlove said that the move will help in efforts to organize unrepresented workers in the industry. Under the merger, Jewelry Workers locals will retain their identity in a new jewelry division of the Service Employees union that will be headed by Sverdlove, who will also become a member of the Service Employees executive board.

In welcoming the Jewelry Workers, Service Employees President George Hardy assured them that there would be no change in the basic structure of their union, that his union had added 50,000 members in the past 10 years through mergers and affiliations and the incoming groups have been strengthened while upholding their autonomy and contracts.

Pattern-setting contract for Las Vegas hotels

More than 12,000 employees of resort hotels on "The Strip" in Las Vegas were affected by a 4-year settlement between the Nevada Resort Association and the Hotel and Restaurant Employees Union. The accord also was expected to influence settlements for a similar number of employees the union represents at other hotels in the city.

Skilled workers, who previously earned about $55 a shift, received a 75-cent-an-hour wage increase, retroactive to April 2, 70 cents in the second year, 60 cents in the third, and 55 cents in the fourth year. Semiskilled employees, who earned about $40 a shift, received increases of 60, 50, 40, and 40 cents an hour on the corresponding dates. Tipped employees, who are paid about $25 a shift by the hotels, received 40, 35, 35 and 30 cents increases. In addition, their guaranteed tip was increased to 16 percent from 15 percent, in the first contract year and to 17 percent in the second year.

Other wage provisions included a requirement that bell captains either have at least two of the three concessions they formerly operated returned to them or be paid an additional $30 a shift. The concessions are for show reservations, tours, and car rentals.

The association agreed to permit the international union to take over as the administrative agency for the health and welfare fund, which the union claimed could reduce operating costs and, thus, permit improved benefits.

Other changes included a 5-cent-an-hour increase (to 45 cents) in the employers' payment into the pension fund; a new provision permitting employees of either sex to take a leave of absence of 90 days to 1 year to rear an infant child; extension of sickness and accident benefits to cover childbearing; and a ban on using lie detectors for screening job applicants, except those who will be bonded.

Kansas City bakery workers get new contract

The Bakery, Confectionery and Tobacco Workers negotiated 2-year contracts with four Kansas City bakeries that the union said would set a pattern for 25,000 other bakery employees in eight midwestern States.

The accords provided for a 75-cent-an-hour wage increase in the first year, 70 cents in the second, and 3 cents to be used for special wage adjustments or benefit improvements.

Other provisions included accelerated progression to top pay rates for new employees; increased employer pension funding to permit an increase in the normal pension to $550 a month; a 2-year reduction in the service required for 4 weeks' vacation; and an increased employer contribution to maintain the level of health benefits for pensioners.

The four companies involved were ITT Continental Baking Co., Campbell-Taggert, Inc., Interstate Brands, and American Bakeries Co.

GPO female bookbinders awarded back pay

Federal District Judge Charles R. Richey awarded an estimated $6 million in back pay and $10 million in increased future earnings to 324 female bindery workers at the Government Printing Office to settle a class action job discrimination suit initiated in 1974. Richey, who had found the Federal facility guilty of the job discrimination in October 1979, held that 28 of the women had been paid only about 70 percent of the amount received by male bookbinders, despite the fact that they performed essentially the same operations. An attorney for the women said that they earned about $15,000 a year, compared with $25,000 for men. The women will receive the difference between the amounts for each year back to 1971.

The remaining 296 women will share an estimated $3 million that they would have earned had they not been denied an equal opportunity to be promoted to bookbinders.

Richey also awarded so-called "forward pay" to compensate the women for the continuing inequities in salaries, pensions, and other benefits that resulted from the unfair job policies. This pay will continue until 50 percent of all bookbinders positions are filled by women. Currently, only one of GPO's 106 bookbinders is a woman.

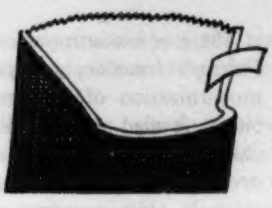
Residency requirement struck down

New York City's efforts to require its employees to live in the city suffered a blow when the State's highest court struck down the residency ordinance the city had enacted in 1978. The Court of Appeals ruling immediately applied only to the uniformed employees represented by the unions that had initiated the suit but city officials were studying the possibility that the principle might extend to nonuniformed employees. There was no immediate impact on the city's employees because the city had agreed not to enforce the ordinance pending the outcome of the court tests.

In a unanimous ruling, the court held, "While the structure and control of the municipal service departments in issue here may be considered of local concern within the meaning of municipal home rule, the residence of their members, unrelated to job performance or departmental organization, is a matter of statewide concern not subject to municipal home rule." More specifically, the court said that the ordinance was inconsistent with parts of the State's Public Officers Law, which prohibits residency requirements for firefighters and corrections officers in cities of a million or more population, of police officers in departments of 200 officers or more, and sanitation workers in cities of any size.

Mayor Edward Koch indicated that he would ask the State Legislature to pass a law allowing such a local requirement. The city had unsuccessfully sought such a State law a number of times before enacting the residency ordinance. No other city in New York State has a residency law. Elsewhere in the Nation, residency requirements have been adopted by a number of cities, including Houston, San Francisco, Chicago, and by Washington, D.C. ☐

Book Reviews



Nice protection if you can get it

Facing Mechanization: The West Coast Longshore Plan. By Lincoln Fairley. Los Angeles, University of California, Institute of Industrial Relations, 1979. 447 pp. (Monograph Series, 23.) $8.50, paper.

Twenty years have passed since the much-heralded mechanization and modernization agreement was negotiated by the Pacific Maritime Association and the independent International Longshoremen's and Warehousemen's Union covering Pacific Coast longshore operations. This was a major cynosure coming as it did in a climate in which work rules were active issues also in east coast longshoring, in railroads, meatpacking, and in steel among other leading bargaining situations. The personalities and backgrounds of the leading protagonists and the history of west coast longshore labor relations added to the attention given to the maritime agreement. There was Harry Bridges, long-time president of the ILWU, with his left-wing background, and his leadership of the union through the initial period of virtual internecine warfare with stevedores over work rules, which culminated in what was touted as the "new look" in the labor-management relationship. It remained for Paul St. Sure, negotiating for almost a decade on behalf of the Pacific Maritime Association, with Bridges, to turn the new look from a standoff relationship, to one which is regarded as innovative and pattern setting.

It is the long, tortuous, and delicate foundation laying for the M and M agreement, together with the metamorphoses of the agreement, that Lincoln Fairley treats in this study. That it is an admirable narrative analysis is due to Fairley's long service, from 1946 to 1967, as research director of the International Longshoremen's and Warehousemen's Union; his analytical abilities and background; and his subsequent service as an area arbitrator under the agreement by appointment of both the association and the union. Fairley had ample association with and understanding of the factors involved in the preparations for and modification of the M and M plan. Fairley does not claim to have been involved in deliberations which took place at the leadership levels, notably involving Bridges and St. Sure directly; rather it is clear that his evaluation is that of an observer.

Fairley takes us through the background and structure of the west coast relationship. Underlying the ability to achieve agreement was the coastwide organization of employers and the International Longshoremen's and Warehousemen's Union as well as the joint control of the longshore labor force through the dispatch halls in each of the ports. The hiring halls assured a balance between labor supply and demand, with relative equality in longshoremen's earnings and equitable labor distribution among ship operators and stevedores, as basic operational features. In the fifties, the prewar legalistic approach to contract enforcement was carefully avoided, and expressed employer dissatisfaction with restrictive work rules in the ports was approached through continuing discussions.

In the union, the periodic coastwide caucuses of delegates representing the union locals played an integral role in the educative process, with full and frank study of the impact of mechanization and of the likely deleterious effect of adhering to the former union policy of refusing to alter work rules. Mutual agreement in 1959 that none of the registered workforce would be laid off made possible the agreement in 1960 for basically a "buy-out" of the restrictive provisions, with reductions in gang size and increased flexibility in worker use. Funds were set up to encourage early retirement and to guarantee 35 hours work or pay per week. The former was effective; the latter was not required and was dropped in 1966. The success of the first contract resulted in renewal with substantial wage increases.

As Fairley points out, it was during the renewal period of the M and M agreement, from 1966 to 1971, that a combination of unanticipated factors led to dissatisfaction. Despite the substantial increase in earnings under the 1966 agreement, these were eroded by the unanticipated rise in living costs from 1968 on. The annual hours worked by the "A" men fell off, with the decline in shipments to Southeast Asia, and the unexpected explosive effect of the container revolution. The work or pay guarantee was restored. An effort to retain some of the lost work opportunities by agreement to have containers loaded at waterfront container freight stations, under jurisdiction of the International Longshoremen's and Warehousemen's Union, proved to be abortive in the face of Teamster jurisdiction and decisions by the National Labor Relations Board.

There is a continuous questing approach throughout Fairley's intensive analysis of this adaptation of the modernization of maritime transport. All of the criticisms leveled against the union acceptance of the change are set out. He cites the great gains made in productivity and labor-cost savings which accrued to shippers, ship operators, and stevedores. The continuing undercurrent of skepticism and actual opposition of secondary union officials and substantial minorities of rank-and-file union members, as expressed in the voting on the agreements, are detailed. Cited are the views of Marxists that the agreement was class collaborationist, betraying the union's apparent left-wing orientation. Cited at several points is the view that the west coast union should have held out for protection of the role of the gang, as had the east coast International Longshoremen's Association. Acceptance of technology, in the view of some critics, has made for alienation in work relationships, through growing routinization of the longshoremen's work, displacement of gangs, and growing "steady" work.

While stress is placed on the contrasting east coast resistance to the manning and work rule concessions, there is insufficient treatment of the contrasting institutional and structural labor-management relations on the two coasts. Rather submerged is explanation of the decentralized bargaining structure on the east coast, the difference in waterfront jurisdiction on the two coasts, and hardly treated at all are the divergent approaches to job security. As this reviewer has pointed out, the International Longshoremen's and Warehousemen's Union apparently did not emphasize the role of the gang because sufficient job security was achieved through the dispatch hall, with equalization of earnings and assurance of employment for registered longshoremen. On the east coast, in the absence of dispatch halls, the regular gangs provided the persistent and basic avenues for job security and earnings. Fairley concludes that institutional differences probably accounted for the apparently divergent policies. ("Longshoremen and the Modernization of Cargo Handling in the United States," *International Labor Review*, March 1973, pp. 272–74.)

Fairley finds the 20-year developments advantageous to the union and its members, although he apparently is unwilling to concede completely that there could not have been a more deliberate and gradual yielding of the work rules. While the registered longshore workforce and man-hours worked have declined by 40 percent since 1960, the longshore hourly rate has increased fourfold with earnings averaging $26,000 to $30,000 per year for registered longshoremen. He points out that even the older men tend to welcome the elimination of the former back-breaking work, and enjoy operating the new machines. Even with the work or pay guarantee, they continue to have the contractual right to work only when they please, and to go hunting and fishing when they want to. The young men in the southern ports, who have not experienced the early issues and battles of the union, are more concerned about wages. Thus, in contrast to the rank-and-file opposition in the thirties to "steady" work for single employees, the younger men are prepared to accept such work now required for the operation of complex and costly machinery. Fairley concludes that: ". . . though membership has declined, no one has been laid off, earnings have risen, and with a wage guarantee and a good pension plan west coast longshoremen continue to enjoy a unique degree of lifetime security."

In summary, the labor-management adjustments to maritime industry modernization mean that, so long as the volume of cargo handled grows in the United States, the longshoring occupation will continue to be in the forefront of regular and well-paid occupations in sharp contrast to the casual employment offered in this industry hardly 50 years ago.

—JOSEPH P. GOLDBERG
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Bureau of Labor Statistics

Working women on the rise? Yes and no

The Subtle Revolution: Women At Work. Edited by Ralph E. Smith. Washington, The Urban Institute, 1979. 255 pp. $7.50, paper.

The rapid growth of the female labor force—and the expectation that this growth will continue to mushroom as we look towards the 1990's—has created the need for a comprehensive analysis of women at work. *The Subtle Revolution*, edited by Ralph E. Smith, appears to be the most ambitious effort so far to provide historical analyses and long-range projections. And because it is the intent of the volume's six authors to make a significant impact on public policy, the ambitiousness of the work is both its strength and its weakness.

Over the past 30 years, 6 out of 10 additions to the workplace have been female and it is estimated one million women will be entering the work force each year in the 1980's. But despite some gains in certain areas, the ratio of women's earnings to men's has actually dropped from about 63 percent in the mid-1950's to below 60 percent in the mid-1960's and 1970's. This alone demonstrates the importance of a volume that analyzes the effects of women's employment on the family structure, the workplace, and the tax and social security systems, and examines the many myths that keep women's pay so far below men's.

For example, studies included in this book indicate clearly that most women work because they have to, although inflation—unfortunately relegated to a lesser role because of the long-range nature of the study—often blurs the line between choice and need. Women's workplace commitment, the authors show, is comparable to men's, although because many women's jobs are dead end and low-paying, women's commitment toward individual jobs may be less. And myths and early studies that indicate damage to marriages or to the children of working women are carefully examined and contradicted.

Also examined closely are what the authors consider the inequities facing the growing army of female second earners from the Federal income tax system and the social security system. Their recommendations are somewhat controversial—measures to ease the marriage tax penalty and earnings-sharing in social security—but they can provide a framework for significant policy debate.

In one major area, however, the authors' analysis and conclusions are likely instead to distort discussion on a fundamental question—the pay gap between men and women and how to narrow it. In her study, Nancy Barrett correctly identifies occupational segregation as the main obstacle to narrowing the pay gap. But her basic conclusion is that the chief way to narrow it is for women to "increase their representation in jobs formerly dominated by men" and to move into "more responsible jobs with good pay."

This ignores high unemployment in many fields considered "nontraditional" for women and further consigns the jobs held by the majority of women—clerical, service, health—to unimportance. One of the most significant current efforts in relation to women in the workplace is research into comparable worth—analysis of jobs in terms of various factors rather than traditional market value—to determine their worth. Pioneering in these efforts are labor unions that represent women officeworkers, particularly in the public sector. This book contains not one word about upgrading the pay of "women's-type" jobs, and there are only two paragraphs that discuss unions.

Women workers currently constitute 23.5 percent of all union membership, and approximately 17 percent of the female work force is covered by a collective bargaining agreement. This can be a major avenue for upgrading women's pay and other conditions of employment; women in unions make significantly more than nonunion women. Unions such as the American Federation of State, County and Municipal Employees have pioneered comparable worth studies across the Nation. The Amalgamated Clothing Workers of America has instituted child-care centers for employees. A number of unions sponsor training programs to help break down obstacles to promotions many women workers face. By ignoring these developments, the book obscures a major avenue for improvement of the pay and jobs that are largely held and will continue to be held by women.

However, *The Subtle Revolution* does provide a useful and comprehensive compilation of data and analysis. But because its historical perspective and long-range approach do not take into account a number of current economic trends and situations, some of its conclusions and recommendations should be examined carefully in terms of immediate public policy.

—JUDY BASTON
Public Affairs Coordinator
American Federation of State,
County and Municipal Employees

Economic portrait of China

China's Economy: A Basic Guide. By Christopher Howe. New York, Basic Books, Inc., 1978. 248 pp., appendix. $16 cloth; $4.95, paper.

Recognition of the People's Republic of China last year did for Americans of this generation what Marco Polo did centuries earlier for Europeans—it opened trade, economic exchange, and tourism between the United States and China. It also made Americans increasingly interested in the basic economic facts of one of the largest land masses in the world under a single government and a country with the largest population.

Economic data on the People's Republic of China has been almost nonexistent from 1960 to 1971, and sketchy after 1971. Christopher Howe fills part of this gap by presenting a chronology of events in China, as well as tables and text on the current status of Chinese resources. Among the valuable appendixes are biographical notes on persons frequently referred to in literature on the Chinese economy, Chinese measures and Western equivalents, and how to find out about and keep up with economic developments in China.

The author makes the point that Chinese leaders have had a continuous struggle with problems of food and population. At the international level, China now shares with other developing countries a growing preoccupation with raw material prices, the working of international economic institutions, and the general problems of world economic order.

Howe writes that in 1949 the Chinese economy reflected two fundamental developments: a crisis in the long-term relationship between the growth of population and the growth of the food supply and the beginning of industrialization that started during the First World War. Much of the economic dislocation and lack of investment in China was due to war. From 1927, the Chinese were fighting a civil war and from 1937, they were fighting the Japanese, according to Howe.

China's development since 1949 has been uneven. The first phase lasted from 1949 to 1952. The Communist Party took control of the monetary, fiscal, and trade systems and implemented a land reform. The latter was a traumatic event which eliminated the political and economic power of the landlords and distributed land and other assets to the rural population.

Howe labels the four phases of development since 1952 as (1) the periods of fastest growth (1952–59); (2) the Great Depression (1959–61); (3) readjustment and the Cultural Revolution (1961–70); and (4) the revival of growth with trade (1970–77).

The First Five-Year Plan (1953–57) raised by about 20 percent the share of the nation's resources to be invested and proposed that these resources be used for the development of heavy industry.

The Plan's impact on agricultural collectivism was dramatic. By March 1956, more than 90 percent of all the Chinese peasants were in cooperatives and by 1957, virtually all were in the 680,000 more sophisticated cooperatives. Thus, a revolution planned to take 15 years was over in little more than 1 year, says Howe.

But the results were not satisfactory. Growth of agriculture was still too slow. Growth of urban employment was slow. Relations with the Soviet Union (upon which industrial assistance depended) were worsening. This crisis led Chairman Mao (who dominated China's political life from the 1930's to his death) to launch the most extraordinary economic adventure the world has ever seen—the Great Leap Forward of 1958. It embodied changes in ownership and organization combined with a radical psychological transformation that would stimulate people to work more intensively, more creatively, more selflessly.

As the Leap went on into 1959, administrative confusion deepened and the consequences of strain, of the misuse of resources, and of sheer human exhaustion became increasingly serious. When the end came, it coincided with the withdrawal of Soviet assistance and a succession of natural disasters.

From 1962 to 1965, China's economic position improved. However, Howe points out that the political situation remained difficult. Mao believed the retreat from the Leap had led to corruption—to selfish, anti-Socialist economic behavior, and to the entrenchment of his enemies in the bureaucracy. By mid-1966, the revival of the economy finally made it possible for Mao to launch a campaign against his enemies. Thus, unlike his Leap, Mao's Cultural Revolution was not launched to remedy economic problems. It was mainly a political struggle.

In the 1970's, claims Howe, the Chinese economy reawoke after years of isolation. Chou En-lai, prime minister and a power in economic matters, died in April 1976. Mao died in September 1976, and his death was followed immediately by signs of a decisive new phase of economic policy. The critics of Chou's program were identified as the "Gang of Four" and included Mao's widow. Howe says that the disgrace of the Gang has been very important because it has been possible to blame them for many of China's economic troubles.

Howe indicates that the 1953 census was the first count in China to approach modern standards of enumeration. It was undertaken because information about the population was needed for preparation of the First Five Year Plan. The Chinese population is a young one, Howe points out. The bulk of it is of working age (15 to 64). The number of trained or educated workers grew very rapidly between the 1950's and the early 1960's.

The basic sectors of the Chinese economic system are producers, consumers, and the government. The "producers" are mainly industrial enterprises, people's communes, and other collectively organized units. The State owns nearly all industrial organizations with significant capital equipment. A collective sector (collective units are owned by their workers) employs over a third of all industrial workers and produces 14 percent of total output. In agriculture, approximately 90 percent of cultivated land and irrigation equipment is collectively owned, mainly by "teams" which often correspond to villages.

China's Economy draws on standard Chinese, Japanese, U.S., and English sources and on documents as well as on firsthand observations and interviews. It is the best up-to-date survey of the Chinese economy now in print with an analysis of agriculture, industry, foreign trade, population, and incomes for the nonspecialist reader.

—MARY ELLEN AYRES
Office of Publications
Bureau of Labor Statistics

Publications received

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NOTES ON CURRENT LABOR STATISTICS

This section of the *Review* presents the principal statistical series collected and calculated by the Bureau of Labor Statistics. A brief introduction to each group of tables provides definitions, notes on the data, sources, and other material usually found in footnotes.

Readers who need additional information are invited to consult the BLS regional offices listed on the inside front cover of this issue of the *Review*. Some general notes applicable to several series are given below.

Seasonal adjustment. Certain monthly and quarterly data are adjusted to eliminate the effect of such factors as climatic conditions, industry production schedules, opening and closing of schools, holiday buying periods, and vacation practices, which might otherwise mask short-term movements of the statistical series. Tables containing these data are identified as "seasonally adjusted." Seasonal effects are estimated on the basis of past experience. When new seasonal factors are computed each year, revisions may affect seasonally adjusted data for several preceding years. For a technical discussion of the method used to make seasonal adjustments, see "Appendix A. The BLS Seasonal Factor Method," *BLS Handbook of Methods for Surveys and Studies*, Bulletin 1910 (Bureau of Labor Statistics, 1976), pp. 272–78, and *X-11 Variant of the Census Method II Seasonal Adjustment Program*, Technical Paper No. 15 (Bureau of the Census, 1967). Seasonally adjusted labor force data in tables 2–7 were last revised in the February 1980 issue of the *Review* to reflect the preceding year's experience. Beginning in January 1980, the BLS introduced two major modifications in the seasonal adjustment methodology for labor force data. First, the data are being seasonally adjusted with a new procedure called X-11/ARIMA, which was developed at Statistics Canada as an extension of the standard X-11 method. A detailed description of the procedure appears in *The X-11 ARIMA Seasonal Adjustment Method* by Estela Bee Dagum (Statistics Canada Catalogue No. 12-564E, September 1979).

The second change is that seasonal factors are now being calculated for use during the first 6 months of the year, rather than for the entire year, and then are calculated at mid-year for the July-December period. Revisions of historical data continue to be made only at the end of each calendar year. Annual revision of the seasonally adjusted payroll data in tables 11, 13, 16, and 18 was last introduced in the November 1979 issue of the *Review*. New seasonal factors for productivity data in tables 33 and 34 are usually introduced in the September issue. Seasonally adjusted indexes and percent changes from month to month and from quarter to quarter are published for numerous Consumer and Producer Price Index series. However, seasonally adjusted indexes are not published for the U.S. average All Items CPI. Only seasonally adjusted percent changes are available for this series.

Adjustments for price changes. Some data are adjusted to eliminate the effect of changes in price. These adjustments are made by dividing current dollar values by the Consumer Price Index or the appropriate component of the index, then multiplying by 100. For example, given a current hourly wage rate of $3 and a current price index number of 150, where 1967 = 100, the hourly rate expressed in 1967 dollars is $2 ($3/150 × 100 = $2). The resulting values are described as "real," "constant," or "1967" dollars.

Availability of information. Data that supplement the tables in this section are published by the Bureau of Labor Statistics in a variety of sources. Press releases provide the latest statistical information published by the Bureau; the major recurring releases are published according to the schedule given below. The *Handbook of Labor Statistics 1978*, Bulletin 2000, provides more detailed data and greater historical coverage for most of the statistical series presented in the *Monthly Labor Review*. More information from the household and establishment surveys is provided in *Employment and Earnings*, a monthly publication of the Bureau, and in two comprehensive data books issued annually—*Employment and Earnings, United States* and *Employment and Earnings, States and Areas*. More detailed information on wages and other aspects of collective bargaining appears in the monthly periodical, *Current Wage Developments*. More detailed price information is published each month in the periodicals, the *CPI Detailed Report* and *Producer Prices and Price Indexes*.

Symbols

p = preliminary. To improve the timeliness of some series, preliminary figures are issued based on representative but incomplete returns.
r = revised. Generally this revision reflects the availability of later data but may also reflect other adjustments.
n.e.c. = not elsewhere classified.

Schedule of release dates for major BLS statistical series

Title and frequency (monthly except where indicated)	Release date	Period covered	Release date	Period covered	MLR table number
Employment situation	July 3	June	August 1	July	1–11
Producer Price Index	July 8	June	August 15	July	26–30
Consumer Price Index	July 23	June	August 22	July	22–25
Real earnings	July 23	June	August 22	July	14–20
Major collective bargaining settlements (quarterly)	July 25	1st half	....	....	35–36
Productivity and costs (quarterly):					
Nonfarm business and manufacturing	July 28	2nd quarter	....	....	31–34
Nonfinancial corporations	....	....	August 27	2nd quarter	31–34
Work stoppages	July 29	June	August 28	July	37
Labor turnover in manufacturing	July 30	June	August 29	July	12–13

EMPLOYMENT DATA FROM THE HOUSEHOLD SURVEY

EMPLOYMENT DATA in this section are obtained from the Current Population Survey, a program of personal interviews conducted monthly by the Bureau of the Census for the Bureau of Labor Statistics. The sample consists of about 65,000 households beginning in January 1980, selected to represent the U.S. population 16 years of age and older. Households are interviewed on a rotating basis, so that three-fourths of the sample is the same for any 2 consecutive months.

Definitions

Employed persons are (1) those who worked for pay any time during the week which includes the 12th day of the month or who worked unpaid for 15 hours or more in a family-operated enterprise and (2) those who were temporarily absent from their regular jobs because of illness, vacation, industrial dispute, or similar reasons. A person working at more than one job is counted only in the job at which he or she worked the greatest number of hours.

Unemployed persons are those who did not work during the survey week, but were available for work except for temporary illness and had looked for jobs within the preceding 4 weeks. Persons who did not look for work because they were on layoff or waiting to start new jobs within the next 30 days are also counted among the unemployed. The **unemployment rate** represents the number unemployed as a percent of the civilian labor force.

The **civilian labor force** consists of all employed or unemployed persons in the civilian noninstitutional population; the **total labor force** includes military personnel. Persons **not in the labor force** are those not classified as employed or unemployed; this group includes persons retired, those engaged in their own housework, those not working while attending school, those unable to work because of longterm illness, those discouraged from seeking work because of personal or job market factors, and those who are voluntarily idle. The **noninstitutional population** comprises all persons 16 years of age and older who are not inmates of penal or mental institutions, sanitariums, or homes for the aged, infirm, or needy.

Full-time workers are those employed at least 35 hours a week; **part-time workers** are those who work fewer hours. Workers on part-time schedules for economic reasons (such as slack work, terminating or starting a job during the week, material shortages, or inability to find full-time work) are among those counted as being on full-time status, under the assumption that they would be working full time if conditions permitted. The survey classifies unemployed persons in full-time or part-time status by their reported preferences for full-time or part-time work.

Notes on the data

From time to time, and especially after a decennial census, adjustments are made in the Current Population Survey figures to correct for estimating errors during the preceding years. These adjustments affect the comparability of historical data presented in table 1. A description of these adjustments and their effect on the various data series appear in the Explanatory Notes of *Employment and Earnings*.

Data in tables 2–7 are seasonally adjusted, based on the seasonal experience through December 1979.

1. Employment status of the noninstitutional population, 16 years and over, selected years, 1950–79

[Numbers in thousands]

Year	Total noninstitutional population	Total labor force		Civilian labor force						Not in labor force
		Number	Percent of population	Total	Employed			Unemployed		
					Total	Agriculture	Nonagricultural industries	Number	Percent of labor force	
1950	106,645	63,858	59.9	62,208	58,918	7,160	51,758	3,288	5.3	42,787
1955	112,732	68,072	60.4	65,023	62,170	6,450	55,722	2,852	4.4	44,660
1960	119,759	72,142	60.2	69,628	65,778	5,458	60,318	3,852	5.5	47,617
1964	127,224	75,830	59.6	73,091	69,305	4,523	64,782	3,786	5.2	51,394
1965	129,236	77,178	59.7	74,455	71,088	4,361	66,726	3,366	4.5	52,058
1966	131,180	78,893	60.1	75,770	72,895	3,979	68,915	2,875	3.8	52,288
1967	133,319	80,793	60.6	77,347	74,372	3,844	70,527	2,975	3.8	52,527
1968	135,562	82,272	60.7	78,737	75,920	3,817	72,103	2,817	3.6	53,291
1969	137,841	84,240	61.1	80,734	77,902	3,606	74,296	2,832	3.5	53,602
1970	140,182	85,903	61.3	82,715	78,627	3,462	75,165	4,088	4.9	54,280
1971	142,596	86,929	61.0	84,113	79,120	3,387	75,732	4,993	5.9	55,666
1972	145,775	88,991	61.0	86,542	81,702	3,472	78,230	4,840	5.6	56,785
1973	148,263	91,040	61.4	88,714	84,409	3,452	80,957	4,304	4.9	57,222
1974	150,827	93,240	61.8	91,011	85,935	3,492	82,443	5,076	5.6	57,587
1975	153,449	94,793	61.8	92,613	84,783	3,380	81,403	7,830	8.5	58,655
1976	156,048	96,917	62.1	94,773	87,485	3,297	84,188	7,288	7.7	59,130
1977	158,559	99,534	62.8	97,401	90,546	3,244	87,302	6,855	7.0	59,025
1978	161,058	102,537	63.7	100,420	94,373	3,342	91,031	6,047	6.0	58,521
1979	163,620	104,996	64.2	102,908	96,945	3,297	93,648	5,963	5.8	58,623

2. Employment status by sex, age, and race, seasonally adjusted

[Numbers in thousands]

Employment status	Annual Average		1979								1980				
	1978	1979	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May
TOTAL															
Total noninstitutional population[1]	161,058	163,620	163,260	163,469	163,685	163,891	164,106	164,468	164,682	164,898	165,101	165,298	165,506	165,693	165,886
Total labor force	102,537	104,996	104,476	104,552	105,475	105,218	105,586	105,688	105,744	106,088	106,310	106,346	106,184	106,511	107,230
Civilian noninstitutional population[1]	158,941	161,532	161,182	161,393	161,604	161,801	162,013	162,375	162,589	162,809	163,020	163,211	163,416	163,601	163,799
Civilian labor force	100,420	102,908	102,398	102,476	103,093	103,128	103,494	103,595	103,652	103,999	104,229	104,260	104,094	104,419	105,142
Employed	94,373	96,945	96,495	96,652	97,184	97,004	97,504	97,474	97,608	97,912	97,804	97,953	97,656	97,154	96,988
Agriculture	3,342	3,297	3,246	3,243	3,267	3,315	3,364	3,294	3,385	3,359	3,270	3,326	3,358	3,242	3,379
Nonagricultural industries	91,031	93,648	93,249	93,409	93,917	93,689	94,140	94,180	94,223	94,553	94,534	94,626	94,298	93,912	93,609
Unemployed	6,047	5,963	5,903	5,824	5,909	6,124	5,990	6,121	6,044	6,087	6,425	6,307	6,438	7,265	8,154
Unemployment rate	6.0	5.8	5.8	5.7	5.7	5.9	5.8	5.9	5.8	5.9	6.2	6.0	6.2	7.0	7.8
Not in labor force	58,521	58,623	58,784	58,917	58,511	58,673	58,519	58,780	58,937	58,810	58,791	58,951	59,322	59,182	58,657
Men, 20 years and over															
Civilian noninstitutional population[1]	67,006	68,293	68,123	68,227	68,319	68,417	68,522	68,697	68,804	68,940	69,047	69,140	69,238	69,329	69,428
Civilian labor force	53,464	54,486	54,288	54,370	54,579	54,597	54,735	54,760	54,709	54,781	54,855	55,038	54,996	55,114	55,467
Employed	51,212	52,264	52,158	52,201	52,325	52,311	52,453	52,443	52,374	52,478	52,279	52,531	52,300	51,868	51,796
Agriculture	2,361	2,350	2,301	2,305	2,327	2,375	2,377	2,371	2,438	2,427	2,387	2,435	2,394	2,320	2,384
Nonagricultural industries	48,852	49,913	49,857	49,896	49,998	49,936	50,076	50,072	49,936	50,051	49,892	50,096	49,906	49,548	49,412
Unemployed	2,252	2,223	2,130	2,169	2,254	2,286	2,282	2,317	2,335	2,303	2,577	2,507	2,696	3,246	3,671
Unemployment rate	4.2	4.1	3.9	4.0	4.1	4.2	4.2	4.2	4.3	4.2	4.7	4.6	4.9	5.9	6.6
Not in labor force	13,541	13,807	13,835	13,857	13,740	13,820	13,787	13,937	14,095	14,159	14,192	14,102	14,242	14,215	13,961
Women, 20 years and over															
Civilian noninstitutional population[1]	75,489	76,860	76,670	76,784	76,897	77,006	77,124	77,308	77,426	77,542	77,656	77,766	77,876	77,981	78,090
Civilian labor force	37,416	38,910	38,619	38,653	39,033	39,304	39,239	39,362	39,445	39,659	39,878	39,857	39,751	40,137	40,246
Employed	35,180	36,698	36,411	36,457	36,873	37,000	37,075	37,112	37,248	37,402	37,574	37,604	37,496	37,602	37,576
Agriculture	586	591	577	583	585	600	628	572	612	582	540	567	582	552	616
Nonagricultural industries	34,593	36,107	35,834	35,874	36,288	36,400	36,447	36,540	36,636	36,820	37,034	37,037	36,914	37,051	36,960
Unemployed	2,236	2,213	2,208	2,196	2,160	2,304	2,164	2,250	2,197	2,257	2,304	2,254	2,255	2,534	2,670
Unemployment rate	6.0	5.7	5.7	5.7	5.5	5.9	5.5	5.7	5.6	5.7	5.8	5.7	5.7	6.3	6.6
Not in labor force	38,073	37,949	38,051	38,131	37,864	37,702	37,885	37,946	37,981	37,883	37,778	37,909	38,125	37,844	37,844
Both sexes, 16 - 19 years															
Civilian noninstitutional population[1]	16,447	16,379	16,389	16,381	16,387	16,377	16,367	16,370	16,360	16,326	16,317	16,305	16,302	16,291	16,281
Civilian labor force	9,540	9,512	9,491	9,453	9,481	9,227	9,520	9,473	9,498	9,559	9,497	9,365	9,346	9,168	9,429
Employed	7,981	7,984	7,926	7,994	7,986	7,693	7,976	7,919	7,986	8,032	7,952	7,818	7,859	7,683	7,616
Agriculture	395	356	368	355	355	340	359	351	335	350	344	325	381	370	379
Nonagricultural industries	7,586	7,628	7,558	7,639	7,631	7,353	7,617	7,568	7,651	7,682	7,608	7,493	7,478	7,313	7,237
Unemployed	1,559	1,528	1,565	1,459	1,495	1,534	1,544	1,554	1,512	1,527	1,545	1,547	1,487	1,485	1,813
Unemployment rate	16.3	16.1	16.5	15.4	15.8	16.6	16.2	16.4	15.9	16.0	16.3	16.5	15.9	16.2	19.2
Not in labor force	6,907	6,867	6,898	6,928	6,906	7,150	6,847	6,897	6,862	6,767	6,820	6,940	6,956	7,123	6,852
White															
Civilian noninstitutional population[1]	139,580	141,614	141,331	141,492	141,661	141,822	141,981	142,296	142,461	142,645	142,806	142,951	143,115	143,254	143,403
Civilian labor force	88,456	90,602	90,120	90,215	90,659	90,759	91,082	91,147	91,242	91,579	91,852	91,977	91,821	92,083	92,535
Employed	83,836	86,025	85,632	85,775	86,120	85,976	86,425	86,454	86,571	86,894	86,895	87,081	86,822	86,385	86,148
Unemployed	4,620	4,577	4,488	4,440	4,539	4,783	4,657	4,693	4,671	4,685	4,957	4,896	4,999	5,698	6,386
Unemployment rate	5.2	5.1	5.0	4.9	5.0	5.3	5.1	5.1	5.1	5.1	5.4	5.3	5.4	6.2	6.9
Not in labor force	51,124	51,011	51,313	51,213	51,107	51,161	50,900	51,149	51,219	51,066	50,954	50,975	51,294	51,171	50,868
Black and other															
Civilian noninstitutional population[1]	19,361	19,918	19,850	19,901	19,943	19,979	20,032	20,079	20,128	20,163	20,214	20,261	20,301	20,346	20,395
Civilian labor force	11,964	12,306	12,219	12,260	12,386	12,343	12,404	12,512	12,391	12,432	12,453	12,362	12,266	12,319	12,559
Employed	10,537	10,920	10,816	10,887	11,023	10,982	11,063	11,076	11,044	11,024	10,979	10,937	10,823	10,771	10,813
Unemployed	1,427	1,386	1,403	1,373	1,363	1,361	1,341	1,436	1,347	1,408	1,474	1,424	1,443	1,549	1,746
Unemployment rate	11.9	11.3	11.5	11.2	11.0	11.0	10.8	11.5	10.9	11.3	11.8	11.5	11.8	12.6	13.9
Not in labor force	7,397	7,612	7,674	7,629	7,579	7,639	7,264	7,567	7,737	7,731	7,761	7,899	8,035	8,027	7,836

[1] As in table 1, population figures are not seasonally adjusted.

NOTE: The monthly data in this table have been revised to reflect seasonal experience through 1979.

3. Selected employment indicators, seasonally adjusted

[In thousands]

Selected categories	Annual average		1979								1980				
	1978	1979	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May
CHARACTERISTIC															
Total employed, 16 years and over	94,373	96,945	96,495	96,652	97,184	97,004	97,504	97,474	97,608	97,912	97,804	97,953	97,656	97,154	96,988
Men	55,491	56,499	56,372	56,477	56,570	56,408	56,714	56,629	56,580	56,734	56,486	56,732	56,601	55,998	55,823
Women	38,882	40,446	40,123	40,175	40,614	40,596	40,790	40,845	41,028	41,178	41,318	41,221	41,051	41,156	41,165
Married men, spouse present	38,688	39,090	39,045	39,079	38,176	39,180	39,198	39,124	38,845	38,924	38,749	38,955	38,745	38,342	38,147
Married women, spouse present	21,881	22,724	22,547	22,664	22,908	22,869	22,937	22,919	22,940	23,027	23,111	23,178	23,202	23,080	23,155
OCCUPATION															
White-collar workers	47,205	49,342	49,136	49,192	49,536	49,663	49,816	49,738	49,912	49,911	50,313	50,448	50,302	50,405	50,606
Professional and technical	14,245	15,050	15,100	15,010	15,057	15,068	15,141	15,057	15,131	15,272	15,337	15,444	15,397	15,542	15,551
Managers and administrators, except farm	10,105	10,516	10,427	10,534	10,612	10,698	10,659	10,639	10,617	10,535	10,608	10,971	10,755	10,745	10,882
Salesworkers	5,951	6,163	6,101	6,103	6,163	6,145	6,181	6,261	6,362	6,346	6,452	6,185	6,113	5,988	6,022
Clerical workers	16,904	17,613	17,508	17,545	17,704	17,752	17,835	17,781	17,802	17,758	17,915	17,848	18,037	18,129	18,152
Blue-collar workers	31,531	32,066	31,904	31,992	32,051	31,849	32,209	32,205	32,110	32,302	31,882	31,754	31,670	31,127	30,681
Craft and kindred workers	12,386	12,880	12,820	12,944	12,876	12,761	12,993	13,001	12,925	13,041	12,814	12,728	12,767	12,773	12,523
Operatives, except transport	10,875	10,909	10,755	10,804	10,884	10,909	10,964	10,967	10,963	11,042	10,678	10,661	10,579	10,408	10,336
Transport equipment operatives	3,541	3,612	3,644	3,605	3,627	3,604	3,617	3,593	3,628	3,635	3,616	3,571	3,558	3,483	3,421
Nonfarm laborers	4,729	4,665	4,685	4,639	4,664	4,575	4,635	4,644	4,594	4,584	4,774	4,795	4,767	4,463	4,402
Service workers	12,839	12,834	12,772	12,805	12,766	12,621	12,859	12,937	12,899	12,970	12,979	13,080	12,981	13,034	12,932
Farmworkers	2,798	2,703	2,628	2,679	2,678	2,707	2,722	2,695	2,718	2,694	2,660	2,764	2,733	2,658	2,745
MAJOR INDUSTRY AND CLASS OF WORKER															
Agriculture:															
Wage and salary workers	1,419	1,413	1,424	1,423	1,419	1,384	1,399	1,381	1,475	1,451	1,428	1,417	1,449	1,370	1,405
Self-employed workers	1,607	1,580	1,519	1,539	1,558	1,614	1,642	1,602	1,622	1,596	1,554	1,648	1,600	1,591	1,662
Unpaid family workers	316	304	283	291	291	310	325	313	310	310	293	263	300	281	289
Nonagricultural industries:															
Wage and salary workers	84,253	86,540	86,232	86,309	86,454	86,421	86,912	86,982	87,020	87,384	87,578	87,419	87,221	86,741	86,631
Government	15,289	15,369	15,616	15,318	15,393	15,279	15,407	15,423	15,358	15,397	15,414	15,540	15,622	15,668	15,799
Private industries	68,966	71,171	70,616	70,991	71,061	71,142	71,505	71,559	71,662	71,987	72,163	71,879	71,599	71,072	70,832
Private households	1,363	1,240	1,195	1,235	1,219	1,211	1,313	1,261	1,211	1,228	1,132	1,178	1,115	1,123	1,206
Other industries	67,603	69,931	69,421	69,756	69,842	69,931	70,192	70,298	70,451	70,759	71,031	70,702	70,484	69,949	69,625
Self-employed workers	6,305	6,652	6,608	6,629	6,752	6,689	6,731	6,812	6,781	6,737	6,752	6,899	6,825	6,813	6,648
Unpaid family workers	472	455	460	474	519	450	449	430	417	409	379	397	376	363	411
PERSONS AT WORK [1]															
Nonagricultural industries	85,693	88,133	87,785	87,749	88,769	88,855	88,723	88,638	88,617	89,180	89,454	88,985	88,585	87,660	87,680
Full-time schedules	70,543	72,647	72,496	72,243	72,915	73,053	73,159	73,204	72,997	73,137	73,223	73,110	72,749	71,807	71,224
Part time for economic reasons	3,216	3,281	3,283	3,284	3,274	3,298	3,167	3,315	3,392	3,519	3,513	3,406	3,418	3,816	4,349
Usually work full time	1,249	1,325	1,273	1,322	1,334	1,401	1,273	1,354	1,413	1,491	1,549	1,380	1,463	1,709	2,064
Usually work part time	1,967	1,956	2,010	1,962	1,940	1,897	1,894	1,961	1,979	2,028	1,964	2,026	1,955	2,107	2,285
Part time for noneconomic reasons	11,934	12,205	12,006	12,222	12,580	12,504	12,397	12,119	12,228	12,524	12,718	12,469	12,418	12,037	12,106

[1] Excludes persons "with a job but not at work" during the survey period for such reasons as vacation, illness, or industrial disputes.

NOTE: The monthly data in this table have been revised to reflect seasonal experience through 1979.

4. Selected unemployment indicators, seasonally adjusted

[Unemployment rates]

Selected categories	Annual average		1979								1980				
	1978	1979	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May
CHARACTERISTIC															
Total, 16 years and over	6.0	5.8	5.8	5.7	5.7	5.9	5.8	5.9	5.8	5.9	6.2	6.0	6.2	7.0	7.8
Men, 20 years and over	4.2	4.1	3.9	4.0	4.1	4.2	4.2	4.2	4.3	4.2	4.7	4.8	4.9	5.9	6.6
Women, 20 years and over	6.0	5.7	5.7	5.7	5.5	5.8	5.5	5.7	5.6	5.7	5.8	5.7	5.7	6.3	6.6
Both sexes, 16–19 years	16.3	16.1	16.5	15.4	15.8	16.6	16.2	16.4	15.9	16.0	16.3	16.5	15.9	16.2	19.2
White, total	5.2	5.1	5.0	4.9	5.0	5.3	5.1	5.1	5.1	5.1	5.4	5.3	5.4	6.2	6.9
Men, 20 years and over	3.7	3.6	3.4	3.5	3.6	3.7	3.7	3.7	3.7	3.7	4.1	4.0	4.4	5.3	5.9
Women, 20 years and over	5.2	5.0	5.0	4.9	4.8	5.2	4.8	5.0	4.9	5.0	5.1	5.2	4.9	5.5	5.8
Both sexes, 16–19 years	13.9	13.9	14.2	13.2	13.8	14.8	14.3	14.1	13.9	13.9	14.0	13.8	13.8	14.6	17.4
Black and other, total	11.9	11.3	11.5	11.2	11.0	11.0	10.8	11.5	10.9	11.3	11.8	11.5	11.8	12.6	13.9
Men, 20 years and over	8.6	8.4	8.4	8.1	8.4	8.1	8.0	8.6	8.4	8.6	9.6	9.2	9.3	10.9	12.0
Women, 20 years and over	10.6	10.1	10.0	10.4	10.0	10.3	9.8	10.2	9.5	10.0	10.0	9.0	10.5	11.4	11.9
Both sexes, 16–19 years	36.3	33.5	36.1	33.5	31.5	32.6	32.3	35.1	32.8	34.3	34.6	37.9	33.0	29.8	35.2
Married men, spouse present	2.8	2.7	2.5	2.7	2.8	2.9	2.9	2.9	2.9	2.8	3.4	3.1	3.4	4.1	4.7
Married women, spouse present	5.5	5.1	5.2	5.1	4.9	5.3	4.8	5.2	4.8	5.0	5.2	5.4	5.3	5.7	6.3
Women who head families	8.5	8.3	8.6	9.0	8.1	7.9	7.7	8.4	8.4	8.4	9.2	8.5	8.7	9.3	8.3
Full-time workers	5.5	5.3	5.2	5.2	5.3	5.4	5.3	5.4	5.4	5.4	5.7	5.6	5.8	6.6	7.5
Part-time workers	9.0	8.7	9.3	8.6	8.3	8.8	8.4	8.9	8.3	8.5	8.7	8.9	8.3	8.9	9.3
Unemployed 15 weeks and over	1.4	1.2	1.2	1.1	1.0	1.1	1.1	1.2	1.1	1.2	1.3	1.2	1.3	1.6	1.8
Labor force time lost[1]	6.5	6.3	6.3	6.3	6.4	6.4	6.2	6.4	6.4	6.4	6.7	6.6	6.8	7.5	8.8
OCCUPATION															
White-collar workers	3.5	3.3	3.2	3.4	3.3	3.5	3.3	3.4	3.2	3.3	3.4	3.4	3.3	3.7	3.9
Professional and technical	2.6	2.4	2.1	2.5	2.5	2.5	2.4	2.7	2.4	2.3	2.2	2.3	2.3	2.4	2.7
Managers and administrators, except farm	2.1	2.1	2.2	2.1	2.0	2.3	2.2	2.2	1.9	2.0	1.9	2.2	2.4	2.6	2.7
Salesworkers	4.1	3.9	4.0	4.4	3.5	4.0	3.8	3.8	3.7	3.8	4.4	4.5	4.0	4.7	4.5
Clerical workers	4.9	4.6	4.5	4.6	4.5	4.9	4.5	4.7	4.4	4.6	4.8	4.7	4.5	5.1	5.4
Blue-collar workers	6.9	6.9	6.6	6.6	6.6	7.3	7.1	7.2	7.5	7.2	8.0	7.7	8.0	9.7	11.3
Craft and kindred workers	4.6	4.5	4.2	4.3	4.4	4.7	4.3	4.6	4.9	4.4	4.9	4.8	5.4	6.7	8.1
Operatives, except transport	8.1	8.4	8.2	7.7	8.3	8.9	9.0	9.1	9.0	9.0	9.9	9.2	9.3	11.6	14.0
Transport equipment operatives	5.2	5.4	5.4	5.7	5.1	6.2	6.1	5.6	5.2	5.0	6.9	6.7	6.6	8.9	9.0
Nonfarm laborers	10.7	10.8	11.1	10.6	11.0	11.3	11.0	10.7	12.2	12.2	12.3	12.0	13.0	14.1	15.4
Service workers	7.4	7.1	7.2	7.2	7.1	7.1	6.7	6.8	6.6	6.6	6.9	6.9	7.1	8.0	8.5
Farmworkers	3.8	3.8	3.6	3.2	4.2	3.9	4.1	4.3	4.5	4.3	4.4	3.9	4.0	5.0	4.8
INDUSTRY															
Nonagricultural private wage and salary workers[2]	5.9	5.7	5.7	5.6	5.7	6.0	5.8	5.9	5.8	5.8	6.2	6.0	6.2	7.1	8.2
Construction	10.6	10.2	10.0	10.0	10.0	10.1	9.6	9.9	10.2	10.3	10.8	10.5	13.0	15.1	17.5
Manufacturing	5.5	5.5	5.4	5.4	5.7	5.9	6.0	6.0	5.9	5.9	6.7	6.4	6.5	7.9	9.9
Durable goods	4.9	5.0	4.4	4.9	5.4	5.4	5.3	5.5	5.6	5.5	6.7	6.3	6.4	8.3	10.5
Nondurable goods	6.3	6.4	6.9	6.3	6.2	6.8	7.1	6.8	6.3	6.4	6.8	6.7	6.7	7.4	8.8
Transportation and public utilities	3.7	3.7	3.6	3.1	3.8	3.7	4.0	3.8	4.2	4.1	4.4	4.4	3.8	4.6	5.1
Wholesale and retail trade	6.9	6.5	6.4	6.7	6.3	6.5	6.4	6.4	6.5	6.4	6.6	6.4	6.3	7.0	7.8
Finance and service industries	5.1	4.9	4.9	4.7	4.9	5.2	4.7	4.9	4.8	4.7	4.8	4.8	4.9	5.1	5.7
Government workers	3.9	3.7	3.6	3.6	3.6	3.7	3.3	4.0	3.6	3.6	3.8	4.0	4.2	4.4	4.2
Agricultural wage and salary workers	8.8	9.1	9.3	7.8	9.7	9.9	10.0	9.9	10.1	9.4	10.3	9.2	10.2	11.9	11.7

[1] Aggregate hours lost by the unemployed and persons on part time for economic reasons as a percent of potentially available labor force hours.

[2] Includes mining, not shown separately.

NOTE: The monthly data in this table have been revised to reflect seasonal experience through 1979.

5. Unemployment rates, by sex and age, seasonally adjusted

Sex and age	Annual average		1979								1980				
	1978	1979	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May
Total, 16 years and over	6.0	5.8	5.8	5.7	5.7	5.9	5.8	5.9	5.8	5.9	6.2	6.0	6.2	7.0	7.8
16 to 19 years	16.3	16.1	16.5	15.4	15.8	16.6	16.2	16.4	15.9	16.0	16.3	16.5	15.9	16.2	19.2
16 to 17 years	19.3	18.1	18.9	17.5	17.3	18.5	16.9	18.4	17.3	18.0	19.0	18.7	17.4	18.7	21.7
18 to 19 years	14.2	14.6	15.0	14.4	14.5	15.4	15.6	15.0	14.7	14.5	14.0	15.1	14.7	14.4	17.7
20 to 24 years	9.5	9.0	8.9	8.9	9.1	9.3	9.2	9.6	8.8	9.8	10.1	9.5	9.7	11.4	12.7
25 years and over	4.0	3.9	3.9	3.9	3.9	4.0	3.9	4.0	4.0	3.8	4.2	4.1	4.4	5.0	5.5
25 to 54 years	4.2	4.1	4.0	4.1	4.0	4.2	4.1	4.2	4.3	4.1	4.4	4.5	4.7	5.4	5.9
55 years and over	3.2	3.0	3.1	2.9	3.2	3.1	2.9	3.0	2.7	2.7	3.5	2.8	2.8	3.4	3.6
Men, 16 years and over	5.2	5.1	5.0	4.9	5.1	5.2	5.2	5.2	5.2	5.2	5.7	5.5	5.7	6.7	7.7
16 to 19 years	15.7	15.8	16.1	14.5	15.4	16.3	16.1	15.7	15.8	15.6	16.2	15.6	14.8	16.1	19.7
16 to 17 years	19.2	17.9	18.9	16.8	16.1	18.0	16.7	17.1	17.8	17.9	19.0	18.0	15.9	18.3	22.0
18 to 19 years	13.2	14.2	14.0	14.0	14.8	15.1	15.3	14.4	14.0	13.6	13.9	14.1	14.0	14.2	17.9
20 to 24 years	9.1	8.6	8.2	8.3	8.8	8.8	8.8	9.5	8.4	9.4	10.4	9.9	10.4	12.3	13.7
25 years and over	3.3	3.3	3.1	3.2	3.3	3.4	3.3	3.4	3.5	3.2	3.7	3.6	3.9	4.7	5.3
25 to 54 years	3.4	3.4	3.2	3.2	3.4	3.5	3.6	3.5	3.8	3.4	3.8	3.8	4.2	5.0	5.7
55 years and over	3.1	2.9	2.8	3.1	3.3	3.1	2.8	2.8	2.6	2.6	3.5	2.6	2.7	3.4	3.5
Women, 16 years and over	7.2	6.8	6.9	6.8	6.6	7.0	6.6	6.9	6.6	6.8	6.8	6.8	6.8	7.3	7.8
16 to 19 years	17.0	16.4	16.9	16.5	16.2	17.0	16.4	17.2	16.1	16.4	16.3	17.6	17.3	16.3	18.7
16 to 17 years	19.5	18.3	18.8	18.3	18.6	19.0	17.2	19.8	16.7	18.0	19.1	19.5	19.2	19.1	21.4
18 to 19 years	15.3	15.0	16.0	14.9	14.2	15.7	15.9	15.6	15.5	15.5	14.2	16.2	15.6	14.6	17.5
20 to 24 years	10.1	9.6	9.7	9.7	9.4	9.8	9.6	9.7	9.3	10.2	9.8	9.1	9.0	10.2	11.6
25 years and over	5.1	4.8	4.9	4.8	4.7	4.9	4.6	4.9	4.7	4.7	4.9	4.9	5.0	5.5	5.7
25 to 54 years	5.4	5.2	5.2	5.2	5.0	5.3	5.0	5.2	5.0	5.1	5.2	5.4	5.5	6.0	6.1
55 years and over	3.3	3.2	3.6	2.8	3.1	3.2	2.9	3.4	2.9	2.9	3.4	3.0	2.9	3.4	3.6

6. Unemployed persons, by reason for unemployment, seasonally adjusted

[Numbers in thousands]

Reason for unemployment	1979								1980				
	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May
NUMBER OF UNEMPLOYED													
Lost last job	2,356	2,449	2,526	2,680	2,632	2,731	2,729	2,728	2,988	2,907	3,047	3,611	4,301
On layoff	725	816	797	915	855	929	987	944	1,019	1,031	1,129	1,424	1,944
Other job losers	1,631	1,633	1,729	1,765	1,777	1,802	1,742	1,784	1,969	1,876	1,918	2,188	2,357
Left last job	940	857	846	875	825	835	845	800	779	813	788	926	992
Reentered labor force	1,767	1,753	1,762	1,788	1,760	1,762	1,698	1,771	1,797	1,784	1,803	1,987	2,015
Seeking first job	824	781	726	745	801	804	736	858	811	827	805	743	884
PERCENT DISTRIBUTION													
Total unemployed	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Job losers	40.0	41.9	43.1	44.0	43.7	44.5	45.4	44.3	46.9	45.9	47.3	49.8	52.5
On layoff	12.3	14.0	13.6	15.0	14.2	15.2	16.4	15.3	16.0	16.3	17.5	19.6	23.7
Other job losers	27.7	28.0	29.5	29.0	29.5	29.4	29.0	29.0	30.9	29.6	29.8	30.2	28.8
Job leavers	16.0	14.7	14.4	14.4	13.7	13.6	14.1	13.0	12.2	12.8	12.2	12.8	12.1
Reentrants	30.0	30.0	30.1	29.4	29.2	28.7	28.3	28.8	28.2	28.2	28.0	27.1	24.6
New entrants	14.0	13.4	12.4	12.2	13.3	13.1	12.3	13.9	12.7	13.1	12.5	10.3	10.8
UNEMPLOYED AS A PERCENT OF THE CIVILIAN LABOR FORCE													
Job losers	2.3	2.4	2.5	2.6	2.5	2.6	2.6	2.6	2.9	2.8	2.9	3.5	4.1
Job leavers	.9	.8	.8	.8	.8	.8	.8	.8	.7	.8	.8	.9	.9
Reentrants	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.7	1.7	1.7	1.7	1.9	1.9
New entrants	.8	.8	.7	.7	.8	.8	.7	.8	.8	.8	.8	.7	.8

7. Duration of unemployment, seasonally adjusted

[Numbers in thousands]

Weeks of unemployment	Annual average		1979								1980				
	1978	1979	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May
Less than 5 weeks	2,793	2,869	2,823	2,880	2,820	3,166	2,778	2,855	2,919	2,916	3,184	2,995	2,995	3,309	3,872
5 to 14 weeks	1,875	1,892	1,919	1,808	1,934	1,738	2,035	1,963	1,869	1,966	1,907	2,081	2,169	2,361	2,687
15 weeks and over	1,379	1,202	1,212	1,152	1,067	1,185	1,152	1,195	1,191	1,230	1,334	1,286	1,363	1,629	1,722
15 to 26 weeks	746	684	705	656	615	658	644	678	660	711	795	790	776	953	1,014
27 weeks and over	633	518	507	496	452	527	508	517	531	519	539	496	587	676	708
Average (mean) duration, in weeks	11.9	10.8	10.9	10.5	10.1	10.7	10.7	10.5	10.6	10.5	10.5	10.7	11.0	11.3	10.5

NOTE: The monthly data in these tables have been revised to reflect seasonal experience through 1979.

EMPLOYMENT, HOURS, AND EARNINGS DATA FROM ESTABLISHMENT SURVEYS

EMPLOYMENT, HOURS, AND EARNINGS DATA in this section are compiled from payroll records reported monthly on a voluntary basis to the Bureau of Labor Statistics and its cooperating State agencies by 162,000 establishments representing all industries except agriculture. In most industries, the sampling probabilities are based on the size of the establishment; most large establishments are therefore in the sample. (An establishment is not necessarily a firm; it may be a branch plant, for example, or warehouse.) Self-employed persons and others not on a regular civilian payroll are outside the scope of the survey because they are excluded from establishment records. This largely accounts for the difference in employment figures between the household and establishment surveys.

LABOR TURNOVER DATA in this section are compiled from personnel records reported monthly on a voluntary basis to the Bureau of Labor Statistics and its cooperating State agencies. A sample of 40,000 establishments represents all industries in the manufacturing and mining sectors of the economy.

Definitions

Employed persons are all persons who received pay (including holiday and sick pay) for any part of the payroll period including the 12th of the month. Persons holding more than one job (about 5 percent of all persons in the labor force) are counted in each establishment which reports them.

Production workers in manufacturing include blue-collar worker supervisors and all nonsupervisory workers closely associated with production operations. Those workers mentioned in tables 14–20 include production workers in manufacturing and mining; construction workers in construction; and nonsupervisory workers in transportation and public utilities, in wholesale and retail trade, in finance, insurance, and real estate, and in service industries. These groups account for about four-fifths of the total employment on private nonagricultural payrolls.

Earnings are the payments production or nonsupervisory workers receive during the survey period, including premium pay for overtime or late-shift work but excluding irregular bonuses and other special payments. **Real earnings** are earnings adjusted to eliminate the effects of price change. The **Hourly Earnings Index** is calculated from average hourly earnings data adjusted to exclude the effects of two types of changes that are unrelated to underlying wage-rate developments: fluctuations in overtime premiums in manufacturing (the only sector for which overtime data are available) and the effects of changes and seasonal factors in the proportion of workers in high-wage and low-wage industries. **Spendable earnings** are earnings from which estimated social security and Federal income taxes have been deducted. The Bureau of Labor Statistics computes spendable earnings from gross weekly earnings for only two illustrative cases: (1) a worker with no dependents and (2) a married worker with three dependents.

Hours represent the average weekly hours of production or nonsupervisory workers for which pay was received and are different from standard or scheduled hours. **Overtime hours** represent the portion of gross average weekly hours which were in excess of regular hours and for which overtime premiums were paid.

Labor turnover is the movement of all wage and salary workers from one employment status to another. **Accession rates** indicate the average number of persons added to a payroll in a given period per 100 employees; **separation rates** indicate the average number dropped from a payroll per 100 employees. Although month-to-month changes in employment can be calculated from the labor turnover data, the results are not comparable with employment data from the employment and payroll survey. The labor turnover survey measures changes during the calendar month while the employment and payroll survey measures changes from midmonth to midmonth.

Notes on the data

Establishment data collected by the Bureau of Labor Statistics are periodically adjusted to comprehensive counts of employment (called "benchmarks"). The latest complete adjustment was made with the release of September 1979 data, published in the November 1979 issue of the *Review*. Consequently, data published in the *Review* prior to that issue are not necessarily comparable to current data. Complete comparable historical unadjusted and seasonally adjusted data are published in a Supplement to Employment and Earnings (unadjusted data from April 1977 through June 1979 and seasonally adjusted data from January 1974 through June 1979) and in *Employment and Earnings, United States, 1909–78*, BLS Bulletin 1312–11 (for prior periods).

Data on recalls were shown for the first time in tables 12 and 13 in the January 1978 issue of the *Review*. For a detailed discussion of the recalls series, along with historical data, see "New Series on Recalls from the Labor Turnover Survey," *Employment and Earnings*, December 1977, pp. 10–19.

A comprehensive discussion of the differences between household and establishment data on employment appears in Gloria P. Green, "Comparing employment estimates from household and payroll surveys," *Monthly Labor Review*, December 1969, pp. 9–20. See also *BLS Handbook of Methods for Surveys and Studies*, Bulletin 1910 (Bureau of Labor Statistics, 1976).

The formulas used to construct the spendable average weekly earnings series reflect the latest provisions of the Federal income tax and social security tax laws. For the spendable average weekly earnings formulas for the years 1978–80, see *Employment and Earnings*, March 1980, pp. 10–11. Real earnings data are adjusted using the Consumer Price Index for Urban Wage Earners and Clerical Workers (CPI-W).

8. Employment by industry, 1950–79

[Nonagricultural payroll data, in thousands]

Year	Total	Mining	Construction	Manufacturing	Transportation and public utilities	Wholesale and retail trade	Wholesale trade	Retail trade	Finance, insurance, and real estate	Services	Government: Total	Government: Federal	Government: State and local
1950	45,197	901	2,364	15,241	4,034	9,386	2,635	6,751	1,888	5,357	6,026	1,928	4,098
1951	47,819	929	2,637	16,393	4,226	9,742	2,727	7,015	1,956	5,547	6,389	2,302	4,087
1952	48,793	898	2,668	16,632	4,248	10,004	2,812	7,192	2,035	5,699	6,609	2,420	4,188
1953	50,202	866	2,659	17,549	4,290	10,247	2,854	7,393	2,111	5,835	6,645	2,305	4,340
1954	48,990	791	2,646	16,314	4,084	10,235	2,867	7,368	2,200	5,969	6,751	2,188	4,563
1955	50,641	792	2,839	16,882	4,141	10,535	2,926	7,610	2,298	6,240	6,914	2,187	4,727
1956	52,369	822	3,039	17,243	4,244	10,858	3,018	7,840	2,389	6,497	7,278	2,209	5,069
1957	52,853	828	2,962	17,174	4,241	10,886	3,028	7,858	2,438	6,708	7,616	2,217	5,399
1958	51,324	751	2,817	15,945	3,976	10,750	2,980	7,770	2,481	6,765	7,839	2,191	5,648
1959[1]	53,268	732	3,004	16,675	4,011	11,127	3,082	8,045	2,549	7,087	8,083	2,233	5,850
1960	54,189	712	2,926	16,796	4,004	11,391	3,143	8,248	2,629	7,378	8,353	2,270	6,083
1961	53,999	672	2,859	16,326	3,903	11,337	3,133	8,204	2,688	7,620	8,594	2,279	6,315
1962	55,549	650	2,948	16,853	3,906	11,566	3,198	8,368	2,754	7,982	8,890	2,340	6,550
1963	56,653	635	3,010	16,995	3,903	11,778	3,248	8,530	2,830	8,277	9,225	2,358	6,868
1964	58,283	634	3,097	17,274	3,951	12,160	3,337	8,823	2,911	8,660	9,596	2,348	7,248
1965	60,765	632	3,232	18,062	4,036	12,716	3,466	9,250	2,977	9,036	10,074	2,378	7,696
1966	63,901	627	3,317	19,214	4,158	13,245	3,597	9,648	3,058	9,498	10,784	2,564	8,220
1967	65,803	613	3,248	19,447	4,268	13,606	3,689	9,917	3,185	10,045	11,391	2,719	8,672
1968	67,897	606	3,350	19,781	4,318	14,099	3,779	10,320	3,337	10,567	11,839	2,737	9,102
1969	70,384	619	3,575	20,167	4,442	14,705	3,907	10,798	3,512	11,169	12,195	2,758	9,437
1970	70,880	623	3,588	19,367	4,515	15,040	3,993	11,047	3,645	11,548	12,554	2,731	9,823
1971	71,214	609	3,704	18,623	4,476	15,352	4,001	11,351	3,772	11,797	12,881	2,696	10,185
1972	73,675	628	3,889	19,151	4,541	15,949	4,113	11,836	3,908	12,276	13,334	2,684	10,649
1973	76,790	642	4,097	20,154	4,656	16,607	4,277	12,329	4,046	12,857	13,732	2,663	11,068
1974	78,265	697	4,020	20,077	4,725	16,987	4,433	12,554	4,148	13,441	14,170	2,724	11,446
1975	76,945	752	3,525	18,323	4,542	17,060	4,415	12,645	4,165	13,892	14,686	2,748	11,937
1976	79,382	779	3,576	18,997	4,582	17,755	4,546	13,209	4,271	14,551	14,871	2,733	12,138
1977	82,423	813	3,851	19,682	4,713	18,516	4,708	13,808	4,467	15,303	15,079	2,727	12,352
1978	86,446	851	4,271	20,476	4,927	19,499	4,957	14,542	4,727	16,220	15,476	2,753	12,723
1979	89,482	957	4,644	20,972	5,154	20,137	5,170	14,966	4,963	17,043	15,612	2,773	12,839

[1] Data include Alaska and Hawaii beginning in 1959.

9. Employment by State

[Nonagricultural payroll data, in thousands]

State	Apr. 1979	Mar. 1980	Apr. 1980 P	State	Apr. 1979	Mar. 1980	Apr. 1980 P
Alabama	1,358.2	1,362.8	1,364.2	Montana	277.4	279.9	279.3
Alaska				Nebraska	622.5	624.3	628.5
Arizona	973.0	1,008.4	1,008.7	Nevada	374.5	394.7	396.9
Arkansas	749.8	754.0	754.2	New Hampshire	369.2	379.5	373.8
California	9,541.7	9,788.6	9,804.2	New Jersey	2,994.4	3,014.0	3,030.7
Colorado	1,197.6	1,248.1	1,246.0	New Mexico	455.9	469.7	473.5
Connecticut	1,394.7	1,404.7	1,411.1	New York	7,122.3	7,140.3	7,096.5
Delaware	254.4	256.0	254.1	North Carolina	2,362.0	2,410.2	2,420.6
District of Columbia	612.8	614.0	615.8	North Dakota	236.8	243.1	245.5
Florida	3,365.0	3,548.5	3,533.1	Ohio	4,473.4	4,438.2	4,445.6
Georgia	2,109.3	2,137.9	2,136.8	Oklahoma	1,075.3	1,120.0	1,128.4
Hawaii	393.4	411.3	410.5	Oregon	1,036.7	1,051.9	1,040.6
Idaho	333.1	327.7	325.9	Pennsylvania	4,819.4	4,773.2	4,805.5
Illinois	4,762.5	4,712.3	4,712.5	Rhode Island	396.5	392.5	393.9
Indiana	2,251.7	2,206.5	2,219.3	South Carolina	1,174.7	1,194.4	1,200.7
Iowa	1,130.2	1,124.7	1,131.7	South Dakota	237.3	234.5	236.4
Kansas	946.0	953.3	955.0	Tennessee	1,776.2	1,789.1	1,788.3
Kentucky	1,247.1	1,223.3	1,227.2	Texas	5,543.1	5,742.8	5,754.3
Louisiana	1,490.8	1,520.9	1,525.6	Utah	540.0	562.9	566.6
Maine	409.3	406.9	412.0	Vermont	192.1	201.1	196.0
Maryland				Virginia	2,082.8	2,097.5	2,106.5
Massachusetts	2,589.5	2,634.5	2,665.7	Washington			
Michigan	3,621.1	3,505.2	3,439.1	West Virginia	639.9	629.9	633.4
Minnesota	1,743.3	1,770.0	1,781.8	Wisconsin	1,931.6	1,962.6	1,973.0
Mississippi	834.1	836.6	835.7	Wyoming	193.8	211.3	213.5
Missouri	2003.0	1,985.2	1,997.5	Virgin Islands	38.0	37.8	37.3

10. Employment by industry division and major manufacturing group

[Nonagricultural payroll data, in thousands]

Industry division and group	Annual average		1979								1980				
	1978	1979	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.[p]	May[p]
TOTAL	86,446	89,482	89,671	90,541	89,818	89,673	90,211	90,678	90,902	91,009	89,285	89,417	89,980	90,295	90,606
MINING	851	957	944	968	976	986	980	982	984	984	982	986	996	1,007	1,034
CONSTRUCTION	4,271	4,644	4,662	4,881	4,993	5,048	4,984	4,976	4,879	4,711	4,350	4,261	4,305	4,444	4,615
MANUFACTURING	20,476	20,972	20,988	21,234	20,965	20,996	21,192	21,094	20,986	20,902	20,609	20,648	20,709	20,448	20,256
Production workers	14,714	15,010	15,061	15,240	14,946	14,960	15,172	15,082	14,954	14,891	14,674	14,615	14,662	14,398	14,175
Durable goods	12,246	12,690	12,739	12,877	12,712	12,598	12,805	12,737	12,681	12,649	12,525	12,523	12,569	12,344	12,149
Production workers	8,786	9,053	9,129	9,223	9,031	8,907	9,116	9,058	8,983	8,971	8,825	8,813	8,850	8,620	8,399
Lumber and wood products	752.4	758.4	763.8	783.2	776.8	780.0	776.3	771.3	748.9	729.2	709.2	710.6	708.5	671.1	659.1
Furniture and fixtures	461.1	487.3	483.9	484.2	475.5	483.5	485.3	487.6	488.7	486.9	484.4	480.7	480.7	475.1	461.3
Stone, clay, and glass products	698.0	710.8	718.6	733.1	727.1	728.2	723.6	721.0	712.9	699.6	680.8	677.5	682.5	679.8	669.4
Primary metal industries	1,212.7	1,243.9	1,258.6	1,274.3	1,260.7	1,244.5	1,244.3	1,225.1	1,216.7	1,204.4	1,201.6	1,199.4	1,197.9	1,187.7	1,162.0
Fabricated metal products	1,673.4	1,727.2	1,727.8	1,749.0	1,715.7	1,716.1	1,735.3	1,738.3	1,738.2	1,730.4	1,703.8	1,706.5	1,711.0	1,678.8	1,624.3
Machinery, except electrical	2,319.2	2,462.5	2,463.6	2,491.2	2,485.1	2,467.1	2,496.4	2,447.2	2,440.9	2,455.8	2,522.5	2,520.8	2,522.9	2,505.2	2,499.0
Electric and electronic equipment	1,999.5	2,108.7	2,095.2	2,128.2	2,111.7	2,089.5	2,136.1	2,143.7	2,146.3	2,153.1	2,144.5	2,138.3	2,147.4	2,133.9	2,110.9
Transportation equipment	1,991.7	2,048.3	2,091.8	2,077.9	2,027.7	1,933.2	2,051.0	2,040.9	2,069.7	2,043.4	1,943.6	1,950.4	1,972.1	1,866.9	1,823.0
Instruments and related products	653.5	690.4	686.5	698.8	692.9	695.3	692.7	695.4	695.9	699.8	698.9	701.2	704.4	704.3	704.2
Miscellaneous manufacturing	454.0	452.4	448.9	457.4	438.6	460.6	463.8	466.9	462.8	446.4	435.9	437.2	441.4	440.7	435.8
Nondurable goods	8,230	8,283	8,249	8,357	8,253	8,398	8,387	8,357	8,305	8,253	8,174	8,125	8,140	8,104	8,107
Production workers	5,928	5,957	5,932	6,017	5,915	6,053	6,056	6,024	5,971	5,920	5,849	5,802	5,812	5,778	5,776
Food and kindred products	1,721.2	1,716.3	1,669.6	1,716.6	1,737.8	1,810.0	1,814.1	1,766.8	1,725.0	1,695.9	1,650.5	1,634.9	1,632.5	1,615.7	1,633.8
Tobacco manufactures	69.6	66.2	61.9	62.1	62.1	69.0	72.2	71.9	64.8	66.7	65.1	63.4	61.1	59.9	59.3
Textile mill products	900.2	891.9	892.5	900.4	875.5	890.4	888.9	889.8	893.9	893.5	887.4	887.9	890.6	887.1	877.1
Apparel and other textile products	1,332.5	1,313.1	1,327.5	1,333.1	1,278.7	1,308.9	1,309.1	1,317.0	1,306.2	1,292.0	1,284.4	1,305.9	1,317.0	1,304.4	1,301.0
Paper and allied products	700.9	714.1	712.7	724.6	719.6	723.3	718.5	717.7	715.9	714.0	711.8	710.0	710.7	707.8	702.6
Printing and publishing	1,193.1	1,242.9	1,234.7	1,243.4	1,245.8	1,245.4	1,246.1	1,254.5	1,265.6	1,272.0	1,269.5	1,274.0	1,275.8	1,273.2	1,270.1
Chemicals and allied products	1,096.3	1,112.7	1,110.9	1,126.6	1,123.0	1,121.2	1,114.9	1,115.0	1,115.2	1,115.6	1,113.9	1,113.0	1,118.5	1,121.0	1,121.2
Petroleum and coal products	208.7	213.8	212.9	216.8	218.0	218.3	218.1	218.1	217.2	214.9	213.1	159.1	156.3	168.2	204.9
Rubber and miscellaneous plastics products	751.9	767.5	777.0	779.4	767.4	765.8	762.0	762.6	757.6	747.5	742.2	738.3	730.7	727.9	696.4
Leather and leather products	255.6	243.8	249.2	253.7	224.7	245.8	243.1	243.1	243.2	240.7	236.1	238.3	238.6	239.2	240.9
TRANSPORTATION AND PUBLIC UTILITIES	4,927	5,154	5,125	5,231	5,200	5,210	5,242	5,244	5,255	5,254	5,149	5,142	5,156	5,153	5,182
WHOLESALE AND RETAIL TRADE	19,499	20,137	20,119	20,222	20,118	20,137	20,260	20,314	20,580	20,932	20,224	20,041	20,112	20,217	20,361
WHOLESALE TRADE	4,957	5,170	5,146	5,211	5,208	5,211	5,206	5,235	5,251	5,234	5,211	5,221	5,241	5,212	5,217
RETAIL TRADE	14,542	14,966	14,973	15,011	14,910	14,926	15,054	15,079	15,329	15,698	15,013	14,820	14,871	15,005	15,144
FINANCE, INSURANCE, AND REAL ESTATE	4,727	4,963	4,936	5,003	5,032	5,063	5,002	5,013	5,029	5,041	5,040	5,051	5,076	5,082	5,131
SERVICES	16,220	17,043	17,039	17,239	17,314	17,312	17,225	17,292	17,281	17,270	17,111	17,294	17,460	17,596	17,738
GOVERNMENT	15,476	15,612	15,858	15,763	15,020	14,931	15,326	15,763	15,928	15,915	15,730	15,994	16,146	16,338	16,289
Federal	2,753	2,773	2,773	2,824	2,838	2,844	2,751	2,756	2,760	2,770	2,763	2,803	2,869	3,103	3,029
State and local	12,723	12,839	13,085	12,939	12,182	12,087	12,575	13,007	13,168	13,145	12,967	13,191	13,277	13,235	13,260

11. Employment by industry division and major manufacturing group, seasonally adjusted

[Nonagricultural payroll data, in thousands]

Industry division and group	1979								1980				
	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.^{p}	May^p
TOTAL	89,390	89,626	89,713	89,762	89,803	89,982	90,100	90,241	90,652	90,845	90,819	90,508	90,328
MINING	944	949	956	958	973	979	983	991	1,000	1,009	1,011	1,016	1,034
CONSTRUCTION	4,848	4,862	4,888	4,674	4,671	4,694	4,714	4,783	4,893	4,831	4,700	4,591	4,601
MANUFACTURING	21,059	21,083	21,079	20,957	20,949	20,899	20,836	20,881	20,890	20,892	20,889	20,603	20,328
Production workers	15,112	15,096	15,090	14,956	14,957	14,894	14,829	14,865	14,848	14,826	14,815	14,522	14,226
Durable goods	12,739	12,760	12,786	12,714	12,737	12,650	12,587	12,615	12,601	12,655	12,653	12,396	12,153
Production workers	9,119	9,123	9,124	9,044	9,066	8,972	8,908	8,931	8,894	8,926	8,924	8,658	8,393
Lumber and wood products	762	757	753	752	758	760	751	740	737	740	730	682	658
Furniture and fixtures	487	485	486	484	480	482	483	483	484	481	482	477	465
Stone, clay, and glass products	715	715	711	710	708	709	704	706	708	709	703	687	686
Primary metal industries	1,254	1,257	1,256	1,245	1,236	1,226	1,223	1,206	1,208	1,210	1,205	1,189	1,157
Fabricated metal products	1,730	1,737	1,730	1,714	1,716	1,723	1,726	1,725	1,712	1,724	1,723	1,687	1,626
Machinery, except electrical	2,471	2,484	2,500	2,482	2,496	2,455	2,438	2,444	2,512	2,511	2,513	2,503	2,507
Electric and electronic equipment	2,106	2,124	2,131	2,082	2,117	2,125	2,125	2,140	2,149	2,147	2,158	2,149	2,122
Transportation equipment	2,077	2,057	2,073	2,079	2,066	2,025	1,994	2,019	1,938	1,980	1,962	1,869	1,810
Instruments and related products	688	693	694	695	692	696	694	698	700	703	707	706	706
Miscellaneous manufacturing	449	451	450	451	448	449	449	452	453	450	450	447	436
Nondurable goods	8,320	8,303	8,293	8,243	8,212	8,249	8,249	8,266	8,289	8,237	8,236	8,207	8,175
Production workers	5,993	5,973	5,966	5,912	5,891	5,922	5,921	5,934	5,954	5,900	5,891	5,864	5,833
Food and kindred products	1,725	1,720	1,707	1,696	1,691	1,707	1,710	1,715	1,707	1,705	1,701	1,685	1,688
Tobacco manufactures	70	69	68	64	65	65	60	62	64	65	65	66	67
Textile mill products	893	892	892	886	884	887	889	893	891	891	893	889	877
Apparel and other textile products	1,324	1,312	1,324	1,302	1,294	1,299	1,292	1,297	1,309	1,312	1,314	1,306	1,297
Paper and allied products	714	715	718	717	714	715	714	713	718	717	718	714	704
Printing and publishing	1,236	1,242	1,250	1,247	1,245	1,252	1,262	1,263	1,273	1,278	1,278	1,276	1,271
Chemicals and allied products	1,114	1,119	1,116	1,111	1,110	1,113	1,114	1,119	1,123	1,121	1,123	1,126	1,125
Petroleum and coal products	213	212	212	213	215	217	217	217	219	183	180	170	205
Rubber and miscellaneous plastics products	784	775	777	764	751	751	749	745	745	744	744	737	703
Leather and leather products	247	247	229	243	243	243	242	242	240	241	240	236	236
TRANSPORTATION AND PUBLIC UTILITIES	5,130	5,190	5,169	5,194	5,150	5,216	5,229	5,223	5,212	5,210	5,213	5,189	5,187
WHOLESALE AND RETAIL TRADE	20,129	20,116	20,122	20,126	20,169	20,243	20,308	20,254	20,428	20,521	20,499	20,349	20,371
WHOLESALE TRADE	5,156	5,180	5,182	5,185	5,190	5,209	5,235	5,218	5,248	5,274	5,278	5,238	5,227
RETAIL TRADE	14,973	14,936	14,940	14,941	14,979	15,034	15,073	15,036	15,180	15,247	15,221	15,111	15,144
FINANCE, INSURANCE, AND REAL ESTATE	4,936	4,958	4,972	5,003	4,987	5,018	5,039	5,056	5,081	5,092	5,107	5,107	5,131
SERVICES	16,954	17,051	17,092	17,141	17,191	17,257	17,298	17,357	17,442	17,522	17,546	17,578	17,650
GOVERNMENT	15,598	15,637	15,635	15,699	15,673	15,674	15,693	15,696	15,706	15,768	15,852	16,075	16,026
Federal	2,770	2,788	2,785	2,813	2,762	2,770	2,771	2,771	2,791	2,823	2,886	3,112	3,026
State and local	12,828	12,849	12,850	12,886	12,911	12,904	12,922	12,925	12,915	12,945	12,966	12,963	13,000

12. Labor turnover rates in manufacturing, 1977 to date

[Per 100 employees]

Year	Annual average	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
							Total accessions						
1977	4.0	3.7	3.7	4.0	3.8	4.6	4.9	4.3	5.3	4.6	3.9	3.1	2.4
1978	4.1	3.8	3.2	3.8	4.0	4.7	4.9	4.4	5.4	4.9	4.3	3.3	2.4
1979	3.9	4.0	3.4	3.8	3.9	4.7	4.8	4.3	4.9	4.4	4.1	2.9	2.2
1980	...	3.8	3.3	3.5	^{p}3.1	...	...	...	...	...	...	...	...
							New hires						
1977	2.8	2.2	2.1	2.8	2.7	3.5	3.7	3.0	4.0	3.5	3.0	2.2	1.6
1978	3.1	2.5	2.2	2.7	2.9	3.6	3.9	3.3	4.2	3.9	3.5	2.6	1.7
1979	2.9	2.8	2.5	2.8	2.9	3.6	3.8	3.1	3.7	3.4	3.1	2.2	1.5
1980	...	2.4	2.2	2.3	^{p}2.0	...	...	...	...	...	...	...	...
							Recalls						
1977	.9	1.2	1.3	1.1	.9	.8	.8	.9	1.0	.8	.6	.6	.6
1978	.7	1.0	.7	.8	.8	.8	.7	.8	.9	.7	.6	.5	.5
1979	.7	.9	.7	.7	.7	.8	.7	.9	.9	.8	.7	.5	.5
1980	...	1.1	.9	.9	^{p}.8	...	...	...	...	...	...	...	...
							Total separations						
1977	3.8	3.9	3.4	3.4	3.4	3.5	3.5	4.3	5.1	4.9	3.8	3.4	3.4
1978	3.9	3.6	3.1	3.5	3.6	3.7	3.8	4.1	5.3	4.8	4.1	3.5	3.4
1979	4.0	3.8	3.2	3.6	3.6	3.8	3.9	4.3	5.7	4.7	4.2	3.8	3.5
1980	...	4.1	3.5	3.7	^{p}4.6	...	...	...	...	...	...	...	...
							Quits						
1977	1.8	1.4	1.3	1.6	1.7	1.9	1.9	1.9	3.1	2.8	1.9	1.5	1.2
1978	2.1	1.5	1.4	1.8	2.0	2.1	2.2	2.1	3.5	3.1	2.3	1.7	1.3
1979	2.0	1.8	1.6	1.9	2.0	2.1	2.1	2.0	3.3	2.7	2.1	1.6	1.1
1980	...	1.6	1.5	1.6	^{p}1.5	...	...	...	...	...	...	...	...
							Layoffs						
1977	1.1	1.7	1.4	1.0	.9	.8	.8	1.5	1.0	1.1	1.1	1.1	1.5
1978	.9	1.2	.9	.9	.8	.7	.7	1.0	.8	.8	.9	1.0	1.4
1979	1.1	1.1	.8	.8	.9	.7	.8	1.4	1.3	1.1	1.2	1.5	1.7
1980	...	1.6	.12	1.3	^{p}2.3	...	...	...	...	...	...	...	...

13. Labor turnover rates in manufacturing, by major industry group

[Per 100 employees]

Major industry group	Accession rates									Separation rates								
	Total			New hires			Recalls			Total			Quits			Layoffs		
	Apr. 1979	Mar. 1980	Apr. 1980^{p}	Apr. 1979	Mar. 1980	Apr. 1980^{p}	Apr. 1979	Mar. 1980	Apr. 1980^{p}	Apr. 1979	Mar. 1980	Apr. 1980^{p}	Apr. 1979	Mar. 1980	Apr. 1980^{p}	Apr. 1979	Mar. 1980	Apr. 1980^{p}
MANUFACTURING																		
Seasonally adjusted	3.9	3.5	3.1	2.9	2.3	2.0	0.7	0.9	0.8	3.6	3.7	4.6	2.0	1.6	1.5	0.9	1.3	2.3
Durable goods	3.6	3.1	2.6	2.7	2.0	1.7	.6	.8	.7	3.2	3.5	4.7	1.7	1.3	1.2	.7	1.3	2.6
Lumber and wood products	6.6	4.4	4.1	5.1	2.9	2.3	1.3	1.3	1.6	5.7	6.5	10.0	3.7	2.3	2.5	.9	3.2	6.4
Furniture and fixtures	5.0	4.0	3.4	4.3	3.2	2.8	.6	.6	.4	5.4	4.5	5.1	3.3	2.5	2.3	.9	.9	1.8
Stone, clay, and glass products	5.1	3.9	3.6	3.4	2.0	1.8	1.5	1.7	1.6	3.6	3.7	4.5	2.0	1.3	1.3	.7	1.6	2.3
Primary metal industries	2.6	2.7	2.0	1.9	1.2	.9	.5	1.2	.8	2.2	2.7	3.8	.9	.6	.6	.4	1.2	2.4
Fabricated metal products	3.9	3.6	3.0	3.0	2.3	1.9	.7	1.0	.9	3.9	4.0	6.0	2.0	1.5	1.5	.9	1.6	3.6
Machinery, except electrical	2.8	2.5	2.0	2.3	1.8	1.6	.2	.4	.3	2.5	2.6	3.6	1.4	1.1	1.1	.3	.8	1.8
Electric and electronic equipment	3.1	2.9	2.6	2.4	2.1	1.8	.4	.4	.5	3.0	2.9	3.5	1.5	1.3	1.2	.6	.6	1.4
Transportation equipment	3.3	3.0	...	2.1	1.4	...	.8	1.2	...	2.9	4.1	...	1.2	.9	...	.9	2.3	...
Instruments and related products	2.8	2.8	2.4	2.4	2.3	2.0	.2	.2	.2	2.4	2.2	3.0	1.4	1.2	1.3	.3	.4	.9
Miscellaneous manufacturing	5.0	4.6	4.4	3.8	2.9	3.1	1.0	1.4	1.1	4.7	4.8	5.2	2.5	2.0	1.9	1.2	1.8	2.2
Nondurable goods	4.3	4.0	3.7	3.1	2.8	2.6		1.0	.9	4.3	3.9	4.5	2.3	2.0	1.9	1.1	1.2	1.7
Food and kindred products	5.9	5.2	5.4	4.0	3.1	3.3	.9	1.8	1.8	5.9	5.2	5.9	2.9	2.2	2.3	2.2	2.1	2.8
Tobacco manufacturers	2.2	1.8	...	.8	.7	...	1.7	.4	...	3.8	4.8	...	.6	.4	...	2.3	3.2	...
Textile mill products	4.9	4.3	4.0	3.8	3.4	3.2	.7	.6	.5	4.8	4.0	4.8	3.2	2.5	2.7	.6	.5	1.1
Apparel and other products	5.2	5.4	5.2	3.4	3.9	3.5	.6	1.3	1.5	5.6	5.1	5.6	3.0	3.0	2.8	1.7	1.4	2.0
Paper and allied products	2.9	2.5	2.2	2.1	1.6	1.4	1.5	.7	.7	2.7	2.8	2.9	1.4	1.0	.9	.6	1.1	1.3
Printing and publishing	3.3	3.1	2.8	2.8	2.6	2.4	.6	.4	.3	3.3	3.1	3.1	2.0	1.8	1.8	.6	.6	.7
Chemicals and allied products	1.9	1.7	1.5	1.4	1.3	1.2	.4	.3	.2	1.6	1.5	1.7	.7	.7	.6	.3	.3	.6
Petroleum and coal products	2.6	2.2	2.6	1.9	1.5	1.8	.4	.6	.8	1.9	2.0	2.8	.8	.8	.7	.5	.6	1.5
Rubber and miscellaneous							.5											
plastics products	5.0	4.1	3.1	4.0	2.9	2.1	.7	.9	.7	4.8	4.8	6.7	2.8	2.2	1.9	1.0	1.6	3.6
Leather and leather products	7.0	7.1	6.5	5.0	4.6	4.8	1.6	2.1	1.3	6.9	6.5	6.7	4.1	3.3	3.6	1.6	2.1	2.0

14. Hours and earnings, by industry division, 1949–79

[Gross averages, production or nonsupervisory workers on nonagricultural payrolls]

Year	Average weekly earnings	Average weekly hours	Average hourly earnings	Average weekly earnings	Average weekly hours	Average hourly earnings	Average weekly earnings	Average weekly hours	Average hourly earnings	Average weekly earnings	Average weekly hours	Average hourly earnings
	Total private			Mining			Construction			Manufacturing		
1949	$50.24	39.4	$1.275	$62.33	36.3	$1.717	$67.56	37.7	$1.792	$53.88	39.1	$1.378
1950	53.13	39.8	1.335	67.16	37.9	1.772	69.68	37.4	1.863	58.32	40.5	1.440
1951	57.86	39.9	1.45	74.11	38.4	1.93	76.96	38.1	2.02	63.34	40.6	1.56
1952	60.65	39.9	1.52	77.59	38.6	2.01	82.86	38.9	2.13	66.75	40.7	1.64
1953	63.76	39.6	1.61	83.03	38.8	2.14	86.41	37.9	2.28	70.47	40.5	1.74
1954	64.52	39.1	1.65	82.60	38.6	2.14	88.91	37.2	2.39	70.49	39.6	1.78
1955	67.72	39.6	1.71	89.54	40.7	2.20	90.90	37.1	2.45	75.30	40.7	1.85
1956	70.74	39.3	1.80	95.06	40.8	2.33	96.38	37.5	2.57	78.78	40.4	1.95
1957	73.33	38.8	1.89	98.25	40.1	2.45	100.27	37.0	2.71	81.19	39.8	2.04
1958	75.08	38.5	1.95	96.08	38.9	2.47	103.78	36.8	2.82	82.32	39.2	2.10
1959[1]	78.78	39.0	2.02	103.68	40.5	2.56	108.41	37.0	2.93	88.26	40.3	2.19
1960	80.67	38.6	2.09	105.04	40.4	2.60	112.67	36.7	3.07	89.72	39.7	2.26
1961	82.60	38.6	2.14	106.92	40.5	2.64	118.08	36.9	3.20	92.34	39.8	2.32
1962	85.91	38.7	2.22	110.70	41.0	2.70	122.47	37.0	3.31	96.56	40.4	2.39
1963	88.46	38.8	2.28	114.40	41.6	2.75	127.19	37.3	3.41	99.23	40.5	2.45
1964	91.33	38.7	2.36	117.74	41.9	2.81	132.06	37.2	3.55	102.97	40.7	2.53
1965	95.45	38.8	2.46	123.52	42.3	2.92	138.38	37.4	3.70	107.53	41.2	2.61
1966	98.82	38.6	2.56	130.24	42.7	3.05	146.26	37.6	3.89	112.19	41.4	2.71
1967	101.84	38.0	2.68	135.89	42.6	3.19	154.95	37.7	4.11	114.49	40.6	2.82
1968	107.73	37.8	2.85	142.71	42.6	3.35	164.49	37.3	4.41	122.51	40.7	3.01
1969	114.61	37.7	3.04	154.80	43.0	3.60	181.54	37.9	4.79	129.51	40.6	3.19
1970	119.83	37.1	3.23	164.40	42.7	3.85	195.45	37.3	5.24	133.33	39.8	3.35
1971	127.31	36.9	3.45	172.14	42.4	4.06	211.67	37.2	5.69	142.44	39.9	3.57
1972	136.90	37.0	3.70	189.14	42.6	4.44	221.19	36.5	6.06	154.71	40.5	3.82
1973	145.39	36.9	3.94	201.40	42.4	4.75	235.89	36.8	6.41	166.46	40.7	4.09
1974	154.76	36.5	4.24	219.14	41.9	5.23	249.25	36.6	6.81	176.80	40.0	4.42
1975	163.53	36.1	4.53	249.31	41.9	5.95	266.08	36.4	7.31	190.79	39.5	4.83
1976	175.45	36.1	4.86	273.90	42.4	6.46	283.73	36.8	7.71	209.32	40.1	5.22
1977	189.00	36.0	5.25	301.20	43.4	6.94	295.65	36.5	8.10	228.90	40.3	5.68
1978	203.70	35.8	5.69	332.11	43.3	7.67	318.32	36.8	8.65	249.27	40.4	6.17
1979	219.91	35.7	6.16	364.64	43.0	8.48	341.69	36.9	9.26	268.94	40.2	6.69
	Transportation and public utilities			Wholesale and retail trade			Finance, insurance, and real estate			Services		
1949	....	....	....	$42.93	40.5	$1.060	$47.63	37.8	$1.260	....	....	....
1950	....	....	....	44.55	40.5	1.100	50.52	37.7	1.340	....	....	....
1951	....	....	....	47.79	40.5	1.18	54.67	37.7	1.45	....	....	....
1952	....	....	....	49.20	40.0	1.23	57.08	37.8	1.51	....	....	....
1953	....	....	....	51.35	39.5	1.30	59.57	37.7	1.58	....	....	....
1954	....	....	....	53.33	39.5	1.35	62.04	37.6	1.65	....	....	....
1955	....	....	....	55.16	39.4	1.40	63.92	37.6	1.70	....	....	....
1956	....	....	....	57.48	39.1	1.47	65.68	36.9	1.78	....	....	....
1957	....	....	....	59.60	38.7	1.54	67.53	36.7	1.84	....	....	....
1958	....	....	....	61.76	38.6	1.60	70.12	37.1	1.89	....	....	....
1959[1]	....	....	....	64.41	38.8	1.66	72.74	37.3	1.95	....	....	....
1960	....	....	....	66.01	38.6	1.71	75.14	37.2	2.02	....	....	....
1961	....	....	....	67.41	38.3	1.76	77.12	36.9	2.09	....	....	....
1962	....	....	....	69.91	38.2	1.83	80.94	37.3	2.17	....	....	....
1963	....	....	....	72.01	38.1	1.89	84.38	37.5	2.25	....	....	....
1964	$118.78	41.1	$2.89	74.66	37.9	1.97	85.79	37.3	2.30	$70.03	36.1	$1.94
1965	125.14	41.3	3.03	76.91	37.7	2.04	88.91	37.2	2.39	73.60	35.9	2.05
1966	128.13	41.2	3.11	79.39	37.1	2.14	92.13	37.3	2.47	77.04	35.5	2.17
1967	130.82	40.5	3.23	82.35	36.6	2.25	95.72	37.1	2.58	80.38	35.1	2.29
1968	138.85	40.6	3.42	87.00	36.1	2.41	101.75	37.0	2.75	83.97	34.7	2.42
1969	147.74	40.7	3.63	91.39	35.7	2.56	108.70	37.1	2.93	90.57	34.7	2.61
1970	155.93	40.5	3.85	96.02	35.3	2.72	112.67	36.7	3.07	96.66	34.4	2.81
1971	168.82	40.1	4.21	101.09	35.1	2.88	117.85	36.6	3.22	103.06	33.9	3.04
1972	187.86	40.4	4.65	106.45	34.9	3.05	122.98	36.6	3.36	110.85	33.9	3.27
1973	203.31	40.5	5.02	111.76	34.6	3.23	129.20	36.6	3.53	117.29	33.8	3.47
1974	217.48	40.2	5.41	119.02	34.2	3.48	137.61	36.5	3.77	126.00	33.6	3.75
1975	233.44	39.7	5.88	126.45	33.9	3.73	148.19	36.5	4.06	134.67	33.5	4.02
1976	256.71	39.6	6.45	133.79	33.7	3.97	155.43	36.4	4.27	143.52	33.3	4.31
1977	278.90	39.9	6.99	142.52	33.3	4.28	165.26	36.4	4.54	153.45	33.0	4.65
1978	302.80	40.0	7.57	153.64	32.9	4.67	178.36	36.4	4.90	163.67	32.8	4.99
1979	326.38	39.9	8.18	164.96	32.6	5.06	191.66	36.3	5.28	175.27	32.7	5.36

[1] Data include Alaska and Hawaii beginning in 1959.

15. Weekly hours, by industry division and major manufacturing group

[Gross averages, production or nonsupervisory workers on private nonagricultural payrolls]

Industry division and group	Annual Average		1979								1980				
	1978	1979	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.^{p}	May^p
TOTAL PRIVATE	35.8	35.7	35.5	35.9	36.0	36.0	35.8	35.7	35.6	35.9	35.1	35.1	35.2	35.0	35.0
MINING	43.3	43.0	42.8	43.3	41.7	43.1	43.5	43.7	43.7	43.9	43.4	43.2	43.3	42.9	42.8
CONSTRUCTION	36.8	36.9	37.2	37.9	37.7	38.0	37.9	37.6	36.5	37.1	35.1	35.5	36.0	36.5	36.9
MANUFACTURING	40.4	40.2	40.1	40.4	39.9	40.0	40.3	40.3	40.4	40.9	39.8	39.8	39.8	39.4	39.4
Overtime hours	3.6	3.3	3.3	3.4	3.2	3.3	3.6	3.4	3.4	3.4	3.0	2.9	3.0	2.7	2.5
Durable goods	41.1	40.8	40.8	41.0	40.4	40.4	40.8	40.8	40.8	41.6	40.3	40.3	40.4	39.9	39.8
Overtime hours	3.8	3.5	3.6	3.6	3.4	3.4	3.6	3.5	3.5	3.5	3.1	3.0	3.1	2.7	2.5
Lumber and wood products	39.8	39.5	39.6	40.2	39.4	39.9	40.1	39.8	38.8	39.2	38.1	38.5	38.3	37.1	37.3
Furniture and fixtures	39.3	38.6	38.2	38.6	38.0	38.6	39.0	39.3	39.2	39.9	38.4	38.3	38.5	38.0	37.2
Stone, clay, and glass products	41.6	41.5	41.9	42.1	41.5	41.7	41.7	41.7	41.7	41.8	40.1	40.1	40.7	40.4	40.9
Primary metal industries	41.8	41.4	41.4	41.6	41.3	40.8	41.3	40.9	40.7	40.9	40.7	40.7	40.7	40.6	39.8
Fabricated metal products	41.0	40.8	40.7	41.0	40.3	40.5	40.8	41.0	41.0	41.9	40.6	40.4	40.6	40.2	39.9
Machinery except electrical	42.0	41.8	41.7	42.0	41.2	41.3	41.9	41.6	41.9	42.8	41.5	41.5	41.6	41.1	41.0
Electric and electronic equipment	40.3	40.3	40.2	40.5	39.6	39.7	40.5	40.3	40.9	41.3	40.2	40.2	40.0	39.6	39.5
Transportation equipment	42.2	41.2	41.6	41.3	40.9	40.5	40.7	41.3	40.8	42.6	40.1	40.4	40.4	39.7	39.7
Instruments and related products	40.9	40.8	40.8	40.7	40.3	40.3	40.7	40.8	41.4	41.6	41.0	40.7	40.6	40.4	40.5
Miscellaneous manufacturing	38.8	38.9	38.5	39.0	38.7	38.9	39.3	39.3	39.6	39.7	39.1	38.8	38.9	38.6	38.4
Nondurable goods	39.4	39.3	39.1	39.4	39.2	39.4	39.6	39.4	39.6	39.9	39.0	38.9	38.9	38.7	38.8
Overtime hours	3.2	3.1	2.9	3.0	3.0	3.2	3.5	3.2	3.3	3.2	2.9	2.8	2.9	2.7	2.6
Food and kindred products	39.7	39.9	39.6	39.8	40.1	40.3	40.6	40.0	40.2	40.3	39.5	39.0	39.0	38.9	39.7
Tobacco manufactures	38.1	38.0	38.9	39.0	36.1	37.6	39.1	38.8	39.0	39.5	37.4	36.9	37.7	38.1	37.9
Textile mill products	40.4	40.3	40.1	40.6	39.9	40.3	40.8	40.8	41.3	41.5	40.9	40.8	40.9	39.8	40.1
Apparel and other textile products	35.6	35.2	35.1	35.6	35.4	35.6	35.4	35.5	35.6	35.9	35.2	35.5	35.5	35.3	35.3
Paper and allied products	42.9	42.6	42.4	42.8	42.5	42.6	42.7	42.6	42.9	43.5	42.6	42.4	42.4	42.2	41.6
Printing and publishing	37.6	37.5	37.3	37.4	37.4	37.9	37.9	37.5	37.9	38.1	37.2	37.0	37.2	36.8	36.7
Chemicals and allied products	41.9	41.8	41.8	41.8	41.7	41.8	41.8	41.7	42.1	42.2	41.7	41.6	41.6	41.6	41.4
Petroleum and coal products	43.6	43.8	43.7	43.4	44.1	43.6	44.7	44.1	44.8	43.4	36.1	39.6	39.4	41.8	42.4
Rubber and miscellaneous plastics products	40.9	40.5	40.5	40.7	40.2	40.0	40.5	40.5	40.3	40.7	40.3	39.9	40.0	39.7	39.1
Leather and leather products	37.1	36.5	36.4	37.1	36.9	36.6	36.8	36.5	36.8	37.3	36.7	36.8	36.4	36.6	36.9
TRANSPORTATION AND PUBLIC UTILITIES	40.0	39.9	39.6	40.0	40.0	40.3	39.9	39.9	40.2	40.0	39.5	39.4	39.5	39.3	39.1
WHOLESALE AND RETAIL TRADE	32.9	32.6	32.4	32.9	33.3	33.2	32.7	32.5	32.4	32.9	31.9	31.9	32.0	31.8	31.9
WHOLESALE TRADE	38.8	38.8	38.9	39.0	39.0	38.9	38.8	38.9	38.9	39.1	38.5	38.4	38.4	38.4	38.5
RETAIL TRADE	31.0	30.7	30.4	31.0	31.5	31.4	30.7	30.4	30.4	31.0	29.8	29.8	29.9	29.8	29.8
FINANCE, INSURANCE, AND REAL ESTATE	36.4	36.3	36.1	36.2	36.4	36.2	36.3	36.3	36.4	36.4	36.3	36.4	36.4	36.3	36.3
SERVICES	32.8	32.7	32.5	32.9	33.3	33.2	32.7	32.6	32.8	32.8	32.5	32.5	32.5	32.5	32.3

16. Weekly hours, by industry division and major manufacturing group, seasonally adjusted

[Gross averages, production or nonsupervisory workers on private nonagricultural payrolls]

Industry division and group	1979								1980				
	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.^{p}	May^{p}
TOTAL PRIVATE	35.7	35.6	35.6	35.6	35.7	35.6	35.7	35.7	35.7	35.5	35.4	35.3	35.1
MINING	42.8	43.0	41.6	43.2	43.1	43.1	43.2	43.9	44.4	43.7	43.5	43.2	42.8
CONSTRUCTION	37.1	37.2	36.8	37.2	37.5	36.6	36.8	37.1	37.6	36.7	36.1	36.5	36.8
MANUFACTURING	40.2	40.1	40.2	40.1	40.2	40.2	40.1	40.2	40.3	40.1	39.8	39.6	39.4
Overtime hours	3.5	3.4	3.3	3.2	3.2	3.2	3.3	3.2	3.2	3.1	3.2	2.9	2.6
Durable goods	40.9	40.7	40.7	40.7	40.7	40.8	40.6	40.7	40.8	40.6	40.4	40.1	39.8
Overtime hours	3.8	3.6	3.5	3.3	3.3	3.3	3.4	c3.2	3.3	3.1	3.2	2.8	2.6
Lumber and wood products	39.4	39.4	39.3	39.5	39.7	39.4	38.9	39.0	39.5	39.1	38.6	37.1	37.1
Furniture and fixtures	38.5	38.5	38.4	38.3	38.6	38.8	38.9	39.0	39.0	39.0	38.6	38.6	37.5
Stone, clay, and glass products	41.7	41.6	41.4	41.3	41.5	41.3	41.5	41.6	41.3	41.0	40.9	40.5	40.7
Primary metal industries	41.4	41.2	41.3	41.0	41.0	41.1	40.7	40.6	40.8	40.8	40.8	40.7	39.8
Fabricated metal products	40.7	40.7	40.8	40.6	40.7	40.2	40.7	41.0	40.9	40.8	40.6	40.5	39.9
Machinery, except electrical	42.0	42.0	41.9	41.6	41.9	41.6	41.5	41.6	41.7	41.5	41.4	41.3	41.2
Electric and electronic equipment	40.4	40.3	40.2	39.8	40.3	40.3	40.6	40.5	40.4	40.4	40.0	39.8	39.7
Transportation equipment	41.5	40.8	40.9	41.7	40.6	41.3	40.6	41.0	41.0	40.9	40.4	39.7	39.6
Instruments and related products	40.8	40.6	40.7	40.5	40.6	40.7	41.0	40.8	41.5	40.9	40.5	40.7	40.5
Miscellaneous manufacturing	38.6	38.9	39.3	39.1	39.1	39.1	39.1	39.2	39.5	39.2	38.7	38.6	38.5
Nondurable goods	39.2	39.2	39.2	39.2	39.3	39.3	39.4	39.4	39.5	39.4	39.1	39.0	38.9
Overtime hours	3.0	3.0	3.0	3.0	3.1	3.0	3.2	3.1	3.1	3.0	3.1	2.9	2.7
Food and kindred products	39.8	39.8	39.8	39.7	40.0	39.9	40.0	39.9	40.0	39.6	39.4	39.5	39.8
Tobacco manufactures	38.9	37.6	38.5	38.0	38.6	38.3	37.8	38.8	38.5	37.7	37.6	38.1	37.9
Textile mill products	40.0	40.1	40.1	40.1	40.6	40.8	41.1	41.0	41.7	41.1	40.8	40.0	40.0
Apparel and other textile products	35.2	35.2	35.5	35.3	35.3	35.3	35.3	35.6	35.9	36.0	35.5	35.6	35.4
Paper and allied products	42.6	42.5	42.5	42.6	42.4	42.6	42.7	42.9	42.8	42.9	42.6	42.4	41.8
Printing and publishing	37.4	37.4	37.5	37.7	37.5	37.4	37.6	37.4	37.8	37.4	37.2	37.1	36.8
Chemicals and allied products	41.9	41.7	41.9	42.0	41.7	41.7	41.9	41.7	42.0	41.9	41.6	41.4	41.5
Petroleum and coal products	43.7	43.3	43.6	43.7	44.1	43.7	44.4	43.5	36.6	40.4	39.6	41.8	42.4
Rubber and miscellaneous plastics products	40.9	40.7	40.6	40.2	40.3	40.3	40.0	39.9	40.6	39.9	39.9	40.0	39.5
Leather and leather products	36.1	36.4	36.6	36.5	37.0	36.5	36.7	36.9	37.2	37.3	36.8	36.9	36.6
TRANSPORTATION AND PUBLIC UTILITIES	39.8	39.8	39.7	39.9	39.9	39.9	40.2	39.8	39.9	c39.5	39.7	39.5	39.3
WHOLESALE AND RETAIL TRADE	32.6	32.6	32.6	32.5	32.6	32.6	32.7	32.6	32.5	32.3	32.3	32.1	32.0
WHOLESALE TRADE	39.0	38.8	38.8	38.7	38.7	38.8	38.9	38.9	38.8	38.7	38.5	38.5	38.6
RETAIL TRADE	30.6	30.6	30.6	30.5	30.7	30.6	30.7	30.6	30.5	30.3	30.3	30.1	29.9
FINANCE, INSURANCE, AND REAL ESTATE	36.1	36.2	36.3	36.1	36.4	36.2	36.5	36.4	36.2	36.4	36.5	36.4	36.3
SERVICES	32.7	32.7	32.8	32.7	32.7	32.6	32.7	32.9	32.7	32.7	32.7	32.7	32.5

c = corrected.

17. Hourly earnings, by industry division and major manufacturing group

[Gross averages, production or nonsupervisory workers on private nonagricultural payrolls]

Industry division and group	Annual average		1979								1980				
	1978	1979	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.ᵖ	Mayᵖ
TOTAL PRIVATE	$5.69	$6.16	$6.09	$6.12	$6.16	$6.19	$6.31	$6.32	$6.35	$6.39	$6.42	$6.46	$6.51	$6.53	$6.57
MINING	7.67	8.48	8.45	8.49	8.52	8.48	8.57	8.57	8.70	8.73	8.85	8.88	8.92	9.05	9.05
CONSTRUCTION	8.65	9.26	9.14	9.13	9.24	9.32	9.51	9.49	9.50	9.57	9.47	9.60	9.66	9.64	9.68
MANUFACTURING	6.17	6.69	6.63	6.66	6.71	6.69	6.80	6.82	6.86	6.97	6.96	6.99	7.06	7.08	7.12
Durable goods	6.58	7.12	7.07	7.11	7.15	7.12	7.24	7.25	7.29	7.41	7.39	7.45	7.54	7.55	7.59
Lumber and wood products	5.60	6.08	5.97	6.16	6.23	6.23	6.32	6.24	6.23	6.25	6.22	6.34	6.36	6.28	6.39
Furniture and fixtures	4.68	5.06	4.97	5.05	5.04	5.10	5.18	5.20	5.23	5.27	5.27	5.34	5.38	5.42	5.43
Stone, clay, and glass products	6.32	6.84	6.78	6.85	6.89	6.90	6.98	7.00	7.07	7.10	7.05	7.13	7.26	7.34	7.42
Primary metal industries	8.20	8.97	8.83	8.91	9.04	9.10	9.16	9.10	9.26	9.28	9.30	9.44	9.45	9.53	9.52
Fabricated metal products	6.34	6.82	6.77	6.81	6.80	6.83	6.93	6.95	6.99	7.12	7.06	7.12	7.22	7.25	7.30
Machinery, except electrical	6.77	7.33	7.25	7.34	7.35	7.35	7.48	7.45	7.51	7.65	7.67	7.71	7.78	7.83	7.89
Electric and electronic equipment	5.82	6.31	6.21	6.25	6.27	6.36	6.46	6.48	6.51	6.64	6.67	6.71	6.78	6.79	6.80
Transportation equipment	7.91	8.53	8.56	8.53	8.55	8.44	8.59	8.67	8.68	8.90	8.78	8.84	9.01	9.00	9.02
Instruments and related products	5.71	6.17	6.11	6.11	6.16	6.14	6.21	6.32	6.39	6.49	6.57	6.58	6.62	6.63	6.71
Miscellaneous manufacturing	4.69	5.04	5.00	4.99	5.03	5.04	5.07	5.12	5.15	5.22	5.31	5.30	5.36	5.40	5.47
Nondurable goods	5.53	6.00	5.91	5.94	6.03	6.04	6.11	6.14	6.21	6.26	6.28	6.27	6.30	6.37	6.42
Food and kindred products	5.80	6.27	6.22	6.22	6.28	6.28	6.33	6.36	6.51	6.56	6.62	6.64	6.69	6.77	6.82
Tobacco manufactures	6.13	6.69	6.83	6.82	6.83	6.59	6.54	6.43	7.01	7.04	7.13	7.41	7.61	7.81	7.70
Textile mill products	4.30	4.66	4.52	4.54	4.65	4.77	4.82	4.83	4.86	4.87	4.90	4.90	4.93	4.93	4.92
Apparel and other textile products	3.94	4.24	4.20	4.21	4.23	4.21	4.28	4.32	4.32	4.39	4.45	4.46	4.49	4.47	4.44
Paper and allied products	6.52	7.12	6.96	7.05	7.17	7.22	7.32	7.34	7.42	7.48	7.48	7.51	7.54	7.62	7.61
Printing and publishing	6.50	6.91	6.83	6.88	6.90	6.94	7.04	7.06	7.09	7.17	7.20	7.25	7.30	7.30	7.41
Chemicals and allied products	7.01	7.59	7.47	7.53	7.60	7.65	7.73	7.82	7.87	7.91	7.96	7.99	8.04	8.11	8.15
Petroleum and coal products	8.63	9.37	9.39	9.32	9.39	9.35	9.51	9.40	9.57	9.49	9.48	9.40	9.32	9.84	10.16
Rubber and miscellaneous plastics products	5.52	5.96	5.90	5.91	5.95	5.94	6.03	6.12	6.14	6.21	6.25	6.25	6.27	6.31	6.32
Leather and leather products	3.89	4.23	4.18	4.19	4.19	4.22	4.29	4.31	4.34	4.36	4.46	4.48	4.52	4.53	4.57
TRANSPORTATION AND PUBLIC UTILITIES	7.57	8.16	7.94	8.03	8.23	8.32	8.45	8.45	8.52	8.55	8.56	8.59	8.64	8.71	8.74
WHOLESALE AND RETAIL TRADE	4.67	5.06	5.00	5.02	5.05	5.06	5.13	5.15	5.18	5.18	5.34	5.36	5.40	5.40	5.42
WHOLESALE TRADE	5.88	6.39	6.29	6.34	6.39	6.41	6.51	6.51	6.57	6.69	6.72	6.75	6.82	6.84	6.86
RETAIL TRADE	4.20	4.53	4.49	4.50	4.51	4.52	4.58	4.59	4.62	4.61	4.78	4.78	4.81	4.81	4.83
FINANCE, INSURANCE, AND REAL ESTATE	4.90	5.28	5.22	5.22	5.29	5.29	5.38	5.37	5.42	5.49	5.55	5.62	5.69	5.70	5.70
SERVICES	4.99	5.36	5.27	5.27	5.29	5.30	5.45	5.48	5.54	5.60	5.65	5.70	5.74	5.75	5.78

18. Hourly Earnings Index for production or nonsupervisory workers on private nonagricultural payrolls, by industry division

[Seasonally adjusted data: 1967 = 100]

Industry	1979								1980					Apr. 1980 to May 1980	May 1979 to May 1980
	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.ᵖ	Mayᵖ		
TOTAL PRIVATE (in current dollars)	227.5	229.0	230.9	232.2	234.3	234.9	237.3	239.5	240.5	242.6	245.3	246.4	247.9	0.6	−9.0
Mining	262.7	264.9	266.9	265.6	266.1	268.0	271.6	273.2	274.0	275.5	278.4	283.2	284.1	.3	−8.1
Construction	220.4	220.4	222.1	223.1	224.4	224.0	225.8	227.6	225.1	229.8	231.9	232.0	232.5	.2	−5.5
Manufacturing	232.3	233.9	235.4	236.9	238.7	240.0	242.1	244.3	245.3	248.1	250.1	252.3	254.3	.8	−9.5
Transportation and public utilities	243.7	246.4	251.3	252.6	255.6	255.8	258.9	260.7	261.2	262.7	266.2	267.4	268.8	.5	−10.3
Wholesale and retail trade	221.0	222.6	223.8	225.4	227.0	227.4	229.5	231.3	234.7	235.5	238.0	238.4	239.9	.6	−8.5
Finance, insurance, and real estate	207.0	208.0	210.8	211.5	214.4	213.1	216.2	218.5	218.6	221.2	226.0	226.0	225.8	−.1	−9.1
Services	224.3	225.7	227.0	228.4	231.5	232.3	234.7	237.7	238.0	239.9	243.1	243.6	245.4	.7	−9.4
TOTAL PRIVATE (in constant dollars)	106.3	105.8	105.6	105.1	104.9	104.1	104.1	103.8	102.8	102.3	102.0	101.5	(1)	(1)	(1)

[1] Not available.

19. Weekly earnings, by industry division and major manufacturing group

[Gross averages, production or nonsupervisory workers on private nonagricultural payrolls]

Industry division and group	Annual average		1979								1980				
	1978	1979	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.ᵖ	Mayᵖ
TOTAL PRIVATE	$203.70	$219.91	$216.20	$219.71	$221.76	$222.84	$225.90	$225.62	$226.06	$229.40	$225.34	$226.75	$229.15	$228.55	$229.95
MINING	332.11	364.64	361.66	367.62	355.28	365.40	372.80	374.51	380.19	383.25	384.09	383.62	386.24	388.25	387.34
CONSTRUCTION	318.32	341.69	340.01	346.03	348.35	354.16	360.43	356.82	346.75	355.05	332.40	340.80	347.76	351.86	357.19
MANUFACTURING	249.27	268.94	265.86	269.06	267.73	267.60	274.04	274.85	277.14	285.07	277.01	278.20	280.99	278.95	280.53
Durable goods	270.44	290.50	288.46	291.51	288.86	287.65	285.39	295.80	297.43	308.26	297.82	300.24	304.62	301.25	302.06
Lumber and wood products	222.88	240.16	236.41	247.63	245.46	248.58	253.43	248.35	241.72	245.00	236.98	244.09	243.59	232.99	238.35
Furniture and fixtures	183.92	195.32	189.85	195.94	191.52	196.86	202.02	204.36	205.02	210.27	202.37	204.52	207.13	205.96	202.00
Stone, clay, and glass products	262.91	283.86	284.08	288.39	285.94	287.73	291.07	291.90	294.82	296.78	282.71	285.91	295.48	296.54	303.48
Primary metal industries	342.76	371.36	365.56	370.66	373.35	371.28	378.31	372.19	376.86	379.55	378.51	384.21	384.62	386.92	378.90
Fabricated metal products	250.94	278.26	275.54	279.21	274.04	276.62	282.74	285.36	286.50	298.33	286.64	287.65	293.13	291.45	291.27
Machinery except electrical	284.34	306.39	302.33	308.28	302.82	303.56	313.41	309.82	314.67	327.42	318.31	319.97	323.05	321.81	323.49
Electric and electronic equipment	234.55	254.29	249.64	253.13	248.29	252.40	261.63	261.14	266.26	274.23	268.13	269.74	271.20	268.88	268.60
Transportation equipment	333.80	351.44	356.10	352.29	340.70	341.82	349.61	358.07	354.14	379.14	352.08	357.14	364.00	357.30	358.09
Instruments and related products	233.54	251.74	249.29	248.88	248.25	247.44	252.75	257.86	264.56	269.98	269.37	267.81	268.77	267.85	271.76
Miscellaneous manufacturing	181.97	195.06	192.50	194.61	194.66	196.06	199.25	201.22	203.94	207.23	207.82	206.80	208.50	208.44	210.05
Nondurable goods	217.88	235.80	231.08	234.04	236.38	237.98	241.96	241.92	245.82	249.77	244.82	243.90	245.07	246.52	249.10
Food and kindred products	230.26	250.17	246.31	247.56	251.83	253.08	257.00	254.40	261.70	264.37	261.49	258.96	260.91	263.35	270.75
Tobacco manufactures	233.55	254.22	265.88	265.98	246.56	247.78	255.71	240.46	273.39	278.08	286.06	273.43	286.90	297.56	291.83
Textile mill products	173.72	187.80	181.25	184.32	185.54	192.23	196.66	197.06	200.72	202.11	200.41	199.92	201.64	196.21	197.20
Apparel and other textile products	140.26	149.25	147.42	149.88	149.74	149.86	151.51	153.36	153.79	157.60	156.64	158.33	159.40	157.79	156.73
Paper and allied products	279.71	303.31	295.10	302.74	304.73	307.57	312.56	312.66	318.32	325.38	318.65	318.42	319.70	321.56	316.58
Printing and publishing	244.40	259.13	254.76	257.31	258.06	263.03	266.82	264.75	268.71	273.18	267.84	268.25	271.56	268.64	271.95
Chemicals and allied products	293.72	317.26	312.25	314.75	316.92	319.77	323.11	326.09	331.33	333.80	331.93	332.38	334.46	337.38	337.41
Petroleum and coal products	376.27	410.41	410.34	404.40	414.10	407.66	425.10	418.51	428.74	411.87	342.23	372.24	367.21	411.31	430.78
Rubber and miscellaneous plastics products	225.77	241.38	238.95	240.54	239.19	237.60	244.22	247.86	247.44	252.75	251.88	249.38	250.80	250.51	247.11
Leather and leather products	144.32	154.40	152.15	155.45	154.61	154.45	157.87	157.32	159.71	162.63	163.68	164.86	164.53	165.80	168.63
TRANSPORTATION AND PUBLIC UTILITIES	302.80	326.38	314.42	321.20	329.20	335.30	337.16	337.16	342.50	342.00	338.12	338.45	341.28	342.30	341.73
WHOLESALE AND RETAIL TRADE	153.64	164.96	162.00	165.16	168.17	167.99	167.75	167.38	167.83	170.42	170.35	170.98	172.80	171.72	172.90
WHOLESALE TRADE	228.14	247.93	244.08	247.26	249.21	249.35	252.50	253.24	255.57	261.19	258.72	259.58	261.89	262.66	264.88
RETAIL TRADE	130.20	139.07	136.50	139.50	142.07	141.83	140.61	139.54	140.45	142.91	142.44	142.44	143.82	143.34	143.93
FINANCE, INSURANCE, AND REAL ESTATE	178.36	191.66	188.44	188.95	192.56	191.50	195.29	194.93	197.29	199.84	201.47	204.57	207.12	206.91	206.91
SERVICES	163.67	175.27	171.28	173.38	176.16	175.96	178.22	178.65	180.60	183.08	183.63	185.25	186.55	186.88	186.09

20. Gross and spendable weekly earnings, in current and 1967 dollars, 1960 to date

[Averages for production or nonsupervisory workers on private nonagricultural payrolls]

Year and month	Private nonagricultural workers						Manufacturing workers					
	Gross average weekly earnings		Spendable average weekly earnings				Gross average weekly earnings		Spendable average weekly earnings			
			Worker with no dependents		Married worker with 3 dependents				Worker with no dependents		Married worker with 3 dependents	
	Current dollars	1967 dollars	Current dollars	1967 dollars	Current dollars	1967 dollars	Current dollars	1967 dollars	Current dollars	1967 dollars	Current dollars	1967 dollars
1960	$80.67	$90.95	$65.59	$73.95	$72.96	$82.25	$89.72	$101.15	$72.57	$81.82	$80.11	$90.32
1961	82.60	92.19	67.08	74.87	74.48	83.13	92.34	103.06	74.60	83.26	82.18	91.72
1962	85.91	94.82	69.56	76.78	76.99	84.98	96.56	106.58	77.86	85.94	85.53	94.40
1963	88.46	96.47	71.05	77.48	78.56	85.67	99.23	108.21	79.51	86.71	87.25	95.15
1964	91.33	98.31	75.04	80.78	82.57	88.88	102.97	110.84	84.40	90.85	92.18	99.22
1965	95.45	101.01	79.32	83.94	86.63	91.67	107.53	113.79	89.08	94.26	96.78	102.41
1966	98.82	101.67	81.29	83.63	88.66	91.21	112.19	115.42	91.45	94.08	99.33	102.19
1967	101.84	101.84	83.38	83.38	90.86	90.86	114.49	114.49	92.97	92.97	100.93	100.93
1968	107.73	103.39	86.71	83.21	95.28	91.44	122.51	117.57	97.70	93.76	106.75	102.45
1969	114.61	104.38	90.96	82.84	99.99	91.07	129.51	117.95	101.90	92.81	111.44	101.49
1970	119.83	103.04	96.21	82.73	104.90	90.20	133.33	114.64	106.32	91.42	115.58	99.38
1971	127.31	104.95	103.80	85.57	112.43	92.69	142.44	117.43	114.97	94.78	124.24	102.42
1972	136.90	109.26	112.19	89.54	121.68	97.11	154.71	123.47	125.34	100.03	135.57	108.20
1973	145.39	109.23	117.51	88.29	127.38	95.70	166.46	125.06	132.57	99.60	143.50	107.81
1974	154.76	104.78	124.37	84.20	134.61	91.14	176.80	119.70	140.19	94.92	151.56	102.61
1975	163.53	101.45	132.49	82.19	145.65	90.35	190.79	118.36	151.61	94.05	166.29	103.16
1976	175.45	102.90	143.30	84.05	155.87	91.42	209.32	122.77	167.83	98.43	181.32	106.35
1977	189.00	104.13	155.19	85.50	169.93	93.63	228.90	126.12	183.80	101.27	200.06	110.23
1978	203.70	104.30	165.39	84.69	180.71	92.53	249.27	127.63	197.40	101.08	214.87	110.02
1979	219.91	101.02	178.00	81.76	194.82	89.49	268.94	123.54	212.43	97.58	232.07	106.60
1979: May	216.20	100.89	175.29	81.80	191.93	89.56	265.86	124.06	210.04	98.14	229.74	107.20
June	219.71	101.30	177.85	82.00	194.67	89.75	269.06	124.05	212.51	97.98	232.17	107.04
July	221.76	101.08	179.35	81.75	196.26	89.45	267.73	122.03	211.61	96.45	231.16	105.36
August	222.84	100.60	180.13	81.32	197.11	88.99	267.60	120.81	211.52	95.49	231.06	104.32
September	225.90	100.96	182.36	81.52	199.42	89.15	274.04	122.50	215.89	96.51	235.94	105.47
October	225.62	100.01	182.16	80.74	199.21	88.30	274.85	121.83	216.44	95.94	236.56	104.86
November	226.06	99.32	182.48	80.18	199.54	87.67	277.14	121.77	217.99	95.78	238.30	104.70
December	229.40	99.74	184.84	80.37	202.08	87.86	285.07	123.94	223.38	97.12	244.31	106.22
1980: January	225.34	96.59	181.96	77.99	199.00	85.30	277.01	118.74	217.91	93.40	238.20	102.10
February	226.75	95.88	182.98	77.37	200.07	84.60	278.20	117.63	218.71	92.48	239.10	101.10
March	229.15	95.52	184.67	76.98	201.89	84.16	280.99	117.13	220.61	91.96	241.22	100.55
April^p	228.55	94.21	184.25	75.95	201.43	83.03	278.95	114.98	219.22	90.36	239.67	98.79
May^p	229.95	(1)	185.23	(1)	202.49	(1)	280.53	(1)	220.30	(1)	240.87	(1)

[1] Not available.

NOTE: The earnings expressed in 1967 dollars have been adjusted for changes in price level as measured by the Bureau's Consumer Price Index for Urban Wage Earners and Clerical Workers.

These series are described in "The Spendable Earnings Series: A Technical Note on its Calculation," **Employment and Earnings and Monthly Report on the Labor Force,** February 1969, pp. 6–13. See also "Spendable Earnings Formulas, 1978–80," **Employment and Earnings,** March 1980, pp. 10–11.

UNEMPLOYMENT INSURANCE DATA

UNEMPLOYMENT INSURANCE DATA are compiled monthly by the Employment and Training Administration of the U.S. Department of Labor from records of State and Federal unemployment insurance claims filed and benefits paid. Railroad unemployment insurance data are prepared by the U.S. Railroad Retirement Board.

Definitions

Data for **all programs** represent an unduplicated count of insured unemployment under State programs, Unemployment Compensation for Ex-Servicemen, and Unemployment Compensation for Federal Employees, and the Railroad Insurance Act.

Under both State and Federal unemployment insurance programs for civilian employees, insured workers must report the completion of at least 1 week of unemployment before they are defined as unemployed. Persons not covered by unemployment insurance (about one-third of the labor force) and those who have exhausted or not yet earned benefit rights are excluded from the scope of the survey. **Initial claims** are notices filed by persons in unemployment insurance programs to indicate they are out of work and wish to begin receiving compensation. A claimant who continued to be unemployed a full week is then counted in the insured unemployment figure. The **rate of insured unemployment** expresses the number of insured unemployed as a percent of the average insured employment in a 12-month period.

An **application** for benefits is filed by a railroad worker at the beginning of his first period of unemployment in a benefit year; no application is required for subsequent periods in the same year. **Number of payments** are payments made in 14-day registration periods. The **average amount of benefit payment** is an average for all compensable periods, not adjusted for recovery of overpayments or settlement of underpayments. However, **total benefits paid** have been adjusted.

21. Unemployment insurance and employment service operations

[All items except average benefits amounts are in thousands]

Item	1979									1980			
	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
All programs:													
Insured unemployment	2,610	2,230	2,119	2,429	2,377	2,164	2,236	2,559	3,047	3,740	3,730	3,652	3,627
State unemployment insurance program:[1]													
Initial claims[2]	1,589	1,309	1,400	1,978	1,545	1,219	1,641	1,827	2,263	2,837	1,818	1,705	......
Insured unemployment (average weekly volume)	2,440	2,078	1,991	2,300	2,245	2,024	2,057	2,384	2,864	3,537	3,518	3,356	3,278
Rate of insured unemployment	3.1	2.6	2.5	2.8	2.7	2.4	2.4	2.8	3.4	4.1	4.1	3.9	3.8
Weeks of unemployment compensated	8,958	8,442	7,197	7,889	8,830	6,993	7,638	8,107	9,171	13,792	12,800	13,170	......
Average weekly benefit amount for total unemployment	$89.25	$88.37	$87.25	$86.40	$88.56	$89.07	$90.59	$92.39	$94.54	$96.41	$98.46	$99.15	......
Total benefits paid	$777,890	$725,229	$610,269	$685,687	$767,025	$806,095	$673,965	$728,370	$843,880	$1,283,946	$1,229,877	$1,218,231	......
Unemployment compensation for ex-servicemen:[3]													
Initial claims[1]	20	20	24	26	28	23	26	24	24	25	21	21	......
Insured unemployment (average weekly volume)	48	45	45	51	52	52	52	54	56	60	58	63	52
Weeks of unemployment compensated	207	214	193	216	234	211	236	232	233	299	255	249	......
Total benefits paid	$19,617	$20,440	$18,623	$20,985	$23,861	$19,634	$23,325	$23,093	$23,093	$29,635	$25,414	$24,928	......
Unemployment compensation for Federal civilian employees:[4]													
Initial claims	12	12	13	16	13	13	18	15	15	19	11	12	......
Insured unemployment (average weekly volume)	27	24	23	2.5	25	25	28	29	31	34	32	30	25
Weeks of unemployment compensated	112	106	91	96	107	91	109	118	118	150	129	123	......
Total benefits paid	$10,345	$9,330	$8,341	$8,802	$9,829	$8,453	$10,093	$11,063	$11,047	$14,118	$12,387	$11,801	......
Railroad unemployment insurance:													
Applications	3	3	9	15	8	13	11	10	11	22	7	5	......
Insured unemployment (average weekly volume)	18	10	8	11	12	21	18	20	19	40	38	30	......
Number of payments	40	29	19	20	26	32	51	36	41	80	71	66	......
Average amount of benefit payment	$195.56	$177.39	$183.13	$190.10	$195.61	$189.08	$189.61	$183.36	$197.22	$199.01	$208.73	$210.79	......
Total benefits paid	$7,276	$5,681	$3,314	$3,699	$3,767	$5,747	$8,003	$6,462	$8,085	$14,967	$14,573	$13,864	......
Employment service:[5]													
New applications and renewals	9,180	10,452	11,907	13,166	14,479	15,525	1,855	......	4,378	......	......	8,503	......
Nonfarm placements	2,291	2,616	3,051	3,482	3,936	4,349	458	......	1,044	......	......	1,816	......

[1] Initial claims and State insured unemployment include data under the program for Puerto Rican sugarcane workers.

[2] Includes interstate claims for the Virgin Islands. Excludes transition claims under State programs.

[3] Excludes data on claims and payments made jointly with other programs.

[4] Includes the Virgin Islands. Excludes data on claims and payments made jointly with State programs.

[5] Cumulative total for fiscal year (October 1 - September 30).

NOTE: Data for Puerto Rico included. Dashes indicate data not available.

PRICE DATA

PRICE DATA are gathered by the Bureau of Labor Statistics from retail and primary markets in the United States. Price indexes are given in relation to a base period (1967 = 100, unless otherwise noted).

Definitions

The Consumer Price Index is a monthly statistical measure of the average change in prices in a fixed market basket of goods and services. Effective with the January 1978 index, the Bureau of Labor Statistics began publishing CPI's for two groups of the population. One index, a new CPI for All Urban Consumers, covers 80 percent of the total noninstitutional population; and the other index, a revised CPI for Urban Wage Earners and Clerical Workers, covers about half the new index population. The All Urban Consumers index includes, in addition to wage earners and clerical workers, professional, managerial, and technical workers, the self-employed, short-term workers, the unemployed, retirees, and others not in the labor force.

The CPI is based on prices of food, clothing, shelter, fuel, drugs, transportation fares, doctor's and dentist's fees, and other goods and services that people buy for day-to-day living. The quantity and quality of these items is kept essentially unchanged between major revisions so that only price changes will be measured. Prices are collected from over 18,000 tenants, 24,000 retail establishments, and 18,000 housing units for property taxes in 85 urban areas across the country. All taxes directly associated with the purchase and use of items are included in the index. Because the CPI's are based on the expenditures of two population groups in 1972–73, they may not accurately reflect the experience of individual families and single persons with different buying habits.

Though the CPI is often called the "Cost-of-Living Index," it measures only price change, which is just one of several important factors affecting living costs. Area indexes do not measure differences in the level of prices among cities. They only measure the average change in prices for each area since the base period.

Producer Price Indexes measure average changes in prices received in primary markets of the United States by producers of commodities in all stages of processing. The sample used for calculating these indexes contains about 2,800 commodities and about 10,000 quotations per month selected to represent the movement of prices of all commodities produced in the manufacturing, agriculture, forestry, fishing, mining, gas and electricity, and public utilities sectors. The universe includes all commodities produced or imported for sale in commercial transactions in primary markets in the United States.

Producer Price Indexes can be organized by stage of processing or by commodity. The stage of processing structure organizes products by degree of fabrication (that is, finished goods, intermediate or semifinished goods, and crude materials). The commodity structure organizes products by similarity of end-use or material composition.

To the extent possible, prices used in calculating Producer Price Indexes apply to the first significant commercial transaction in the United States, from the production or central marketing point. Price data are generally collected monthly, primarily by mail questionnaire. Most prices are obtained directly from producing companies on a voluntary and confidential basis. Prices generally are reported for the Tuesday of the week containing the 13th day of the month.

In calculating Producer Price Indexes, price changes for the various commodities are averaged together with implicit quantity weights representing their importance in the total net selling value of all commodities as of 1972. The detailed data are aggregated to obtain indexes for stage of processing groupings, commodity groupings, durability of product groupings, and a number of special composite groupings.

Price indexes for the output of selected SIC industries measure average price changes in commodities produced by particular industries, as defined in the *Standard Industrial Classification Manual 1972* (Washington, U.S. Office of Management and Budget, 1972). These indexes are derived from several price series, combined to match the economic activity of the specified industry and weighted by the value of shipments in the industry. They use data from comprehensive industrial censuses conducted by the U.S. Bureau of the Census and the U.S. Department of Agriculture.

Notes on the data

Beginning with the May 1978 issue of the *Review*, regional CPI's cross classified by population size, were introduced. These indexes will enable users in local areas for which an index is not published to get a better approximation of the CPI for their area by using the appropriate population size class measure for their region. The cross-classified indexes will be published bimonthly. (See table 24.)

For further details about the new and the revised indexes and a comparison of various aspects of these indexes with the old unrevised CPI, see *Facts About the Revised Consumer Price Index*, a pamphlet in the Consumer Price Index Revision 1978 series. See also *The Consumer Price Index: Concepts and Content Over the Years*. Report 517, revised edition (Bureau of Labor Statistics, May 1978).

For interarea comparisons of living costs at three hypothetical standards of living, see the family budget data published in the *Handbook of Labor Statistics, 1977*, Bulletin 1966 (Bureau of Labor Statistics, 1977), tables 122–133. Additional data and analysis on price changes are provided in the *CPI Detailed Report* and *Producer Prices and Price Indexes*, both monthly publications of the Bureau.

As of January 1976, the Wholesale Price Index (as it was then called) incorporated a revised weighting structure reflecting 1972 values of shipments. From January 1967 through December 1975, 1963 values of shipments were used as weights.

For a discussion of the general method of computing consumer, producer, and industry price indexes, see *BLS Handbook of Methods for Surveys and Studies*, Bulletin 1910 (Bureau of Labor Statistics, 1976), chapters 13–15. See also John F. Early, "Improving the measurement of producer price change," *Monthly Labor Review*, April 1978, pp. 7–15. For industry prices, see also Bennett R. Moss, "Industry and Sector Price Indexes," *Monthly Labor Review*, August 1965, pp. 974–82.

22. Consumer Price Index for Urban Wage Earners and Clerical Workers, annual averages and changes, 1967–79

[1967=100]

Year	All items		Food and beverages		Housing		Apparel and upkeep		Transportation		Medical care		Entertainment		Other goods and services	
	Index	Percent change	Index	Percent change	Index	Percent change	Index	Percent change	Index	Percent change	Index	Percent change	Index	Percent change	Index	Percent change
1967	100.0	...	100.0	...	100.0	...	100.0	...	100.0	...	100.0	...	100.0	...	100.0	...
1968	104.2	4.2	103.6	3.6	104.0	4.0	105.4	5.4	103.2	3.2	106.1	6.1	105.7	5.7	105.2	5.2
1969	109.8	5.4	108.8	5.0	110.4	6.2	111.5	5.8	107.2	3.9	113.4	6.9	111.0	5.0	110.4	4.9
1970	116.3	5.9	114.7	5.4	118.2	7.1	116.1	4.1	112.7	5.1	120.6	6.3	116.7	5.1	116.8	5.8
1971	121.3	4.3	118.3	3.1	123.4	4.4	119.8	3.2	118.6	5.2	128.4	6.5	122.9	5.3	122.4	4.8
1972	125.3	3.3	123.2	4.1	128.1	3.8	122.3	2.1	119.9	1.1	132.5	3.2	126.5	2.9	127.5	4.2
1973	133.1	6.2	139.5	13.2	133.7	4.4	126.8	3.7	123.8	3.3	137.7	3.9	130.0	2.8	132.5	3.9
1974	147.7	11.0	158.7	13.8	148.8	11.3	136.2	7.4	137.7	11.2	150.5	9.3	139.8	7.5	142.0	7.2
1975	161.2	9.1	172.1	8.4	164.5	10.6	142.3	4.5	150.6	9.4	168.6	12.0	152.2	8.9	153.9	8.4
1976	170.5	5.8	177.4	3.1	174.6	6.1	147.6	3.7	165.5	9.9	184.7	9.5	159.8	5.0	162.7	5.7
1977	181.5	6.5	188.0	6.0	186.5	6.8	154.2	4.5	177.2	7.1	202.4	9.6	167.7	4.9	172.2	5.8
1978	195.3	7.6	206.2	9.7	202.6	8.6	159.5	3.4	185.8	4.9	219.4	8.4	176.2	5.1	183.2	6.4
1979	217.7	11.5	228.7	10.9	227.5	12.3	166.4	4.3	212.8	14.5	240.1	9.4	187.6	6.5	196.3	7.2

23. Consumer Price Index for All Urban Consumers and revised CPI for Urban Wage Earners and Clerical Workers, U.S. city average — general summary and groups, subgroups, and selected items

[1967=100 unless otherwise specified]

General summary	All Urban Consumers							Urban Wage Earners and Clerical Workers (revised)						
	1979			1980				1979			1980			
	Apr.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	Apr.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
All items	211.5	227.5	229.9	233.2	236.4	239.8	242.5	211.8	227.6	230.0	233.3	236.5	239.9	242.6
Food and beverages	226.3	233.1	235.5	237.5	238.6	241.0	242.8	226.7	233.1	235.7	237.8	239.0	241.2	243.2
Housing	219.8	240.8	243.6	247.3	250.5	254.5	257.9	219.7	240.7	243.6	247.3	250.5	254.4	257.8
Apparel and upkeep	165.4	171.7	172.2	171.0	171.9	176.0	177.3	165.4	171.3	171.4	169.8	171.5	175.1	176.1
Transportation	202.9	224.9	227.7	233.5	239.6	243.7	246.8	203.7	225.7	228.3	234.1	240.2	244.3	247.7
Medical care	235.1	248.0	250.7	253.9	257.9	260.2	262.0	235.2	249.1	251.7	254.9	258.7	260.9	263.1
Entertainment	186.5	192.8	193.4	195.3	197.8	200.6	202.5	185.5	192.0	192.3	193.9	196.2	199.5	201.3
Other goods and services	193.2	202.9	204.0	206.3	208.1	208.9	209.8	193.1	202.0	203.0	206.0	207.7	208.3	209.2
Commodities	203.3	217.4	219.4	222.4	225.2	228.0	229.9	203.6	217.4	219.4	222.3	225.3	228.1	230.1
Commodities less food and beverages	190.1	206.9	208.8	212.0	215.5	218.4	220.4	190.2	206.9	208.7	212.0	215.7	218.7	220.6
Nondurables less food and beverages	191.9	216.6	219.0	224.6	231.8	237.5	239.5	192.7	218.1	220.5	226.3	234.1	239.8	241.7
Durables	187.2	198.4	199.8	201.3	202.1	203.0	204.9	186.8	196.9	198.2	199.6	200.3	201.2	203.3
Services	227.0	246.2	249.3	253.1	256.8	261.3	265.3	227.1	246.7	249.6	253.6	257.3	261.7	265.8
Rent, residential	172.0	182.1	182.9	184.1	185.6	186.6	187.0	171.9	181.9	182.7	183.9	185.5	186.4	186.9
Household services less rent	256.5	284.6	289.2	295.1	300.2	307.3	313.4	257.2	286.3	291.1	297.2	302.4	308.6	315.8
Transportation services	208.2	221.5	224.2	226.8	229.6	233.4	236.1	209.0	221.5	224.0	226.6	229.3	232.7	236.0
Medical care services	253.1	267.6	270.7	274.4	279.0	281.5	283.4	252.9	268.8	271.8	275.6	279.8	282.2	284.5
Other services	196.2	206.5	207.1	209.0	211.1	212.9	214.5	196.4	207.3	207.4	209.3	211.4	213.5	214.6
Special indexes:														
All items less food	206.3	224.1	226.4	229.9	233.5	237.1	239.9	206.3	224.2	226.4	230.0	233.7	237.3	240.2
All items less mortgage interest costs	206.4	219.8	221.7	224.3	227.1	229.8	231.8	206.8	220.1	222.0	224.7	227.6	230.2	232.4
Commodities less food	189.9	205.4	207.2	210.4	213.8	216.7	218.6	189.0	205.4	207.1	210.3	214.0	216.9	218.9
Nondurables less food	189.6	212.9	215.2	220.5	227.3	232.6	234.6	190.2	214.4	216.7	222.1	229.4	234.8	236.7
Nondurables less food and apparel	205.2	236.8	240.1	248.6	258.2	264.1	266.5	205.8	238.2	241.5	250.2	260.1	266.3	268.7
Nondurables	209.9	225.8	228.2	232.0	236.3	240.3	242.2	210.6	226.5	229.0	232.9	237.4	241.4	243.3
Services less rent	237.1	258.2	261.6	266.1	270.2	275.4	280.0	237.3	258.8	262.1	266.7	270.8	275.9	280.8
Services less medical care	222.7	242.3	245.3	249.2	252.7	257.4	261.5	222.9	242.6	245.5	249.5	253.1	257.7	261.9
Domestically produced farm foods	222.4	224.5	227.5	229.2	229.1	231.2	232.7	222.3	224.4	227.5	229.0	229.2	231.0	232.4
Selected beef cuts	264.0	256.5	263.2	265.7	267.2	270.2	268.0	265.6	259.2	265.2	268.1	270.3	272.3	269.5
Energy	250.2	307.8	313.7	327.9	344.6	355.0	358.8	251.2	310.7	317.0	331.5	348.7	359.6	363.3
All items less energy	208.8	221.4	223.6	225.9	229.0	230.8	233.4	209.0	221.0	223.0	225.3	227.3	230.0	232.7
All items less food and energy	202.3	216.1	218.1	220.6	222.8	225.7	228.5	202.1	215.4	217.3	219.6	221.8	224.6	227.5
Commodities less food and energy	182.1	191.4	192.6	193.7	194.9	196.5	198.2	181.8	190.4	191.4	192.4	193.5	195.1	196.9
Energy commodities	253.2	332.5	340.0	361.5	386.0	398.5	402.3	253.9	333.8	341.5	362.8	386.4	400.3	404.0
Services less energy	225.6	244.6	247.6	251.6	255.2	259.6	263.5	225.8	245.1	248.0	252.2	256.7	260.0	264.2
Purchasing power of the consumer dollar, 1967 = $1	$0.473	$0.440	$0.435	$0.429	$0.423	$0.417	$0.412	$0.472	$0.439	$0.435	$0.429	$0.423	$0.417	$0.412

23. Continued—Consumer Price Index—U.S. city average

[1967=100 unless otherwise specified]

General summary	All Urban Consumers							Urban Wage Earners and Clerical Workers (revised)						
	1979			1980				1979			1980			
	Apr.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	Apr.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
FOOD AND BEVERAGES	226.3	233.1	235.5	237.5	238.6	241.0	242.8	226.7	233.1	235.7	237.8	239.0	241.2	243.2
Food	232.3	239.1	241.7	243.3	244.9	247.3	249.1	232.7	239.1	241.8	244.0	245.2	247.5	249.5
Food at home	231.7	236.0	238.7	240.6	241.3	243.6	245.3	231.4	235.4	238.3	240.1	241.1	243.1	245.0
Cereals and bakery products	214.5	228.7	231.6	234.2	236.8	238.6	242.0	215.2	229.7	232.3	234.7	237.4	239.3	242.2
Cereals and cereal products (12/77 = 100)	114.0	121.1	122.9	125.0	125.8	126.6	129.4	114.1	122.1	123.8	126.1	127.2	127.7	130.1
Flour and prepared flour mixes (12/77 = 100)	114.8	122.8	123.8	125.7	125.7	126.6	127.8	115.5	124.6	125.1	126.9	127.3	127.5	128.9
Cereal (12/77 = 100)	114.6	119.7	122.8	123.7	124.9	126.0	129.4	114.6	119.9	122.9	124.2	125.5	126.6	129.7
Rice, pasta, and cornmeal (12/77 = 100)	112.5	121.6	122.2	126.4	127.4	127.6	130.8	112.2	122.7	123.9	127.9	129.2	129.4	131.9
Bakery products (12/77 = 100)	113.3	121.0	122.4	123.5	125.1	126.1	127.6	113.8	121.3	122.7	123.6	125.1	126.2	127.5
White bread	188.4	204.5	207.4	208.6	210.7	212.0	215.1	188.0	203.9	206.6	207.4	209.7	212.1	215.1
Other breads (12/77 = 100)	112.6	121.3	123.3	123.8	124.6	125.6	127.0	114.2	124.2	126.0	126.9	127.5	129.3	129.3
Fresh biscuits, rolls, and muffins (12/77 = 100)	113.3	121.2	123.1	124.8	126.2	127.0	128.9	113.2	120.8	122.3	123.1	124.3	124.9	125.3
Fresh cakes and cupcakes (12/77 = 100)	112.0	119.4	120.3	121.7	122.8	124.4	126.5	113.0	119.1	120.1	120.8	122.2	123.2	125.4
Cookies (12/77 = 100)	113.1	117.1	117.8	119.7	122.8	124.4	125.3	114.5	118.4	119.6	121.5	124.0	125.6	126.3
Crackers and bread and cracker products (12/77 = 100)	112.4	114.5	116.2	117.5	119.9	120.2	122.0	113.1	116.1	118.3	118.4	121.0	121.8	122.2
Fresh sweetrolls, coffeecake, and donuts (12/77 = 100)	112.0	119.9	121.5	122.2	123.8	125.0	126.6	114.0	121.9	123.4	124.1	125.4	126.2	128.0
Frozen and refrigerated bakery products and fresh pies, tarts, and turnovers (12/77 = 100)	114.9	123.7	124.8	125.7	127.2	127.9	129.7	112.9	120.8	121.4	122.5	123.8	124.0	125.3
Meats, poultry, fish, and eggs	240.0	230.2	235.5	236.0	236.2	237.8	235.1	239.4	230.0	235.1	237.5	236.4	237.1	234.3
Meats, poultry, and fish	245.1	235.2	239.8	243.0	242.6	243.8	241.1	244.4	235.0	239.2	242.5	242.8	243.0	240.2
Meats	248.3	237.4	242.3	244.1	244.1	245.7	242.6	247.6	237.3	241.8	243.7	244.3	245.0	241.3
Beef and veal	262.5	255.5	262.2	264.6	268.2	269.1	267.0	263.9	257.7	263.7	266.7	268.9	270.8	268.2
Ground beef other than canned	273.7	264.2	271.2	271.4	273.3	275.3	272.9	273.2	266.0	273.0	272.7	276.2	276.7	274.7
Chuck roast	278.5	269.1	268.1	274.7	277.7	286.2	277.9	286.8	273.1	274.2	283.6	286.7	283.4	286.1
Round roast	235.8	229.1	236.1	241.9	244.5	244.2	242.7	237.2	232.7	240.5	245.1	245.8	244.5	242.1
Round steak	247.8	241.9	247.5	249.8	252.3	254.2	253.5	246.1	239.7	246.2	249.4	250.5	251.1	249.6
Sirloin steak	248.4	247.0	250.8	250.9	251.1	254.3	256.1	247.5	247.4	253.5	253.5	253.0	256.0	257.8
Other beef and veal (12/77 = 100)	148.4	148.3	150.2	151.8	152.2	153.8	153.3	149.1	148.6	149.9	151.9	152.8	153.7	153.1
Pork	228.4	201.0	205.0	206.4	202.8	202.6	197.1	225.6	201.5	205.6	206.8	204.1	203.0	198.7
Bacon	220.8	186.3	183.6	184.5	190.1	187.6	182.1	223.2	186.7	185.8	185.3	183.8	189.4	183.8
Pork chops	212.8	188.8	187.8	192.1	189.7	190.7	187.0	214.1	188.1	189.1	184.8	191.0	190.5	184.7
Ham other than canned (12/77 = 100)	103.7	95.9	102.5	96.1	95.7	95.8	90.6	101.5	96.4	100.9	96.5	95.2	94.7	98.7
Sausage	262.0	254.5	256.5	258.6	255.1	257.6	255.1	260.9	255.8	258.3	260.3	257.0	259.8	258.0
Canned ham	234.4	214.8	218.9	220.8	219.5	219.3	213.5	234.3	214.6	219.1	219.3	218.9	217.4	214.5
Other pork (12/77 = 100)	127.8	112.9	112.6	116.2	114.3	113.6	110.7	127.3	112.7	112.7	116.2	114.6	113.7	110.0
Other meats	239.4	242.0	243.0	243.2	244.7	245.8	243.9	236.1	238.5	238.5	239.3	240.9	241.5	239.0
Frankfurters	240.1	238.9	239.3	239.0	242.7	244.6	240.6	238.9	237.2	238.7	238.5	242.1	242.8	238.3
Bologna, liverwurst, and salami (12/77 = 100)	132.5	133.4	134.4	134.1	135.6	135.5	134.9	130.9	130.4	130.8	130.5	132.3	132.2	131.1
Other lunchmeats (12/77 = 100)	121.8	121.6	121.5	121.2	120.7	121.8	121.9	119.0	119.5	119.4	118.7	118.6	118.8	118.4
Lamb and organ meats (12/77 = 100)	131.2	138.3	140.0	141.6	142.4	142.3	140.1	131.2	138.8	141.7	142.5	143.4	144.3	141.3
Poultry	189.9	171.6	176.2	187.6	182.6	180.7	177.2	187.2	170.1	173.0	184.3	118.1	177.4	176.0
Fresh whole chicken	191.5	168.7	175.2	191.1	183.6	179.5	174.7	187.8	163.3	169.8	183.8	178.9	172.5	170.6
Fresh and frozen chicken parts (12/77 = 100)	121.5	110.8	112.3	120.7	116.8	116.8	114.5	121.0	110.7	111.8	118.7	117.0	116.3	114.7
Other poultry (12/77 = 100)	123.0	115.9	116.9	119.3	118.8	118.2	117.3	120.6	116.0	117.4	120.1	119.4	117.7	118.1
Fish and seafood	295.6	312.2	312.6	316.7	320.4	322.6	325.3	292.9	307.5	309.1	315.4	317.9	320.2	325.1
Canned fish and seafood (12/77 = 100)	108.9	116.8	117.1	118.5	120.3	120.4	122.9	107.9	116.0	116.5	118.4	119.7	119.5	121.8
Fresh and frozen fish and seafood (12/77 = 100)	114.8	120.1	120.2	121.9	123.0	124.3	124.5	113.9	117.8	118.5	121.2	122.0	123.5	125.1
Eggs	179.3	170.1	185.9	178.2	157.2	164.5	161.2	179.8	169.6	186.6	177.0	156.7	164.3	161.5
Dairy products	202.4	216.0	216.9	218.4	219.5	220.3	222.4	203.0	216.3	217.4	218.9	219.8	221.1	223.1
Fresh milk and cream (12/77 = 100)	114.0	121.9	122.7	123.2	123.7	124.1	124.7	114.3	121.8	122.6	123.2	123.6	124.2	124.9
Fresh whole milk	186.5	200.4	201.2	202.3	203.2	204.0	204.9	187.2	199.7	200.9	201.8	202.7	203.8	204.8
Other fresh milk and cream (12/77 = 100)	114.1	120.6	122.0	122.1	122.7	122.7	123.5	114.1	121.1	122.2	122.8	123.0	123.1	124.1
Processed dairy products (12/77 = 100)	114.9	122.3	122.5	123.8	124.5	125.1	127.0	115.3	123.0	123.3	124.5	125.1	126.2	128.0
Butter	196.6	214.4	214.0	216.9	218.3	218.3	219.9	199.1	217.1	218.6	219.8	220.9	220.9	222.7
Cheese (12/77 = 100)	115.5	122.7	122.6	123.5	124.2	124.9	128.2	115.4	122.5	122.7	123.6	124.4	125.5	128.8
Ice cream and related products (12/77 = 100)	114.3	121.4	122.6	124.0	124.6	125.1	128.6	115.3	123.4	124.3	125.6	125.6	127.2	130.4
Other dairy products (12/77 = 100)	111.9	117.8	117.9	119.8	120.9	121.6	124.0	112.0	118.2	118.3	120.4	121.3	121.9	123.6
Fruits and vegetables	226.5	229.5	230.2	229.8	228.3	232.4	240.9	224.6	226.7	228.3	227.2	225.9	230.1	239.8
Fresh fruits and vegetables	230.7	230.1	230.1	227.2	223.1	229.9	245.2	228.5	226.7	228.5	224.9	220.6	227.4	244.8
Fresh fruits	237.1	242.7	234.9	233.6	236.8	245.4	257.0	234.2	236.3	233.3	232.7	234.7	245.4	256.6
Apples	223.1	207.2	221.8	230.4	239.6	260.2	285.5	219.8	207.7	230.2	230.1	237.6	249.0	264.4
Bananas	217.9	209.0	225.2	221.9	238.5	243.9	242.8	213.7	206.5	222.0	219.5	234.6	240.8	243.5
Oranges	267.7	269.9	256.7	238.2	231.1	238.1	240.6	266.9	263.3	249.5	231.3	228.4	240.9	234.3
Other fresh fruits (12/77 = 100)	121.9	127.5	121.1	122.5	121.4	127.4	136.5	121.8	125.7	121.6	122.7	121.3	126.9	136.7
Fresh vegetables	224.7	218.4	225.7	221.2	211.2	215.5	234.2	223.4	216.4	224.2	217.9	207.9	211.3	236.2
Potatoes	197.3	195.7	207.0	200.8	203.3	203.3	201.7	197.1	191.7	199.6	200.9	199.6	200.3	198.2
Lettuce	195.7	244.2	227.5	197.6	199.7	208.3	271.9	198.9	239.0	231.3	193.2	191.7	208.8	261.9
Tomatoes	260.9	225.3	227.9	216.7	184.9	201.4	201.2	250.4	225.4	224.8	213.2	184.3	197.2	197.7
Other fresh vegetables (12/77 = 100)	132.5	119.1	128.0	132.0	125.1	125.4	134.6	131.0	118.9	128.1	130.5	123.9	123.0	135.3
Processed fruits and vegetables	223.9	231.0	232.3	234.7	236.2	237.2	238.4	222.1	228.6	230.0	231.8	233.9	235.0	236.2
Processed fruits (12/77 = 100)	117.0	121.2	121.8	122.9	123.4	123.9	125.0	116.8	121.1	121.3	122.4	123.6	123.9	124.9
Frozen fruit and fruit juices (12/77 = 100)	114.8	116.6	116.8	117.2	117.6	117.7	119.3	114.5	115.7	115.9	116.5	117.8	116.5	118.4
Fruit juices and other than frozen (12/77 = 100)	115.2	122.1	123.6	125.1	126.0	127.2	128.3	115.3	122.4	123.4	124.5	126.3	127.4	128.4
Canned and dried fruits (12/77 = 100)	120.9	124.2	124.2	125.3	125.5	125.5	126.3	120.2	124.0	123.5	124.8	125.3	125.9	126.4
Processed vegetables (12/77 = 100)	108.0	110.9	111.7	113.0	114.0	114.6	114.5	107.1	109.4	110.5	111.2	112.2	113.0	113.2
Frozen vegetables (12/77 = 100)	108.9	110.2	110.6	111.9	113.0	112.6	113.3	106.8	108.6	110.8	111.4	111.7	111.9	113.0

23. Continued—Consumer Price Index—U.S. city average

[1967 = 100 unless otherwise specified]

General summary	All Urban Consumers							Urban Wage Earners and Clerical Workers (revised)						
	1979			1980				1979			1980			
	Apr.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	Apr.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
FOOD AND BEVERAGES—Continued														
Food—Continued														
Food at home—Continued														
Fruits and vegetables—Continued														
Cut corn and canned beans except lima (12/77=100)	112.7	113.4	114.4	114.5	115.2	116.0	115.6	111.4	111.8	113.0	112.7	113.4	115.4	114.3
Other canned and dried vegetables (12/77=100)	106.3	110.0	110.9	112.9	113.9	114.8	114.7	105.0	108.1	109.1	110.4	111.9	112.3	112.7
Other foods at home	264.0	279.6	281.1	283.5	288.0	292.0	295.1	263.7	278.3	279.9	282.6	287.3	290.9	294.6
Sugar and sweets	274.2	283.2	284.6	289.8	297.5	313.5	319.5	273.6	281.9	284.1	289.6	297.1	314.1	320.8
Candy and chewing gum (12/77=100)	116.0	120.1	120.1	121.3	122.4	123.8	126.3	115.8	119.8	119.9	121.2	122.2	123.9	126.5
Sugar and artificial sweeteners (12/77=100)	114.8	116.2	117.2	122.2	131.5	153.0	156.9	115.1	116.2	117.6	122.7	131.6	153.8	158.6
Other sweets (12/77=100)	110.6	116.4	117.5	118.7	119.5	120.4	121.3	109.4	114.6	116.6	117.5	118.5	119.3	120.0
Fats and oils (12/77=100)	222.5	232.3	233.0	233.9	235.9	236.8	238.3	223.0	232.8	233.7	234.9	236.5	236.8	238.3
Margarine	236.7	246.2	247.7	248.3	247.9	248.8	247.9	235.9	246.7	247.8	248.8	247.9	248.3	248.3
Nondairy substitutes and peanut butter (12/77=100)	110.9	115.1	115.7	115.3	116.4	117.9	119.8	111.2	115.0	115.8	116.1	117.2	118.5	120.0
Other fats, oils, and salad dressings (12/77=100)	115.4	121.0	121.1	121.9	123.6	123.7	124.8	115.9	121.3	121.5	122.3	123.8	123.4	124.4
Nonalcoholic beverages	347.7	374.3	375.4	378.5	384.5	387.1	390.3	347.8	370.7	372.3	375.6	383.0	384.4	389.2
Cola drinks, excluding diet cola	234.8	247.5	247.2	249.5	255.9	259.3	261.7	234.1	243.6	243.4	246.5	253.6	255.4	260.1
Carbonated drinks, including diet cola (12/77=100)	114.5	118.4	118.7	119.9	122.3	123.5	125.6	112.2	115.6	116.4	116.4	120.2	121.1	123.4
Roasted coffee	343.6	438.1	440.7	443.2	439.6	437.6	434.0	344.3	430.8	435.3	440.1	436.8	432.3	430.4
Freeze dried and instant coffee	330.8	370.2	374.3	378.2	382.2	381.7	380.2	329.4	369.3	372.9	376.8	380.4	380.3	379.2
Other noncarbonated drinks (12/77=100)	113.3	115.7	116.3	116.8	118.3	118.6	120.7	112.7	114.8	115.5	116.2	117.5	118.1	119.6
Other prepared foods	204.7	215.3	217.4	218.8	221.8	224.1	226.6	204.5	215.7	217.2	219.1	221.7	224.0	226.6
Canned and packaged soup (12/77=100)	110.2	114.3	115.9	116.5	118.1	118.0	120.5	110.3	114.8	116.3	116.8	117.9	117.6	120.6
Frozen prepared foods (12/77=100)	115.9	124.5	125.6	126.0	126.6	128.2	130.4	115.0	122.9	123.9	125.1	125.5	127.1	128.8
Snacks (12/77=100)	112.6	120.4	121.3	121.8	123.4	124.1	124.8	113.0	121.7	122.2	122.8	124.7	125.3	126.0
Seasonings, olives, pickles, and relish (12/77=100)	114.2	118.9	120.1	121.4	123.6	124.9	125.2	113.4	118.2	119.0	121.1	123.1	124.0	124.5
Other condiments (12/77=100)	112.2	116.8	119.5	120.8	123.7	126.0	127.1	113.0	118.5	120.2	121.4	124.6	126.6	128.1
Miscellaneous prepared foods (12/77=100)	112.8	119.0	118.9	119.6	120.7	122.2	124.4	112.7	118.6	118.7	119.7	120.5	122.2	123.7
Other canned and packaged prepared foods (12/77=100)	114.1	117.7	118.6	119.4	121.2	122.2	123.1	113.6	118.0	118.6	119.5	120.3	122.0	123.3
Food away from home	238.4	251.3	253.4	256.1	258.3	260.9	263.0	240.4	252.7	255.1	258.0	260.1	262.7	265.3
Lunch (12/77=100)	116.4	122.3	123.3	124.6	125.9	127.0	127.9	117.6	123.2	124.0	125.7	126.7	127.6	128.9
Dinner (12/77=100)	115.3	122.4	123.4	124.8	125.8	127.0	127.9	115.9	123.0	124.2	125.6	126.8	128.1	129.1
Other meals and snacks (12/77=100)	115.0	120.2	121.4	122.5	123.2	124.9	126.4	116.2	120.9	122.5	123.7	124.4	125.2	127.7
Alcoholic beverages	170.2	177.4	178.0	179.3	180.4	181.7	183.9	170.6	178.0	178.7	179.7	181.1	182.8	185.0
Alcoholic beverages at home (12/77=100)	110.6	115.6	116.0	116.8	117.4	118.2	119.9	111.6	116.5	117.0	117.6	118.3	119.3	120.8
Beer and ale	167.7	176.9	177.8	179.0	179.9	182.0	185.9	168.0	176.9	177.6	178.8	179.9	181.7	185.1
Whiskey	125.4	130.7	130.8	131.6	132.6	132.8	133.4	126.8	131.9	132.0	132.9	133.8	134.4	134.6
Wine	190.7	198.1	199.1	201.6	202.5	204.1	206.6	194.1	201.5	204.0	203.8	206.1	208.4	209.8
Other alcoholic beverages (12/77=100)	105.0	107.0	106.9	107.1	107.3	107.4	108.2	104.6	106.2	106.4	106.4	106.7	107.2	107.8
Alcoholic beverages away from home (12/77=100)	112.8	116.4	116.8	118.0	119.2	120.0	120.5	110.2	114.9	115.2	115.9	117.6	119.1	120.5
HOUSING	219.8	240.8	243.6	247.3	250.5	254.5	257.9	219.7	240.7	243.6	247.3	250.5	254.4	257.8
Shelter	230.7	255.9	259.4	264.0	267.2	271.6	276.0	231.2	256.9	260.4	265.1	268.3	272.7	277.2
Rent, residential	172.0	182.1	182.9	184.1	185.6	186.6	187.0	171.9	181.9	182.7	183.9	185.5	186.4	186.9
Other rental costs	228.3	243.1	244.9	251.1	255.7	258.6	260.7	228.0	242.6	244.4	251.1	255.6	258.6	260.5
Lodging while out of town	239.7	256.2	258.4	267.0	272.8	276.8	279.3	238.7	254.6	256.9	266.1	271.6	275.7	278.0
Tenants' insurance (12/77=100)	107.1	114.6	115.1	116.2	117.8	118.6	119.9	107.1	115.0	115.5	116.8	118.5	119.3	120.1
Homeownership	251.7	282.4	286.9	292.5	296.3	302.0	307.7	252.7	284.1	288.7	294.6	298.4	304.0	310.0
Home purchase	215.4	237.3	239.9	242.1	243.0	244.0	246.5	215.4	237.7	240.2	242.3	243.0	243.8	246.5
Financing, taxes, and insurance	292.1	340.1	348.3	359.8	367.7	379.9	390.6	294.0	343.5	351.6	363.4	371.6	384.1	395.3
Property insurance	303.2	320.8	323.1	327.7	333.7	335.7	338.9	303.2	322.6	324.5	328.8	335.2	337.4	340.4
Property taxes	181.1	185.1	186.0	186.7	188.2	188.2	188.4	182.6	186.6	187.4	188.2	189.9	189.9	190.1
Contracted mortgage interest cost	350.8	423.1	435.3	452.8	464.0	483.0	499.4	351.1	424.2	436.1	453.7	465.0	484.1	500.9
Mortgage interest rates	160.2	175.4	178.3	183.7	187.5	194.4	199.4	160.3	175.6	178.4	183.8	187.8	194.8	199.8
Maintenance and repairs	250.6	266.4	268.3	270.6	273.7	278.8	282.9	251.7	266.5	268.9	271.9	274.4	278.2	281.7
Maintenance and repair services	271.5	288.8	290.4	293.2	297.1	303.2	307.9	273.8	290.3	292.8	295.9	299.3	303.5	307.7
Maintenance and repair commodities	201.8	214.0	216.6	217.6	218.9	221.4	224.3	202.6	213.6	215.8	218.4	219.5	222.3	224.3
Paint and wallpaper, supplies, tools, and equipment (12/77=100)	110.5	118.8	121.6	122.5	123.5	125.0	126.6	111.3	118.1	120.3	122.2	122.3	123.6	126.0
Lumber, awnings, glass, and masonry (12/77=100)	110.4	115.5	115.4	115.9	115.8	117.6	118.8	111.3	117.2	118.1	118.6	119.3	119.9	119.7
Plumbing, electrical, heating, and cooling supplies (12/77=100)	106.8	113.4	114.7	114.7	115.3	116.4	119.1	108.0	114.0	114.5	117.0	117.9	119.3	120.0
Miscellaneous supplies and equipment (12/77=100)	109.5	113.8	114.3	115.4	116.4	117.0	118.2	107.8	112.2	112.3	113.2	114.5	118.2	119.4
Fuel and other utilities	227.5	252.0	255.1	258.6	263.8	268.0	270.5	227.8	252.4	255.7	259.2	264.4	268.7	271.0
Fuels	266.8	307.0	311.8	318.0	327.1	333.9	337.8	266.7	306.9	311.8	318.1	327.0	333.9	337.6
Fuel oil, coal, and bottled gas	349.8	477.4	488.0	514.0	539.1	553.4	556.4	350.3	478.2	489.0	515.1	540.3	554.1	557.1
Fuel oil	358.5	497.2	507.3	534.4	561.9	577.9	580.7	350.1	497.7	508.1	534.9	582.5	577.9	580.7
Other fuels (6/78 = 100)	99.5	121.7	126.0	132.7	136.6	138.3	139.6	99.4	122.2	126.6	133.7	137.9	138.5	140.8
Gas (piped) and electricity	245.3	267.3	270.8	273.0	278.8	284.0	288.0	245.1	267.1	270.7	273.0	278.5	283.9	287.6
Electricity	210.4	221.5	224.7	226.6	233.8	237.9	241.5	210.7	221.5	224.9	226.8	233.9	238.1	241.5
Utility (piped) gas	286.3	328.9	332.6	335.1	336.8	343.9	347.9	284.8	327.8	331.1	333.8	335.4	342.6	346.4

23. Continued—Consumer Price Index—U.S. city average

[1967 = 100 unless otherwise specified]

General summary	All Urban Consumers							Urban Wage Earners and Clerical Workers (revised)						
	1979			1980				1979			1980			
	Apr.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	Apr.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
HOUSING—Continued														
Fuel and other utilities—Continued														
Other utilities and public services	158.8	161.0	161.9	161.5	161.3	161.9	162.3	158.9	160.9	161.8	161.5	161.4	161.9	162.3
Telephone services	132.1	133.3	134.3	133.4	132.8	133.2	133.4	132.1	133.3	134.2	133.4	132.8	133.1	133.2
Local charges (12/77 = 100)	100.4	101.8	103.2	102.6	102.7	103.3	103.5	100.5	101.8	103.2	102.6	102.7	103.2	103.3
Interstate toll calls (12/77 = 100)	98.3	98.4	98.4	97.7	97.4	97.4	97.3	98.3	98.4	98.4	97.7	97.5	97.5	97.4
Intrastate toll calls (12/77 = 100)	100.7	101.5	101.5	100.8	98.8	98.7	99.0	100.6	101.3	101.3	100.6	98.7	98.6	98.9
Water and sewerage maintenance	240.2	247.1	247.2	250.0	252.3	253.8	255.2	240.7	247.2	247.3	250.5	253.0	254.7	256.2
Household furnishings and operations	188.6	195.1	195.8	196.9	199.0	201.3	203.0	187.3	193.2	193.8	194.9	196.8	199.2	200.7
Housefurnishings	162.4	166.6	166.9	167.6	169.3	171.5	172.7	161.9	165.5	165.9	166.5	167.9	170.4	171.5
Textile housefurnishings	173.1	178.9	178.6	176.7	182.9	187.2	188.2	174.1	178.4	177.3	175.3	181.2	185.3	186.3
Household linens (12/77 = 100)	106.2	108.8	108.3	105.4	110.1	113.9	114.8	106.3	108.3	107.2	106.0	109.8	113.2	113.8
Curtains, drapes, slipcovers, and sewing materials (12/77 = 100)	109.7	114.4	114.6	115.1	118.2	119.7	118.9	111.1	114.5	114.4	113.2	116.6	118.2	118.9
Furniture and bedding	176.5	182.2	182.8	184.0	185.2	189.2	190.9	175.8	182.1	182.7	183.6	184.3	187.9	189.4
Bedroom furniture (12/77 = 100)	112.7	117.7	118.3	119.1	120.5	122.5	124.3	111.2	115.9	116.0	116.8	117.5	119.2	120.9
Sofas (12/77 = 100)	106.8	107.9	108.2	108.2	108.5	110.9	111.6	107.0	111.7	111.6	110.6	110.3	112.7	111.8
Living room chairs and tables (12/77 = 100)	105.1	107.7	108.1	108.9	110.0	110.8	110.9	104.8	108.6	109.2	109.4	111.2	111.9	112.6
Other furniture (12/77 = 100)	113.8	116.8	117.1	118.1	118.3	122.6	124.0	112.7	115.3	115.9	117.8	117.5	121.3	123.1
Appliances including TV and sound equipment	135.3	137.5	137.5	137.8	138.3	138.8	139.3	135.2	136.2	136.9	137.2	137.8	139.0	139.7
Television and sound equipment (12/77 = 100)	104.2	105.0	105.3	105.3	105.4	105.7	105.7	103.9	104.4	104.8	104.9	104.9	105.5	105.4
Television	103.0	103.6	103.6	103.7	103.7	104.0	104.0	102.3	102.4	102.2	102.2	102.3	102.9	102.8
Sound equipment (12/77 = 100)	106.3	107.4	107.8	107.8	108.1	108.3	108.3	106.2	107.1	108.0	108.2	108.2	108.7	108.6
Household appliances	154.5	156.2	157.9	158.5	159.4	160.2	161.4	154.7	156.2	157.1	157.7	158.8	160.7	162.3
Refrigerators and home freezer	151.4	156.0	156.7	156.7	156.5	157.9	160.6	155.2	158.1	159.0	159.4	159.7	161.4	163.5
Laundry equipment (12/77 = 100)	108.7	113.1	113.6	114.1	115.0	116.8	117.5	108.5	112.2	112.8	113.8	114.7	116.6	117.8
Other household appliances (12/77 = 100)	109.4	110.8	109.9	110.5	111.3	111.2	111.5	108.4	107.6	108.2	108.6	109.5	110.7	111.6
Stoves, dishwashers, vacuums, and sewing machines (12/77 = 100)	110.1	109.7	108.6	110.0	110.8	110.9	110.0	109.5	107.1	108.1	109.2	110.5	111.1	111.6
Office machines, small electric appliances, and air conditioners (12/77 = 100)	108.6	112.1	111.4	111.1	112.0	111.6	113.1	107.2	108.2	108.3	107.8	108.4	110.2	111.6
Other household equipment (12/77 = 100)	109.3	112.4	113.0	114.6	115.9	117.3	118.4	108.5	111.6	111.8	113.3	114.4	116.0	117.0
Floor and window coverings, infants' laundry cleaning and outdoor equipment (12/77 = 100)	109.0	111.1	111.7	113.1	114.5	116.4	118.2	103.9	107.7	107.4	108.9	109.4	110.8	113.1
Clocks, lamps, and decor items (12/77 = 100)	105.6	110.0	110.1	111.6	112.7	114.9	115.6	106.6	108.2	107.3	109.4	109.8	112.3	112.6
Tableware, serving pieces, and nonelectric kitchenware (12/77 = 100)	112.8	116.8	117.2	119.9	121.4	122.6	123.4	110.8	115.2	115.2	117.3	118.9	120.8	121.4
Lawn equipment, power tools, and other hardware (12/77 = 100)	107.2	109.0	110.3	110.6	111.7	112.2	113.5	109.4	111.1	112.5	113.0	114.2	115.0	115.9
Housekeeping supplies	219.7	228.3	229.2	231.1	235.6	238.0	240.7	218.1	226.7	227.2	228.8	232.8	235.5	238.1
Soaps and detergents	210.9	220.6	221.2	224.1	228.9	232.1	233.2	209.6	218.2	219.7	222.2	226.5	230.0	231.1
Other laundry and cleaning products (12/77 = 100)	109.1	114.1	114.7	116.1	117.2	117.0	117.6	108.9	113.7	114.5	115.6	117.1	116.9	118.1
Cleansing and toilet tissue, paper towels and napkins (12/77 = 100)	115.9	119.2	120.5	120.6	121.2	123.9	126.2	116.2	119.6	120.9	121.8	123.4	125.8	126.1
Stationery, stationery supplies, and gift wrap (12/77 = 100)	107.4	111.3	111.9	111.6	112.7	113.8	115.6	106.4	109.2	109.3	109.0	112.3	113.6	114.9
Miscellaneous household products (12/77 = 100)	111.2	115.6	116.9	117.7	119.4	120.9	122.0	109.9	114.1	114.7	115.0	116.6	118.3	119.2
Lawn and garden supplies (12/77 = 100)	110.0	113.8	112.5	114.4	119.4	121.4	123.8	106.8	113.2	109.9	111.3	113.3	114.0	116.5
Housekeeping services	244.5	256.6	258.1	260.0	261.6	263.6	266.0	243.1	255.9	257.5	259.2	261.1	262.7	264.3
Postage	257.3	257.3	257.3	257.3	257.3	257.3	257.3	257.2	257.2	257.2	257.2	257.2	257.2	257.3
Moving, storage, freight, household laundry, and drycleaning services (12/77 = 100)	112.6	120.4	121.2	122.9	124.2	125.4	126.3	112.6	121.2	122.3	123.3	124.6	126.1	127.8
Appliance and furniture repair (12/77 = 100)	108.0	112.9	113.4	114.0	114.7	115.8	116.5	107.1	112.9	113.4	114.4	115.5	116.0	116.2
APPAREL AND UPKEEP	165.4	171.7	172.2	171.0	171.9	176.0	177.3	165.4	171.3	171.4	169.8	171.5	175.1	176.1
Apparel commodities	160.2	165.9	166.1	164.3	165.1	169.2	170.2	160.4	165.7	165.7	163.6	165.2	168.7	169.5
Apparel commodities less footwear	157.9	162.9	163.0	161.1	161.8	166.2	167.2	158.0	162.7	162.6	160.2	161.9	165.7	166.3
Men's and boys'	159.6	165.4	165.4	162.8	162.7	165.6	166.9	160.1	165.3	165.0	162.4	162.9	166.0	167.3
Men's (12/77 = 100)	100.8	104.3	104.3	102.6	102.3	104.3	105.0	101.4	104.5	104.2	102.3	102.4	104.4	105.2
Suits, sport coats, and jackets (12/77 = 100)	99.0	101.2	100.9	98.8	98.2	99.9	101.1	98.7	98.7	98.8	94.9	94.4	96.4	97.3
Coats and jackets (12/77 = 100)	94.0	98.1	98.0	95.5	93.6	96.9	96.5	98.1	99.7	99.1	95.6	92.2	96.9	97.0
Furnishings and special clothing (12/77 = 100)	105.4	112.4	112.3	112.2	112.7	115.0	116.6	104.7	110.0	109.9	108.3	111.1	113.2	114.2
Shirts (12/77 = 100)	103.8	109.7	110.5	108.6	109.3	111.9	111.5	105.0	109.4	111.5	108.3	109.4	112.0	111.7
Dungarees, jeans, and trousers (12/77 = 100)	99.8	100.5	100.4	98.2	97.7	98.7	99.4	101.9	104.0	103.4	102.2	102.2	102.7	104.2
Boys' (12/77 = 100)	102.5	106.6	106.6	105.6	106.3	107.5	108.9	101.5	105.6	105.8	104.7	105.9	107.5	108.7
Coats, jackets, sweaters, and shirts (12/77 = 100)	99.1	103.2	102.4	99.3	99.9	102.5	104.4	97.9	103.4	103.1	99.8	101.9	105.0	107.2
Furnishings (12/77 = 100)	106.5	111.5	111.9	111.5	110.9	112.0	113.3	106.5	108.7	110.2	108.7	108.5	110.7	111.6
Suits, trousers, sport coats, and jackets (12/77 = 100)	103.6	107.4	107.8	108.2	109.5	109.8	110.7	102.8	105.8	106.2	106.6	107.7	108.2	108.8
Women's and girls'	152.5	155.1	154.6	151.5	151.1	155.5	156.9	152.1	154.5	153.5	149.9	151.3	154.9	154.7
Women's (12/77 = 100)	101.7	103.0	102.8	100.8	100.8	103.6	103.9	102.1	103.0	102.3	100.1	101.4	103.7	103.3
Coats and jackets	167.2	173.3	170.0	166.4	163.1	167.6	168.3	175.3	172.4	167.9	165.0	162.4	167.0	167.8
Dresses	165.9	164.3	165.3	161.3	160.6	169.3	167.8	160.8	156.8	155.7	150.0	151.2	157.5	154.1
Separates and sportswear (12/77 = 100)	100.0	99.2	98.6	98.1	97.1	99.8	101.1	99.9	100.7	99.5	97.1	98.2	101.0	101.6
Underwear, nightwear, and hosiery (12/77 = 100)	104.6	108.1	108.2	108.6	110.2	111.0	111.5	105.5	108.9	109.3	109.1	110.8	111.5	111.7
Suits (12/77 = 100)	92.3	95.2	95.8	91.0	88.2	91.6	90.4	95.6	97.5	98.1	94.0	96.8	100.2	98.2
Girls (12/77 = 100)	100.0	103.9	102.8	100.5	98.9	101.8	102.6	97.4	101.7	101.4	97.9	97.3	100.1	101.1
Coats, jackets, dresses, and suits (12/77 = 100)	101.5	102.2	100.3	97.5	95.7	98.9	98.8	98.7	97.5	97.7	91.9	92.6	95.7	96.8
Separates and sportswear (12/77 = 100)	95.6	103.6	102.6	98.9	98.2	100.8	101.4	92.8	104.3	102.9	99.8	98.1	99.8	100.5
Underwear, nightwear, hosiery, and accessories (12/77 = 100)	105.5	107.2	107.3	106.7	105.6	108.4	108.5	100.3	104.2	104.4	104.4	103.5	107.8	108.9

23. Continued—Consumer Price Index—U.S. city average

[1967 = 100 unless otherwise specified]

General summary	All Urban Consumers							Urban Wage Earners and Clerical Workers (revised)						
	1979			1980				1979			1980			
	Apr.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	Apr.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
APPAREL AND UPKEEP — Continued														
Apparel commodities — Continued														
Apparel commodities less footwear — Continued														
Infants' and toddlers'	220.7	226.3	227.1	224.9	226.6	231.4	234.3	222.0	226.7	230.5	229.1	232.7	237.3	241.1
Other apparel commodities	166.8	177.8	180.9	184.4	191.4	199.9	201.9	167.8	179.8	182.9	185.5	191.8	197.8	198.5
Sewing materials and notions (12/77 = 100)	101.9	100.8	102.4	103.2	106.3	107.1	107.9	99.0	99.7	100.8	101.2	105.7	107.2	106.9
Jewelry and luggage (12/77 = 100)	110.4	121.0	123.1	126.1	131.2	136.6	140.1	112.8	123.8	126.2	128.4	132.3	137.3	138.1
Footwear	174.2	183.8	184.3	183.7	184.6	187.0	188.3	174.2	183.2	183.8	183.3	183.9	186.3	188.1
Men's (12/77 = 100)	110.8	117.7	117.3	117.8	118.3	119.0	119.7	111.1	119.1	119.4	119.3	119.4	120.9	122.4
Boys' and girls' (12/77 = 100)	108.9	114.0	115.8	117.3	117.9	119.5	119.5	109.3	114.5	114.7	116.9	118.0	119.5	119.5
Womens' (12/77 = 100)	108.0	113.9	113.8	111.6	112.1	114.2	115.6	107.3	111.2	111.8	109.4	109.5	110.9	112.6
Apparel services	201.8	214.2	216.6	220.7	222.9	225.9	230.0	201.1	212.0	213.4	216.9	219.8	223.5	226.0
Laundry and drycleaning other than coin operated (12/77 = 100)	117.6	126.3	127.1	129.3	130.6	132.5	135.5	117.5	125.7	126.6	129.0	130.6	132.3	134.1
Other apparel services (12/77 = 100)	110.4	114.7	117.0	119.6	120.7	122.1	123.3	110.1	113.3	113.7	115.1	116.9	119.6	120.4
TRANSPORTATION	202.9	224.9	227.7	233.5	239.6	243.7	246.8	203.7	225.7	228.3	234.1	240.2	244.3	247.7
Private	203.2	225.0	227.5	233.5	239.8	244.0	247.0	203.7	225.7	228.2	234.1	240.4	244.6	248.0
New cars	164.3	170.6	171.7	173.9	175.3	175.0	177.0	163.9	170.9	171.7	174.1	175.4	175.4	177.7
Used cars	200.0	198.4	198.2	197.2	195.3	195.2	196.7	200.0	198.4	198.3	197.2	195.3	195.2	196.8
Gasoline	234.7	306.9	313.9	334.6	357.6	370.9	374.7	235.4	308.3	315.6	335.9	359.0	372.7	376.3
Automobile maintenance and repair	236.2	250.8	252.6	255.1	258.2	260.9	264.1	238.7	251.1	253.4	256.2	259.2	261.7	264.3
Body work (12/77 = 100)	113.3	121.6	123.3	125.0	126.5	127.3	129.1	114.4	121.7	123.1	124.3	126.1	127.2	128.4
Automobile drive train, brake, and miscellaneous mechanical repair (12/77 = 100)	113.8	120.1	120.6	121.8	123.2	124.1	126.1	114.8	120.8	121.8	123.6	124.8	126.1	127.4
Maintenance and servicing (12/77 = 100)	113.5	118.4	119.2	120.2	121.3	123.1	124.7	113.0	118.2	119.3	120.4	121.3	122.8	124.2
Power plant repair (12/77 = 100)	112.3	118.5	119.2	120.4	122.5	123.5	124.4	112.6	118.6	119.6	120.9	123.1	124.0	124.6
Other private transportation	194.8	205.5	207.5	209.8	212.6	216.5	221.3	195.5	206.3	208.4	210.6	213.6	217.1	223.1
Other private transportation commodities	170.2	183.4	185.6	188.4	191.2	192.7	194.1	171.4	183.9	186.4	188.0	191.7	193.2	195.8
Motor oil, coolant, and other products (12/77 = 100)	109.4	117.4	118.1	120.9	123.9	126.4	129.8	107.3	118.1	119.3	122.4	124.0	126.1	129.1
Automobile parts and equipment (12/77 = 100)	110.1	118.7	120.3	121.9	123.5	124.3	124.8	111.3	119.0	120.6	121.4	123.9	124.7	126.2
Tires	151.2	161.5	163.8	165.8	168.5	170.1	171.2	153.1	163.0	165.7	168.3	170.6	172.5	174.9
Other parts and equipment (12/77 = 100)	111.7	123.0	124.4	126.6	127.3	127.2	127.1	112.6	121.5	122.4	124.0	125.0	124.4	125.1
Other private transportation services	203.3	213.4	215.3	217.6	220.4	225.0	230.6	203.8	214.3	216.3	218.7	221.5	225.7	232.6
Automobile insurance	224.7	233.9	235.3	237.1	240.2	244.0	245.2	224.7	233.9	235.2	236.8	238.7	243.8	244.9
Automobile finance charges (12/77 = 100)	114.1	124.6	127.2	129.9	132.1	137.4	148.6	113.5	124.1	126.5	129.4	131.3	135.2	147.8
Automobile rental, registration, and other fees (12/77 = 100)	105.6	108.3	108.5	109.1	109.8	110.8	111.5	106.4	108.9	109.2	109.8	110.9	111.6	112.2
State registration	144.0	144.1	144.1	144.2	145.2	145.3	146.4	143.9	144.0	144.0	144.1	145.3	145.5	146.5
Drivers' license (12/77 = 100)	104.5	104.5	104.5	104.7	104.8	104.7	104.7	104.3	104.2	104.2	104.5	104.5	104.4	104.4
Vehicle inspection (12/77 = 100)	112.0	115.6	117.5	117.5	119.0	119.7	119.7	112.8	116.5	118.3	118.3	119.7	120.2	120.3
Other vehicle related fees (12/77 = 100)	110.9	117.1	117.6	118.8	119.6	122.0	122.7	114.8	121.3	122.2	123.8	125.4	127.0	127.8
Public	192.6	216.5	223.0	226.8	229.5	232.1	235.9	193.6	214.0	219.1	221.9	223.9	226.1	229.7
Airline fare	192.5	232.1	245.5	251.1	255.4	259.9	264.3	192.1	232.4	245.8	251.0	255.2	259.3	263.9
Intercity bus fare	249.2	279.8	282.2	284.7	288.5	290.7	291.5	248.5	279.9	282.3	284.8	288.2	290.2	291.0
Intracity mass transit	187.8	195.6	196.4	198.5	199.7	200.8	203.0	187.9	195.1	195.7	196.7	197.6	198.6	200.8
Taxi fare	215.0	237.0	238.5	243.1	244.0	245.6	256.4	220.7	242.4	243.9	248.9	249.3	251.2	261.6
Intercity train fare	205.0	231.0	236.3	237.2	237.2	237.2	237.3	205.0	232.1	236.6	237.1	237.0	237.1	237.2
MEDICAL CARE	235.1	248.0	250.7	253.9	257.9	260.2	262.0	236.2	249.1	251.7	254.9	258.7	260.9	263.1
Medical care commodities	151.6	157.8	159.2	160.5	162.1	163.5	164.9	152.5	158.5	159.9	161.0	162.7	164.4	166.0
Prescription drugs	140.0	145.5	146.4	147.9	148.8	150.9	152.2	140.8	146.2	147.4	148.8	150.7	152.0	153.5
Anti-infective drugs (12/77 = 100)	110.2	113.9	114.6	115.8	117.2	117.9	118.5	111.0	115.5	116.8	118.2	119.8	120.1	120.4
Tranquilizers and sedatives (12/77 = 100)	112.6	117.1	118.4	119.9	121.3	122.2	122.9	113.1	116.9	118.3	119.7	121.0	122.2	122.7
Circulatories and diuretics (12/77 = 100)	107.5	111.0	111.4	112.4	113.4	113.3	114.2	108.5	111.6	112.3	113.0	114.2	114.7	115.9
Hormones, diabetic drugs, biologicals, and prescription and supplies (12/77 = 100)	117.3	123.2	123.8	126.0	128.7	130.0	131.3	117.3	122.6	123.1	124.8	127.8	129.6	131.3
Pain and symptom control drugs (12/77 = 100)	111.2	116.8	117.8	118.8	119.7	120.5	121.4	112.0	117.5	118.2	119.0	120.1	121.3	122.6
Supplements, cough and cold preparations, and respiratory agents (12/77 = 100)	108.5	111.9	112.1	112.6	113.7	115.5	117.1	109.6	112.8	113.7	114.2	115.2	116.5	118.5
Nonprescription drugs and medical supplies (12/77 = 100)	108.8	113.4	114.6	115.3	116.3	117.3	118.4	109.6	114.0	115.1	115.6	116.6	118.0	119.2
Eyeglasses (12/77 = 100)	106.2	110.9	110.9	111.5	112.9	114.1	115.0	106.5	110.4	110.5	111.4	112.6	114.5	115.3
Internal and respiratory over-the-counter drugs	169.1	175.4	177.9	179.1	180.4	182.2	184.4	169.4	176.6	178.5	179.0	180.8	183.0	185.4
Nonprescription medical equipment and supplies (12/77 = 100)	107.6	111.8	113.1	113.8	114.6	115.1	115.3	108.7	112.7	114.2	115.0	115.6	116.1	116.3
Medical care services	253.1	267.6	270.7	274.4	279.0	281.5	283.4	252.9	268.8	271.8	275.6	279.8	282.2	284.5
Professional services	222.9	233.0	235.9	238.9	242.9	245.3	248.2	224.2	235.9	238.3	241.7	245.5	247.8	251.2
Physicians' services	239.1	250.8	252.5	256.0	260.2	262.3	264.8	240.0	255.5	256.5	260.3	264.1	266.2	269.7
Dental services	211.4	220.7	224.5	227.4	231.5	234.1	237.2	213.7	222.7	226.1	229.5	233.4	236.7	238.9
Other professional services (12/77 = 100)	109.4	112.8	115.1	116.6	118.1	119.5	121.7	109.1	112.2	114.8	115.9	117.4	119.3	121.1
Other medical care services	289.6	308.5	312.8	317.4	322.7	325.3	325.8	287.8	309.3	313.0	317.3	322.1	324.4	325.3
Hospital and other medical services (12/77 = 100)	115.2	122.6	123.8	125.6	127.8	128.8	129.7	114.3	121.8	123.2	124.9	126.8	127.7	128.6
Hospital room	382.4	385.1	389.4	395.3	403.4	405.8	408.0	380.2	383.6	386.7	393.9	398.8	401.2	403.6
Other hospital and medical care services	114.5	122.0	122.9	124.7	126.5	127.8	128.8	113.4	120.8	122.1	123.8	125.9	126.9	128.0

23. Continued—Consumer Price Index—U.S. city average

[1967=100 unless otherwise specified]

General summary	All Urban Consumers							Urban Wage Earners and Clerical Workers (revised)						
	1979			1980				1979			1980			
	Apr.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	Apr.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
ENTERTAINMENT	186.5	192.8	193.4	195.3	197.8	200.6	202.5	185.5	192.0	[r]192.3	193.9	196.2	199.5	201.3
Entertainment commodities	187.4	194.0	195.2	197.6	200.4	203.4	205.7	185.7	191.3	192.4	194.2	196.9	200.3	202.8
Reading materials (12/77 = 100)	109.5	114.5	115.1	116.7	117.4	119.4	120.1	109.2	114.2	114.8	116.2	117.0	119.1	119.7
Newspapers	211.5	222.4	223.5	226.8	227.7	232.4	234.8	211.1	222.2	223.3	226.4	227.3	232.0	234.3
Magazines, periodicals, and books (12/77 = 100)	111.7	116.0	116.8	118.1	119.2	120.8	120.8	111.6	115.8	116.6	117.8	118.9	120.7	120.6
Sporting goods and equipment (12/77 = 100)	108.6	111.7	112.2	113.8	115.9	117.2	118.7	105.4	106.9	107.7	108.6	110.8	112.4	114.1
Sport vehicles (12/77 = 100)	110.1	....	112.9	....	117.4	118.7	120.6	105.7	....	105.8	....	109.1	110.8	113.0
Indoor and warm weather sport equipment (12/77 = 100)	105.3	107.8	107.5	107.6	108.3	109.5	111.3	102.9	106.1	106.3	106.4	107.8	109.3	110.5
Bicycles	158.0	167.1	167.1	170.5	174.5	177.2	178.6	157.2	167.4	167.0	170.5	174.9	177.8	179.8
Other sporting goods and equipment (12/77 = 100)	105.7	110.3	111.0	111.8	112.4	112.9	113.1	104.1	110.2	111.3	111.9	112.6	113.4	114.0
Toys, hobbies, and other entertainment (12/77 = 100)	107.6	111.2	112.1	113.2	115.1	116.9	118.4	107.7	111.2	111.8	112.6	114.3	116.4	118.0
Toys, hobbies, and music equipment (12/77 = 100)	108.6	110.5	111.2	112.1	114.1	115.7	117.3	108.4	109.8	109.9	110.9	112.3	114.9	116.5
Photographic supplies and equipment (12/77 = 100)	106.5	109.9	109.7	110.8	114.1	118.2	120.1	106.2	109.6	110.1	111.2	114.2	116.9	118.9
Pet supplies and expense (12/77 = 100)	106.8	113.5	115.5	116.8	117.6	118.2	119.2	107.5	114.6	116.1	116.7	117.9	119.0	120.0
Entertainment services	185.4	191.5	191.1	192.5	194.5	197.0	198.5	186.1	194.3	[r]193.0	194.4	196.0	199.1	199.9
Fees for participant sports (12/77 = 100)	109.5	113.8	113.8	114.6	116.0	117.5	119.0	109.4	115.2	[r]115.0	115.6	116.3	118.8	119.3
Admissions (12/77 = 100)	112.8	116.1	116.6	117.9	118.3	119.1	118.7	112.8	117.3	117.8	119.4	119.7	120.0	120.1
Other entertainment services (12/77 = 100)	107.6	110.0	108.6	109.1	111.4	113.2	114.8	108.4	112.0	109.0	109.3	111.8	113.9	115.1
OTHER GOODS AND SERVICES	193.2	202.9	204.0	206.3	208.1	208.9	209.8	193.1	202.0	203.0	206.0	207.7	208.3	209.2
Tobacco products	186.1	191.5	192.1	196.7	198.[illegible]	198.4	198.8	186.1	191.4	192.1	197.1	198.3	198.6	198.9
Cigarettes	188.6	194.0	194.7	199.7	200.9	201.2	201.4	188.8	194.1	194.8	200.3	201.3	201.6	201.6
Other tobacco products and smoking accessories (12/77 = 100)	109.5	112.8	113.2	113.9	115.6	116.3	117.6	108.8	112.4	112.7	113.4	114.8	115.7	117.2
Personal care	192.7	200.9	203.0	204.2	206.5	208.1	209.7	192.3	200.5	202.3	204.4	206.6	207.7	209.5
Toilet goods and personal care appliances	185.8	193.1	195.8	196.4	198.6	200.2	201.8	186.2	192.4	194.5	196.2	198.3	199.6	201.8
Products for the hair, hairpieces and wigs (12/77 = 100)	106.4	112.2	113.0	114.2	116.1	116.6	117.9	105.3	111.4	112.4	114.0	114.9	114.9	117.9
Dental and shaving products (12/77 = 100)	110.6	115.6	117.3	117.8	118.6	119.2	120.5	109.7	113.9	114.7	115.3	116.8	118.4	119.3
Cosmetics, bath and nail preparations, manicure and eye makeup implements (12/77 = 100)	107.6	111.4	113.0	112.9	114.2	115.1	115.7	108.5	110.2	112.1	112.9	114.0	114.8	115.2
Other toilet goods and small personal care appliances (12/77 = 100)	107.5	109.9	112.1	112.1	112.9	114.7	115.4	109.7	112.3	113.1	114.0	115.6	116.6	117.2
Personal care services	199.4	208.5	210.0	211.6	214.2	215.7	217.2	198.5	208.6	210.2	212.7	215.0	215.8	217.2
Beauty parlor services for women	201.1	210.3	212.1	213.3	216.1	217.9	218.6	200.8	210.2	212.0	214.2	216.6	217.8	218.6
Haircuts and other barber shop services for men (12/77 = 100)	111.1	116.1	116.8	118.1	119.3	119.7	121.7	110.0	116.3	117.1	118.8	120.0	120.1	121.5
Personal and educational expenses	208.4	224.2	224.6	226.3	228.0	228.3	228.7	208.8	224.4	224.8	226.2	227.8	228.2	228.7
School books and supplies	191.6	202.3	202.5	206.0	206.5	206.9	207.1	194.2	205.9	206.0	209.8	210.4	210.7	210.9
Personal and educational services	212.8	229.6	229.9	231.4	233.3	233.6	234.0	212.8	229.3	229.7	230.6	232.5	232.9	233.4
Tuition and other school fees	108.7	118.1	118.1	118.3	118.5	118.6	118.6	108.6	118.2	118.2	118.4	118.6	118.7	118.7
College tuition (12/77 = 100)	108.9	117.3	117.3	117.6	117.8	117.9	117.9	108.9	117.3	117.3	117.6	117.8	117.9	117.9
Elementary and high school tuition (12/77 = 100)	107.5	120.9	120.9	120.9	120.9	120.9	120.9	107.4	120.7	120.7	120.7	120.7	120.7	120.7
Personal expenses (12/77 = 100)	111.0	116.3	117.3	120.1	124.4	125.0	126.1	111.1	115.5	116.3	117.7	121.4	122.1	123.3
Special indexes:														
Gasoline, motor oil, coolant, and other products	232.5	302.9	309.7	329.9	352.5	365.5	369.3	233.0	304.3	311.4	331.3	353.8	367.2	370.8
Insurance and finance	260.5	298.0	302.1	310.5	316.7	326.3	335.2	260.5	295.8	301.6	310.0	316.2	325.6	335.2
Utilities and public transportation	205.8	220.5	223.5	225.0	227.9	230.9	233.4	206.2	220.3	223.0	224.4	227.2	230.2	232.6
Housekeeping and home maintenance services	265.4	280.6	282.2	284.7	287.6	292.0	295.7	266.0	281.3	283.4	286.0	288.7	292.0	295.1

24. Consumer Price Index for All Urban Consumers: Cross classification of region and population size class by expenditure category and commodity and service group

[December 1977 = 100]

Category and group	Size class A (1.25 million or more)			Size class B (385,000 - 1.250 million)			Size class C (75,000 - 385,000)			Size class D (75,000 or less)		
	1979	1980		1979	1980		1979	1980		1979	1980	
	Dec.	Feb.	Apr.	Dec.	Feb.	Apr.	Dec.	Feb.	Apr.	Dec.	Feb.	Apr.
	Northeast											
EXPENDITURE CATEGORY												
All items	119.0	122.1	125.0	122.2	125.6	129.0	125.7	129.1	132.7	121.8	124.2	127.4
Food and beverages	120.6	122.1	124.5	121.9	124.3	127.1	123.2	126.0	128.8	121.2	123.4	125.2
Housing	119.8	122.9	126.1	123.7	126.7	130.0	132.1	135.5	140.2	123.2	124.8	127.9
Apparel and upkeep	108.9	109.5	112.5	109.0	107.1	111.1	1,8.5	107.3	112.7	109.8	106.8	113.0
Transportation	123.7	129.9	133.8	127.6	135.0	140.8	127.0	133.1	136.2	127.3	133.5	136.1
Medical care	117.3	120.6	122.4	120.0	121.6	122.4	118.9	121.3	122.5	119.0	121.4	122.7
Entertainment	111.5	114.4	116.7	113.5	115.7	117.9	109.8	112.2	115.7	115.1	118.9	121.5
Other goods and services	112.7	114.4	114.7	114.3	116.5	117.5	116.3	119.2	119.6	113.1	114.8	116.0
COMMODITY AND SERVICE GROUP												
Commodities	120.5	124.1	126.5	123.7	127.5	130.8	125.1	128.5	131.6	122.5	125.6	128.0
Commodities less food and beverages	120.4	125.3	127.8	124.6	129.1	132.5	126.0	129.7	132.9	123.2	126.6	129.3
Services	117.2	119.5	122.9	119.9	122.5	126.3	128.6	129.9	134.5	120.7	122.2	126.5
	North Central											
EXPENDITURE CATEGORY												
All items	126.3	129.6	133.2	124.6	127.2	130.9	123.7	126.4	128.9	123.0	125.8	126.7
Food and beverages	123.2	124.9	126.8	120.2	122.6	124.9	123.4	124.8	127.0	124.8	126.9	128.9
Housing	133.1	136.7	141.1	129.3	131.5	135.6	125.9	127.6	130.4	123.6	125.9	129.1
Apparel and upkeep	105.6	105.2	109.2	110.9	107.1	111.2	109.0	109.0	110.7	111.9	110.4	113.6
Transportation	127.9	133.5	138.1	127.5	133.4	137.6	120.1	135.8	139.3	127.3	132.6	137.4
Medical care	119.6	123.2	125.3	119.3	122.2	125.0	119.7	124.5	125.7	121.6	126.8	127.4
Entertainment	113.9	116.9	118.9	111.0	111.5	114.0	114.4	116.2	118.7	113.8	115.9	116.1
Other goods and services	113.6	115.4	116.2	117.7	119.4	121.5	114.0	115.5	116.7	116.1	119.1	119.8
COMMODITY AND SERVICE GROUP												
Commodities	125.4	128.1	130.9	122.5	124.5	127.9	123.7	125.9	128.1	122.5	124.3	126.0
Commodities less food and beverages	126.4	129.6	132.8	123.5	125.2	128.2	123.6	126.4	128.5	121.6	123.1	124.8
Services	127.7	131.8	136.6	126.0	131.6	135.6	124.1	127.1	130.3	123.8	128.2	132.9
	South											
EXPENDITURE CATEGORY												
All items	123.1	127.1	130.7	124.6	128.0	131.7	14.3	127.9	131.3	122.5	125.9	128.3
Food and beverages	123.5	125.0	126.4	122.9	124.4	127.0	123.9	126.0	127.8	122.5	124.0	126.2
Housing	125.0	128.1	133.9	128.4	131.9	136.7	128.4	131.8	136.6	123.9	127.7	129.7
Apparel and upkeep	112.2	112.5	116.4	110.3	109.6	112.9	105.7	105.5	108.2	104.8	100.9	104.7
Transportation	127.6	135.7	139.7	127.8	134.7	138.4	126.4	133.7	137.2	126.3	133.1	136.5
Medical care	117.7	119.7	121.9	118.3	121.6	123.3	120.7	124.8	126.4	124.9	129.0	131.2
Entertainment	109.5	114.5	115.7	113.9	115.4	119.8	113.8	115.9	118.3	119.4	121.6	124.4
Other goods and services	115.6	118.5	119.3	115.1	117.7	118.1	115.5	117.5	118.8	118.3	121.5	121.9
COMMODITY AND SERVICE GROUP												
Commodities	122.6	126.7	129.3	123.1	125.9	129.0	122.7	126.4	128.7	121.9	124.7	127.2
Commodities less food and beverages	122.2	127.5	130.6	123.2	126.6	129.8	122.2	126.5	129.1	121.6	125.0	127.7
Services	123.8	127.7	132.6	126.8	131.1	135.8	126.7	130.2	135.3	123.5	127.7	129.8
	West											
EXPENDITURE CATEGORY												
All items	124.8	129.6	132.8	126.6	130.6	134.1	124.5	128.1	131.4	124.3	127.1	130.4
Food and beverages	123.4	124.2	126.5	125.8	126.9	128.8	122.9	123.8	125.7	123.7	125.7	128.0
Housing	127.0	132.9	138.3	130.2	134.6	139.1	127.8	131.0	134.8	125.4	127.1	129.7
Apparel and upkeep	110.0	113.6	115.7	111.5	112.4	115.8	104.4	104.2	107.7	114.9	114.7	121.8
Transportation	129.9	137.4	141.2	128.8	135.8	139.2	129.0	137.1	141.2	126.2	134.8	138.6
Medical care	121.9	125.6	128.8	121.3	124.8	126.9	119.9	124.6	126.7	122.7	126.2	128.9
Entertainment	111.1	113.5	117.8	115.9	118.6	123.1	114.9	117.8	121.0	119.2	123.6	127.5
Other goods and services	115.5	119.2	121.2	116.5	120.3	121.5	113.6	116.3	117.7	116.4	119.7	122.5
COMMODITY AND SERVICE GROUP												
Commodities	123.1	127.0	129.5	125.3	128.8	131.5	123.6	126.7	129.0	123.0	126.7	129.8
Commodities less food and beverage	123.0	128.1	130.8	125.1	129.6	132.7	123.8	127.8	130.4	122.7	127.2	130.6
Services	126.9	133.2	137.2	128.4	133.0	137.7	125.9	130.0	134.8	126.3	127.6	131.2

25. Consumer Price Index—U.S. city average, and selected areas

[1967 = 100 unless otherwise specified]

Area[1]	All Urban Consumers							Urban Wage Earners and Clerical Workers (revised)						
	1979			1980				1979			1980			
	Apr.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	Apr.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
U.S. city average[2]	211.5	227.5	229.9	233.2	236.4	239.8	242.5	211.8	227.6	230.0	233.3	236.5	239.9	242.6
Anchorage, Alaska (10/67 = 100)	...	213.7	...	218.2	...	223.5	...	...	211.8	...	215.9	...	220.2	...
Atlanta, Ga.	206.7	...	223.3	...	230.3	...	236.3	208.3	...	227.0	...	233.5	...	239.3
Baltimore, Md.	...	227.2	...	234.4	...	245.0	...	...	227.9	...	234.5	...	243.9	...
Boston, Mass.	...	222.7	...	227.3	...	234.2	...	...	222.5	...	226.9	...	234.2	...
Buffalo, N.Y.	206.6	...	221.2	...	227.9	...	233.7	207.2	...	220.7	...	227.9	...	233.3
Chicago, Ill.-Northwestern Ind.	208.7	225.9	228.4	230.3	232.7	235.5	240.1	208.1	225.6	227.8	229.9	232.5	235.2	239.8
Cincinnati, Ohio-Ky.-Ind.	...	233.4	...	238.5	...	247.8	...	...	235.6	...	241.0	...	249.7	...
Cleveland, Ohio	215.1	...	232.5	...	243.5	...	247.3	216.1	...	233.2	...	244.1	...	248.4
Dallas-Ft. Worth, Tex.	211.0	...	234.1	...	241.7	...	251.4	211.4	...	233.3	...	240.9	...	249.6
Denver-Boulder, Colo.	...	245.9	...	247.3	...	255.2	...	...	248.6	...	250.9	...	259.4	...
Detroit, Mich.	213.2	231.3	233.2	237.2	240.4	242.9	248.2	213.3	230.8	232.2	236.4	239.9	242.4	248.0
Honolulu, Hawaii	200.7	...	214.8	...	220.9	...	227.4	200.0	...	215.5	...	221.3	...	228.4
Houston, Tex.	228.1	...	248.7	...	255.9	...	260.8	227.7	...	246.0	...	251.9	...	257.3
Kansas City, Mo.-Kansas	211.5	...	233.7	...	238.7	...	243.8	211.0	...	232.4	...	236.6	...	242.2
Los Angeles-Long Beach, Anaheim, Calif.	207.8	224.2	228.0	232.6	237.6	241.3	244.6	208.8	225.8	229.9	235.0	240.0	243.9	247.8
Miami, Fla. (11/77 = 100)	...	119.4	...	123.3	...	127.7	...	...	120.5	...	124.9	...	128.8	...
Milwaukee, Wis.	...	229.8	...	236.4	...	242.7	...	...	232.5	...	240.8	...	247.8	...
Minneapolis-St. Paul, Minn.-Wis.	215.9	...	234.0	...	237.9	...	244.3	216.0	...	234.8	...	239.6	...	245.7
New York, N.Y.-Northeastern N.J.	208.3	221.3	222.9	226.1	228.0	231.2	233.1	208.1	220.7	222.4	225.5	227.7	230.8	232.4
Northeast, Pa. (Scranton)	...	220.0	...	224.4	...	229.0	...	...	221.1	...	225.8	...	231.3	...
Philadelphia, Pa.-N.J.	207.7	222.4	223.7	227.2	231.1	234.6	237.4	209.1	223.8	224.6	228.0	231.6	235.1	237.9
Pittsburgh, Pa.	212.0	...	229.2	...	235.5	...	240.9	212.3	...	229.7	...	235.9	...	242.2
Portland, Oreg.-Wash.	...	236.6	...	244.6	...	253.6	...	...	236.7	...	243.5	...	251.7	...
St. Louis, Mo.-Ill.	...	225.7	...	232.7	...	238.1	...	...	226.3	...	233.5	...	238.5	...
San Diego, Calif.	...	247.8	...	254.0	...	258.3	...	...	244.8	...	251.0	...	256.6	...
San Francisco-Oakland, Calif.	208.8	...	230.2	...	240.7	...	243.5	209.3	...	229.0	...	240.0	...	242.8
Seattle-Everett, Wash.	...	227.6	...	236.0	...	243.8	...	...	225.5	...	233.8	...	241.3	...
Washington, D.C.-Md.-Va.	...	225.4	...	231.9	...	238.8	...	...	226.7	...	233.0	...	239.2	...

[1] The areas listed include not only the central city but the entire portion of the Standard Metropolitan Statistical Area, as defined for the 1970 Census of Population, except that the Standard Consolidated Area is used for New York and Chicago.

[2] Average of 85 cities.

26. Producer Price Indexes, by stage of processing

[1967 = 100]

Commodity grouping	Annual average 1978	1979								1980				
		May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.[1]	Feb.	Mar.	Apr.	May
FINISHED GOODS														
Finished goods	194.6	212.7	213.7	216.2	217.3	220.7	224.2	226.3	228.1	232.4	235.4	238.2	240.0	241.0
Finished consumer goods	192.6	211.6	212.7	215.6	217.5	221.7	224.7	227.1	229.1	233.5	237.3	240.6	241.6	242.8
Finished consumer foods	206.7	226.6	223.6	224.9	223.5	228.1	226.7	230.5	232.1	231.4	231.6	233.0	228.7	230.0
Crude	215.5	226.7	227.1	224.9	231.7	214.0	215.5	228.1	227.9	226.0	220.0	230.8	222.2	227.7
Processed	204.1	224.4	221.3	222.8	220.7	227.0	225.5	228.6	230.3	229.7	230.4	231.0	227.1	228.1
Other nondurable goods	195.4	217.1	221.7	227.1	233.4	239.0	243.3	245.5	247.9	254.7	263.0	270.8	276.5	279.1
Durable goods	165.8	179.5	180.4	181.6	181.6	182.9	189.0	190.0	191.8	199.1	200.7	199.7	200.3	199.7
Capital equipment	199.1	215.1	215.8	217.2	216.5	217.8	222.8	223.9	225.3	229.3	230.3	231.8	235.8	236.0
INTERMEDIATE MATERIALS														
Intermediate materials, supplies, and components	215.5	238.2	240.3	244.6	247.5	251.0	255.0	256.3	258.7	265.9	271.1	273.2	274.5	275.8
Materials and components for manufacturing	208.3	230.9	232.1	236.0	238.0	240.7	244.3	245.5	247.8	255.5	259.2	259.0	259.7	261.8
Materials for food manufacturing	202.3	222.5	222.3	226.7	225.1	228.9	225.5	227.8	230.4	226.0	245.1	239.8	238.7	255.4
Materials for nondurable manufacturing	195.8	216.7	218.1	222.5	225.3	227.6	231.4	233.4	235.3	241.1	243.3	246.6	251.8	254.9
Materials for durable manufacturing	237.2	267.2	268.9	273.3	275.2	278.8	284.7	284.6	287.8	303.7	305.9	301.1	296.2	295.1
Components for manufacturing	189.1	204.5	205.3	207.7	209.3	211.3	213.2	214.8	216.3	219.2	222.7	225.2	227.4	228.0
Materials and components for construction	224.4	245.2	245.6	247.4	249.2	252.5	254.7	254.0	253.7	257.7	261.6	265.1	265.3	265.3
Processed fuels and lubricants	296.4	336.8	349.5	364.8	384.6	399.4	410.6	416.5	424.6	444.0	464.3	481.1	486.7	488.3
Manufacturing industries	270.4	287.4	293.8	304.0	311.2	317.2	322.5	325.2	332.2	340.5	352.2	357.4	358.4	363.6
Nonmanufacturing industries	320.0	385.5	404.9	425.5	458.8	483.0	500.6	510.0	519.1	550.3	579.7	608.9	619.5	617.0
Containers	212.5	234.5	234.9	235.4	237.6	237.9	242.6	243.8	247.1	250.9	250.8	253.3	262.5	263.7
Supplies	196.9	213.7	216.1	219.6	219.6	221.2	224.9	226.4	229.2	232.5	238.3	239.9	240.7	240.8
Manufacturing industries	183.6	201.5	202.7	204.2	208.6	209.4	212.2	213.7	216.3	220.9	222.0	223.3	226.8	228.4
Nonmanufacturing industries	204.0	220.3	223.2	227.8	225.4	227.5	231.7	233.3	236.1	238.7	247.0	248.7	248.1	247.5
Manufactured animal feeds	200.2	214.6	226.2	241.3	220.8	224.0	228.9	226.9	230.4	224.4	223.3	219.1	207.1	210.6
Other supplies	201.9	218.3	219.2	221.5	223.1	224.9	228.9	231.2	233.9	238.3	248.6	251.6	253.5	251.9
CRUDE MATERIALS														
Crude materials for further processing	240.1	282.3	283.0	287.1	281.7	288.3	289.5	290.8	296.2	296.8	308.3	303.3	298.9	300.7
Foodstuffs and feedstuffs	215.3	251.9	248.2	254.1	243.7	248.7	247.5	246.4	249.7	243.0	252.6	245.9	235.5	242.4
Nonfood materials	286.7	339.6	348.7	349.3	353.6	363.1	368.9	374.9	384.2	398.9	413.9	412.2	413.5	410.4
Nonfood materials except fuel	235.4	276.6	286.6	285.2	286.1	293.3	298.1	304.6	311.6	330.1	341.5	339.4	336.9	329.2
Manufacturing industries	240.8	284.7	295.9	294.0	294.9	302.8	307.8	314.2	322.5	342.1	354.7	352.1	349.0	340.2
Construction	185.7	204.5	205.4	207.2	208.6	209.9	212.6	214.8	216.6	226.0	228.3	229.7	232.4	232.9
Crude fuel	463.7	556.8	563.1	570.7	586.2	604.0	612.9	617.4	634.5	636.3	663.5	663.3	677.4	680.4
Manufacturing industries	481.9	593.8	601.3	610.4	629.2	651.8	662.5	667.8	688.3	690.3	724.4	723.5	740.8	756.7
Nonmanufacturing industries	459.6	538.8	544.3	550.7	563.6	577.8	585.5	589.3	603.9	605.7	627.7	627.9	639.8	650.6
SPECIAL GROUPINGS														
Finished goods excluding foods	188.9	206.3	208.5	211.4	213.2	216.2	221.3	222.6	224.6	230.5	234.3	237.4	241.2	242.0
Finished consumer goods excluding foods	183.7	202.1	205.2	208.4	212.3	216.3	220.6	223.1	225.3	232.3	237.8	242.0	245.5	246.8
Intermediate materials, supplies, and components, excluding intermediate materials for food manufacturing and manufactured animal feeds	216.4	238.8	241.3	245.4	249.0	252.5	256.8	258.1	260.5	268.4	273.2	275.7	277.4	278.0
Intermediate foods and feeds	201.0	219.3	223.0	231.0	223.1	226.6	226.0	226.9	229.8	224.8	237.1	232.3	227.5	230.7
Crude materials for further processing excluding crude foodstuffs and feedstuffs, plant and animal fibers, oilseeds, and leaf tobacco	316.6	379.2	389.5	391.7	396.9	408.6	417.0	424.1	435.0	452.9	466.8	468.4	468.4	464.6

[1] Data for January 1980 have been revised to reflect the availability of late reports and corrections by respondents. All data are subject to revision 4 months after original publication.

27. Producer Price Indexes, by commodity groupings

[1967 = 100 unless otherwise specified]

Code	Commodity group and subgroup	Annual average 1978	1979								1980				
			May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.[1]	Feb.	Mar.	Apr.	May
	All commodities	209.3	232.0	233.5	236.9	238.3	242.0	245.6	247.2	249.7	254.9	259.8	261.5	262.3	262.7
	All commodities (1957-59 = 100)	222.1	245.7	247.7	251.4	252.8	256.7	260.6	262.3	265.3	r270.2	275.6	277.5	278.3	278.7
	Farm products and processed foods and feeds	206.6	230.8	229.0	232.2	227.5	231.8	230.6	232.3	234.6	231.9	236.9	234.9	229.2	233.9
	Industrial commodities	209.4	231.6	234.0	237.5	240.6	244.2	248.0	250.6	253.1	260.6	265.4	268.2	270.7	271.2
	FARM PRODUCTS AND PROCESSED FOODS AND FEEDS														
01	Farm products	212.5	245.4	242.8	246.8	238.5	241.0	238.6	240.2	242.5	236.4	242.3	238.3	228.9	233.6
01-1	Fresh and dried fruits and vegetables	216.5	239.2	228.4	238.7	241.7	208.3	216.0	216.5	210.7	219.0	220.5	218.3	225.0	243.8
01-2	Grains	182.5	210.3	218.7	247.4	229.1	224.4	229.0	226.6	227.9	214.6	223.3	217.9	210.8	219.0
01-3	Livestock	220.1	260.7	264.0	258.0	240.2	256.4	251.7	248.3	252.5	247.8	257.2	251.8	230.5	233.3
01-4	Live poultry	199.8	216.3	182.9	183.8	171.9	173.5	162.0	186.5	194.7	185.2	184.6	180.1	171.9	171.3
01-5	Plant and animal fibers	193.4	207.8	219.5	207.6	207.9	211.3	212.9	215.4	222.0	236.0	266.5	254.9	266.9	272.7
01-6	Fluid milk	219.7	242.0	243.8	247.6	250.0	258.5	260.8	262.5	264.0	262.3	263.8	263.1	265.4	265.4
01-7	Eggs	158.6	163.8	170.7	167.6	168.8	175.4	155.9	178.7	196.4	165.6	150.4	164.2	153.3	145.7
01-8	Hay, hayseeds, and oilseeds	215.8	240.7	258.4	260.1	251.9	240.9	236.6	229.8	230.3	218.1	224.7	215.9	205.1	208.7
01-9	Other farm products	274.9	264.1	261.0	311.9	310.8	315.9	313.6	318.3	319.4	301.1	304.7	311.5	304.8	311.0
02	Processed foods and feeds	202.6	222.0	220.6	223.3	220.5	225.8	224.8	227.1	229.3	229.5	233.1	231.5	228.5	233.1
02-1	Cereal and bakery products	190.3	204.9	209.3	212.4	216.0	218.7	219.8	222.5	223.6	225.4	229.7	231.3	231.5	233.5
02-2	Meats, poultry, and fish	217.1	250.4	241.4	237.7	225.5	239.9	234.2	239.3	242.8	236.6	236.5	239.2	226.0	224.8
02-3	Dairy products	182.4	207.9	208.4	209.0	215.2	218.3	218.1	219.3	219.9	221.0	221.2	223.3	227.8	229.9
02-4	Processed fruits and vegetables	202.6	221.4	221.5	223.6	224.6	225.1	223.4	222.4	222.6	222.9	223.1	223.6	224.5	225.2
02-5	Sugar and confectionery	197.8	207.6	211.1	215.7	218.3	217.2	218.9	222.9	234.4	236.0	287.1	263.6	274.8	327.4
02-6	Beverages and beverage materials	200.0	205.3	208.5	214.1	216.5	217.9	218.9	221.2	221.6	224.0	224.7	226.0	227.9	231.4
02-7	Fats and oils	225.3	241.8	243.6	253.2	251.7	253.3	246.0	241.9	235.6	225.1	225.0	222.4	214.7	212.1
02-8	Miscellaneous processed foods	199.0	220.2	211.1	212.7	217.6	219.0	220.8	222.2	223.1	225.4	223.5	224.7	225.1	223.2
02-9	Manufactured animal feeds	197.4	210.8	220.5	234.9	216.2	219.2	224.0	222.4	224.9	219.7	219.8	216.8	205.4	207.3
	INDUSTRIAL COMMODITIES														
03	Textile products and apparel	159.8	167.2	168.4	169.3	170.5	171.3	172.0	172.8	173.1	175.2	176.5	178.9	180.6	181.5
03-1	Synthetic fibers (12/75 = 100)	108.6	117.4	118.5	119.5	120.6	123.6	124.7	124.2	124.7	127.0	127.1	129.4	130.7	133.5
03-2	Processed yarns and threads (12/75 = 100)	102.4	107.8	108.6	109.5	110.6	111.7	112.1	112.5	112.7	114.6	117.3	118.9	122.1	123.5
03-3	Gray fabrics (12/75 = 100)	118.6	124.7	125.4	128.3	128.7	128.7	129.7	130.7	132.3	132.7	131.7	133.7	136.1	135.3
03-4	Finished fabrics (12/75 = 100)	103.8	107.0	107.6	108.2	109.0	109.1	108.9	109.7	109.9	110.5	110.8	113.1	114.5	115.2
03-81	Apparel	152.4	159.8	160.2	160.3	161.4	161.6	162.2	163.1	162.6	165.5	167.3	168.3	169.1	169.7
03-82	Textile housefurnishings	178.6	189.0	189.3	189.9	190.5	193.9	196.3	196.5	197.1	199.0	200.0	201.2	201.6	202.6
04	Hides, skins, leather, and related products	200.0	269.6	266.0	261.9	257.9	251.1	253.9	248.9	249.2	255.7	251.0	246.8	243.6	240.7
04-1	Hides and skins	360.5	666.9	611.0	566.5	511.9	485.3	478.8	447.6	443.9	488.8	404.8	348.7	328.6	289.7
04-2	Leather	238.6	429.4	414.6	385.2	365.9	330.0	343.6	318.8	324.8	347.6	340.3	311.0	297.6	290.4
04-3	Footwear	183.0	216.3	221.1	221.8	225.4	226.9	227.5	227.9	227.9	229.1	226.1	231.8	231.9	231.9
04-4	Other leather and related products	177.9	209.1	212.3	212.1	210.9	210.1	209.7	208.4	208.0	213.1	214.9	217.9	216.3	217.5
05	Fuels and related products and power	322.5	377.6	393.7	411.8	432.8	454.8	466.5	476.9	487.9	508.0	533.0	553.5	566.3	571.9
05-1	Coal	430.0	450.8	452.0	452.5	454.2	452.5	454.6	455.1	458.6	459.3	458.7	460.7	463.3	464.8
05-2	Coke	411.8	430.6	430.6	430.6	430.6	430.6	431.2	431.2	431.2	430.6	430.6	430.6	430.6	430.6
05-3	Gas fuels[2]	428.7	507.2	522.3	548.4	572.4	603.4	618.9	637.0	662.4	677.5	719.8	720.3	730.2	744.8
05-4	Electric power	250.6	265.9	269.9	274.8	278.8	280.5	283.5	281.9	287.0	290.5	299.5	305.7	310.4	318.4
05-61	Crude petroleum[3]	300.1	335.7	356.4	370.6	385.7	422.1	436.7	450.4	470.8	513.6	515.1	522.8	533.9	540.1
05-7	Petroleum products, refined[4]	321.0	400.0	423.6	440.8	482.8	513.7	533.7	545.4	565.2	583.3	620.3	657.9	677.3	690.6
06	Chemicals and allied products	198.8	218.0	219.2	225.0	228.5	230.6	234.2	236.0	238.2	246.0	247.6	251.6	258.1	261.1
06-1	Industrial chemicals[5]	225.6	256.6	259.3	270.4	277.1	280.0	285.7	288.4	292.3	302.9	306.7	310.7	316.8	324.8
06-21	Prepared paint	182.3	201.3	201.3	205.3	205.3	206.0	206.7	209.4	210.7	223.3	223.3	223.3	231.5	236.8
06-22	Paint materials	212.7	236.1	239.5	246.7	247.9	252.0	253.6	256.6	258.8	259.9	262.7	266.2	271.1	272.9
06-3	Drugs and pharmaceuticals	148.1	157.7	158.0	159.2	159.6	161.0	162.8	163.0	164.4	166.5	167.7	169.9	172.8	171.8
06-4	Fats and oils, inedible	315.8	418.3	374.1	361.6	376.4	379.9	366.9	344.3	327.1	325.6	302.2	299.9	298.2	294.7
06-5	Agricultural chemicals and chemical products	198.4	210.0	209.2	211.2	215.3	219.4	224.3	229.5	232.9	241.9	242.8	256.0	258.3	258.3
06-6	Plastic resins and materials	199.8	229.5	230.1	244.5	250.1	252.0	260.0	261.4	262.5	270.4	271.1	273.9	285.6	287.8
06-7	Other chemicals and allied products	181.8	188.9	190.5	191.8	194.4	195.8	197.0	198.8	201.4	208.4	211.0	214.5	223.3	226.0
07	Rubber and plastic products	174.8	190.8	193.1	195.5	198.8	200.7	203.0	204.9	205.9	207.8	210.9	212.7	214.6	215.1
07-1	Rubber and rubber products	185.3	202.6	204.8	208.5	214.6	217.1	220.3	223.7	224.3	229.1	232.2	232.3	234.6	235.3
07-11	Crude rubber	187.2	214.2	222.0	226.1	233.0	232.2	236.5	237.2	240.2	262.7	263.1	254.9	263.8	263.0
07-12	Tires and tubes	179.2	197.3	199.9	208.2	211.6	215.0	218.3	223.1	223.1	225.1	231.2	231.2	231.3	231.8
07-13	Miscellaneous rubber products	189.6	202.6	203.5	205.4	209.4	211.9	214.7	217.1	217.7	215.9	220.4	223.4	225.9	227.5
07-2	Plastic products (6/78 = 100)	....	108.5	111.0	111.2	112.2	113.0	114.0	114.3	115.2	118.3	118.5	118.8	119.5	119.6
08	Lumber and wood products	276.0	302.8	299.8	300.1	304.7	308.7	308.6	299.9	290.1	290.0	294.8	295.7	275.2	271.6
08-1	Lumber	322.4	364.8	354.8	355.0	365.3	373.9	370.3	355.6	336.5	336.3	341.5	340.6	310.1	301.3
08-2	Millwork	235.4	261.6	258.9	252.5	249.6	250.9	256.6	252.3	250.3	254.1	258.0	264.7	256.6	250.9
08-3	Plywood	235.6	249.3	238.6	249.7	254.3	257.9	254.0	242.2	237.9	239.2	243.7	240.0	219.2	229.9
08-4	Other wood products	211.8	238.4	238.5	237.6	237.4	238.0	237.7	239.9	240.5	242.2	243.4	243.1	241.7	240.7

See footnotes at end of table.

27. Continued—Producer Price Indexes, by commodity groupings

[1967 = 100 unless otherwise specified]

Code	Commodity group and subgroup	Annual average 1978	1979								1980				
			May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.[1]	Feb.	Mar.	Apr.	May
	INDUSTRIAL COMMODITIES—Continued														
09	Pulp, paper, and allied products	195.6	216.2	216.6	218.3	222.2	223.0	227.5	229.5	231.7	237.4	238.9	241.6	246.5	248.9
09-1	Pulp, paper, and products, excluding building paper and board	195.6	217.2	217.8	219.6	223.6	224.3	229.0	231.1	233.4	239.2	240.5	243.1	248.0	250.3
09-11	Woodpulp	286.5	306.9	308.3	320.3	320.6	320.6	337.5	338.0	338.0	356.6	358.5	359.0	386.8	388.0
09-12	Wastepaper	191.2	206.2	207.2	207.9	206.6	206.7	206.7	220.0	221.2	222.9	223.2	224.9	242.5	226.1
09-13	Paper	206.1	227.2	227.5	228.2	229.5	230.3	238.7	241.8	242.7	245.5	247.5	250.5	253.6	256.5
09-14	Paperboard	179.6	199.2	199.8	201.7	206.4	209.6	211.3	212.8	215.4	221.8	223.4	225.9	230.2	239.2
09-15	Converted paper and paperboard products	185.6	207.0	207.6	209.0	214.4	214.6	217.3	219.0	221.9	227.7	228.7	231.3	234.6	236.1
09-2	Building paper and board	187.4	183.3	180.8	178.0	179.1	182.6	183.5	183.6	184.6	186.2	191.1	198.7	201.3	206.8
10	Metals and metal products	227.1	256.2	258.2	260.8	261.8	263.7	269.6	271.1	273.6	284.6	288.6	286.3	284.6	281.9
10-1	Iron and steel	253.6	279.5	283.2	286.8	286.1	285.5	289.2	292.0	292.8	297.4	300.2	301.6	307.0	304.7
10-13	Steel mill products	254.5	276.7	277.3	284.6	284.7	284.8	288.3	288.8	289.3	293.6	294.2	295.6	304.1	305.5
10-2	Nonferrous metals	207.8	258.2	259.7	262.3	263.1	269.3	283.1	284.1	291.9	326.3	336.5	320.9	298.9	289.8
10-3	Metal containers	243.4	268.5	267.3	267.2	268.4	268.7	279.9	280.9	280.9	283.3	283.3	287.8	301.1	302.7
10-4	Hardware	200.4	216.9	217.1	218.5	220.1	221.5	224.0	225.5	226.2	228.2	229.4	230.5	236.9	238.2
10-5	Plumbing fixtures and brass fittings	199.1	213.8	217.0	219.6	222.4	223.0	223.5	225.4	226.5	232.8	236.6	242.4	243.7	247.4
10-6	Heating equipment	174.4	185.7	185.2	186.0	188.1	191.3	192.2	193.1	195.6	199.5	199.9	202.0	204.2	204.0
10-7	Fabricated structural metal products	228.4	247.0	248.2	250.5	252.2	253.7	256.3	256.7	257.7	258.9	259.5	262.9	268.2	269.4
10-8	Miscellaneous metal products	212.0	228.5	230.1	231.8	235.6	236.7	238.5	238.6	239.1	240.6	242.5	245.1	247.1	247.7
11	Machinery and equipment	198.1	211.4	212.4	214.8	216.0	217.7	220.0	221.3	223.4	227.6	229.7	231.9	235.8	237.0
11-1	Agricultural machinery and equipment	213.1	228.3	229.4	231.2	233.3	237.4	240.0	243.4	244.2	248.4	249.1	250.4	252.8	254.9
11-2	Construction machinery and equipment	232.9	253.7	254.0	257.0	258.5	258.9	263.9	265.4	268.8	276.0	277.5	278.4	282.9	284.2
11-3	Metalworking machinery and equipment	217.0	237.6	239.1	241.4	243.5	246.4	249.6	252.2	254.6	258.9	261.3	264.1	269.9	272.6
11-4	General purpose machinery and equipment	218.6	234.0	235.1	237.1	238.3	240.2	242.8	244.2	247.6	251.0	252.0	255.7	260.0	262.3
11-6	Special industry machinery and equipment	223.0	245.1	246.1	249.8	251.0	251.2	253.8	254.9	256.1	260.6	262.9	265.6	271.9	273.1
11-7	Electrical machinery and equipment	164.9	176.5	177.6	179.9	181.2	182.5	184.3	184.9	186.6	190.6	194.2	195.9	198.7	199.2
11-9	Miscellaneous machinery	194.7	207.1	207.4	209.7	209.7	212.0	213.6	214.9	216.3	220.3	220.8	222.7	226.8	226.9
12	Furniture and household durables	160.4	169.6	170.2	170.7	171.5	172.7	175.1	176.4	177.9	183.4	183.4	184.6	183.1	184.1
12-1	Household furniture	173.5	184.8	185.3	185.8	186.2	188.5	190.1	193.0	194.8	197.4	196.5	196.9	198.9	200.3
12-2	Commercial furniture	201.5	221.9	221.8	222.7	222.7	222.7	223.3	223.3	225.1	226.9	230.1	232.8	233.5	233.8
12-3	Floor coverings	141.6	146.0	146.5	149.1	150.0	150.4	152.1	152.8	152.9	159.0	159.4	160.7	161.7	163.6
12-4	Household appliances	153.0	159.3	160.0	161.1	162.2	162.7	163.2	164.5	165.3	166.5	168.7	169.7	170.2	172.1
12-5	Home electronic equipment	90.2	92.4	92.8	90.2	90.2	90.3	90.3	90.3	90.5	91.0	88.7	88.8	88.9	89.1
12-6	Other household durable goods	203.1	219.5	220.6	223.7	226.6	231.0	245.6	248.2	254.4	287.4	284.2	287.6	266.8	265.2
13	Nonmetallic mineral products	222.8	245.6	246.9	249.5	249.9	254.6	256.2	257.4	259.6	268.4	272.6	270.1	282.8	282.9
13-11	Flat glass	172.8	183.1	184.0	184.1	184.1	184.5	184.7	185.4	186.4	191.0	190.9	191.4	191.4	191.4
13-2	Concrete ingredients	217.7	242.5	243.3	245.1	245.9	246.7	248.3	249.6	251.0	265.0	265.2	266.0	270.5	271.1
13-3	Concrete products	214.0	241.6	243.7	245.2	248.3	248.7	250.1	250.6	253.2	265.4	266.2	268.6	273.0	275.0
13-4	Structural clay products excluding refractories	197.2	215.7	216.5	220.3	222.3	223.7	221.1	221.8	226.7	229.6	231.1	231.5	234.4	229.5
13-5	Refractories	216.5	228.5	232.6	240.8	241.7	242.4	244.6	247.4	248.0	248.5	251.9	254.8	262.6	265.2
13-6	Asphalt roofing	282.0	317.9	323.0	328.4	325.9	333.0	337.5	347.4	346.5	356.6	372.3	387.6	404.7	398.2
13-7	Gypsum products	229.1	248.8	251.3	251.8	252.3	254.9	255.3	256.2	255.0	255.4	262.2	267.6	264.0	256.5
13-8	Glass containers	244.4	265.2	265.2	265.2	265.2	265.2	265.2	265.2	274.2	274.3	274.6	274.6	294.6	294.6
13-9	Other nonmetallic minerals	275.6	300.0	302.0	310.5	309.9	336.0	341.2	342.2	342.2	351.8	374.3	386.9	399.5	399.5
14	Transportation equipment (12/68 = 100)	173.5	187.2	187.5	188.4	185.9	186.6	194.2	194.8	195.6	198.7	198.1	198.8	202.6	201.1
14-1	Motor vehicles and equipment	176.0	189.8	190.1	190.8	187.8	188.6	197.1	197.4	198.2	200.7	199.9	200.8	204.9	203.1
14-4	Railroad equipment	252.8	271.6	274.7	280.6	280.9	281.6	286.3	288.2	289.0	297.5	299.3	301.3	303.9	304.6
15	Miscellaneous products	184.3	203.3	205.2	207.0	208.9	213.1	218.9	221.4	227.4	242.9	261.8	256.2	252.2	250.9
15-1	Toys, sporting goods, small arms, ammunition	163.2	174.3	174.7	176.9	177.6	179.8	181.1	181.2	183.0	190.9	193.2	194.2	195.3	196.4
15-2	Tobacco products	198.5	214.4	214.4	214.8	221.3	221.9	222.1	222.2	226.6	236.6	236.9	237.1	237.6	244.6
15-3	Notions	182.0	190.6	190.6	192.0	191.9	191.9	195.7	195.8	196.8	203.1	203.2	207.2	216.8	217.0
15-4	Photographic equipment and supplies	145.7	150.6	151.6	152.0	152.2	154.3	157.4	161.2	164.3	165.9	218.7	219.4	212.6	200.0
15-51	Mobile homes (12/74 = 100)	126.4	137.2	137.9	138.2	139.5	140.7	142.9	144.0	144.1	144.7	146.0	146.6	148.9	149.9
15-9	Other miscellaneous products	210.6	250.6	255.8	261.4	261.4	272.5	288.3	293.3	308.8	351.6	375.3	352.3	339.2	339.1

[1] Data for January 1980 have been revised to reflect the availability of late reports and corrections by respondents. All data are subject to revision 4 months after original publication.

[2] Prices for natural gas are lagged 1 month.

[3] Includes only domestic production.

[4] Most prices for refined petroleum products are lagged 1 month.

[5] Some prices for industrial chemicals are lagged 1 month.

28. Producer Price Indexes, for special commodity groupings

[1967 = 100 unless otherwise specified]

Commodity grouping	Annual average 1978	1979								1980				
		May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.[1]	Feb.	Mar.	Apr.	May
All commodities — less farm products	208.4	230.1	232.0	235.4	237.5	241.4	245.3	247.0	249.5	255.7	260.5	262.6	264.3	265.4
All foods	206.4	226.4	223.8	225.4	224.7	228.5	226.9	230.0	232.2	231.2	235.7	234.7	231.7	237.4
Processed foods	206.7	227.5	224.7	226.4	224.8	230.8	228.9	231.8	234.2	233.3	238.5	236.8	234.0	239.0
Industrial commodities less fuels	197.2	216.0	217.0	219.0	220.3	222.0	225.9	226.9	228.5	234.7	237.5	236.4	239.9	239.9
Selected textile mill products (Dec. 1975 = 100)	108.8	112.8	113.5	114.0	115.1	115.8	116.4	117.0	117.2	118.9	119.4	121.1	122.1	123.1
Hosiery	106.3	112.5	112.7	114.1	113.0	112.7	113.3	114.6	115.3	119.2	119.6	119.9	120.7	121.5
Underwear and nightwear	158.9	167.7	168.3	168.5	170.8	170.8	171.2	171.6	172.9	175.3	177.8	181.8	182.0	182.8
Chemicals and allied products, including synthetic rubber and manmade fibers and yarns	190.5	207.6	209.5	215.0	218.6	220.9	224.3	226.3	228.7	236.3	238.2	242.1	248.4	251.6
Pharmaceutical preparations	140.6	150.1	151.7	151.7	152.0	153.6	155.6	155.4	156.9	159.2	160.4	161.7	165.9	164.7
Lumber and wood products, excluding millwork and other wood products	288.3	325.1	321.7	325.3	333.9	341.0	337.3	323.3	310.8	308.6	314.0	312.2	284.5	261.7
Special metals and metal products	209.6	232.4	233.7	235.5	234.9	236.4	243.4	244.5	246.3	253.7	255.7	254.8	255.6	253.4
Fabricated metal products	216.2	234.6	235.7	237.4	239.8	241.1	244.0	244.6	245.3	247.2	248.3	251.3	256.0	257.0
Copper and copper products	155.6	199.0	193.0	191.9	197.1	200.5	212.2	213.8	217.1	227.7	258.2	240.9	224.7	212.3
Machinery and motive products	190.4	205.3	206.0	207.7	207.2	208.5	213.4	214.3	215.9	219.7	220.6	222.2	226.1	226.1
Machinery and equipment, except electrical	214.3	231.8	232.6	235.1	236.2	238.2	240.8	242.5	244.8	249.1	250.4	252.9	257.5	259.0
Agricultural machinery, including tractors	216.3	232.1	233.8	235.8	238.4	243.6	246.3	250.8	251.5	256.1	256.0	257.7	259.7	261.7
Metalworking machinery	228.8	254.3	256.8	260.1	261.7	265.6	269.5	272.7	276.0	281.9	284.8	288.1	294.3	296.8
Numerically controlled machine tools (Dec. 1971 = 100)	179.1	195.7	195.8	202.2	204.2	206.5	208.5	208.8	211.2	213.1	215.6	216.8	223.9	227.0
Total tractors	228.7	247.7	248.2	251.2	253.8	256.0	261.2	262.5	266.2	273.0	273.5	274.3	278.4	280.0
Agricultural machinery and equipment less parts	212.7	228.1	229.5	231.4	233.7	238.4	241.0	244.9	245.8	250.0	250.4	252.1	254.2	256.1
Farm and garden tractors less parts	216.1	230.5	231.8	233.9	237.6	244.1	247.6	250.5	251.1	256.0	256.7	258.6	261.0	262.0
Agricultural machinery excluding tractors less parts	216.7	233.6	235.7	237.6	239.2	243.5	245.4	251.3	252.0	256.4	255.6	257.0	259.0	261.7
Industrial valves	232.3	255.0	255.8	257.0	258.2	260.1	261.8	263.1	266.1	271.0	272.2	276.1	283.5	286.6
Industrial fittings	232.7	259.3	260.4	260.8	262.3	264.3	272.6	276.8	276.8	276.8	280.4	282.8	289.9	291.5
Abrasive grinding wheels	208.1	221.6	222.8	222.8	224.6	224.6	239.0	239.0	239.0	239.0	244.0	244.0	258.4	261.3
Construction materials	228.3	250.3	250.3	252.3	254.3	256.6	258.5	256.7	255.4	259.3	262.2	264.6	262.1	261.4

[1] Data for January 1980 have been revised to reflect the availability of late reports and corrections by respondents. All data are subject to revision 4 months after original publication.

29. Producer Price Indexes, by durability of product

[1967 = 100]

Commodity grouping	Annual average 1978	1979								1980				
		May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.[1]	Feb.	Mar.	Apr.	May
Total durable goods	204.9	224.7	225.8	227.6	228.0	230.1	234.6	235.3	237.0	243.8	246.4	246.6	247.2	246.4
Total nondurable goods	211.9	236.9	238.8	243.7	245.8	251.1	253.7	256.2	259.3	263.2	270.0	273.1	274.0	277.3
Total manufactures	204.2	225.0	226.5	229.8	231.7	235.2	239.0	240.6	242.6	248.4	252.7	254.8	256.5	257.8
Durable	204.7	223.8	224.6	226.6	227.2	229.4	234.0	234.6	236.2	242.9	245.0	245.2	246.2	245.9
Nondurable	203.0	225.6	227.8	232.5	235.9	241.0	244.0	246.6	249.0	253.9	260.7	264.7	267.3	270.3
Total raw or slightly processed goods	234.6	268.2	269.7	274.3	272.1	276.9	278.7	281.0	285.9	287.6	295.9	295.6	290.4	292.7
Durable	209.6	262.9	272.8	265.4	259.8	255.7	259.2	265.8	267.8	282.8	305.2	302.5	286.0	262.2
Nondurable	235.6	267.6	268.5	274.0	272.0	277.5	279.2	281.2	286.3	286.9	294.2	294.0	289.7	294.0

[1] Data for January 1980 have been revised to reflect the availability of late reports and corrections by respondents. All data are subject to revision 4 months after original publication.

30. Producer Price Indexes for the output of selected SIC industries

[1967 = 100 unless otherwise specified]

1972 SIC code	Industry description	Annual average 1978	1979								1980				
			May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.[1]	Feb.	Mar.	Apr.	May
	MINING														
1011	Iron ores (12/75 = 100)	121.9	131.9	136.0	136.0	138.8	138.1	140.2	140.2	142.0	142.0	147.3	147.3	152.6	152.6
1092	Mercury ores (12/75 = 100)	126.6	237.5	277.0	270.8	245.8	252.1	275.0	252.1	300.0	308.3	335.4	330.0	337.5	337.5
1211	Bituminous coal and lignite	430.2	451.3	452.5	453.1	454.8	452.9	455.1	455.5	458.9	459.2	458.7	460.7	462.9	464.4
1311	Crude petroleum and natural gas	358.2	427.2	444.1	457.5	476.0	508.4	522.1	533.9	551.3	582.7	587.4	600.6	612.3	620.2
1442	Construction sand and gravel	194.6	216.0	217.0	219.3	220.1	221.0	224.0	224.7	225.6	238.8	242.1	243.8	248.4	249.4
1455	Kaolin and ball clay (6/76 = 100)	111.8	125.4	125.5	125.5	125.5	125.5	126.7	124.2	129.3	136.6	128.5	123.4	136.6	136.6
	MANUFACTURING														
2011	Meat packing plants	216.7	259.2	249.1	243.8	229.3	247.2	238.9	241.5	243.9	240.8	240.1	238.9	225.6	227.4
2013	Sausages and other prepared meats	215.2	227.7	217.1	214.7	203.4	211.7	211.9	213.4	220.0	211.9	207.4	209.1	197.7	194.7
2016	Poultry dressing plants	192.5	203.5	177.8	178.4	169.6	171.2	163.1	168.3	168.5	186.1	178.2	173.5	164.5	164.7
2021	Creamery butter	205.2	225.3	225.3	227.5	237.9	240.6	240.1	241.7	243.1	241.8	242.8	243.4	252.8	253.7

See footnotes at end of table.

30. Continued—Producer Price Indexes for the output of selected SIC industries

[1967=100 unless otherwise specified]

1972 SIC code	Industry description	Annual average 1978	1979								1980				
			May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.[1]	Feb.	Mar.	Apr.	May
	MANUFACTURING—Continued														
2022	Cheese natural and processed (12/72 = 100)	169.6	185.2	185.6	188.3	195.4	200.8	196.8	193.6	193.9	195.4	194.6	197.4	203.8	203.6
2024	Ice cream and frozen desserts (12/72 = 100)	154.8	171.0	171.5	171.5	175.0	176.1	177.5	179.9	180.1	180.9	181.5	185.0	191.4	192.1
2033	Canned fruits and vegetables	193.2	207.2	207.5	209.9	210.5	212.0	212.9	212.2	212.2	213.4	213.5	214.8	216.3	217.4
2034	Dehydrated food products (12/73 = 100)	131.3	182.1	181.0	182.0	180.7	170.0	158.2	156.2	157.3	157.6	159.0	156.4	157.5	156.4
2041	Flour mills (12/71 = 100)	147.0	166.7	174.6	190.9	176.9	183.5	184.2	184.4	184.1	181.7	183.6	182.6	175.9	183.3
2044	Rice milling	207.6	206.8	206.8	206.8	218.7	223.5	227.3	231.8	218.1	217.5	233.0	258.0	260.4	254.5
2048	Prepared foods, n.e.c. (12/75 = 100)	107.3	115.2	118.9	128.1	119.4	120.9	123.6	124.3	125.0	122.0	122.9	121.8	116.8	117.2
2061	Raw cane sugar	190.7	195.6	207.0	209.0	216.8	216.7	224.3	223.3	248.4	260.5	374.9	276.0	320.2	456.1
2063	Beet sugar	188.5	190.7	199.7	202.0	199.4	200.0	204.7	210.6	223.2	224.6	290.6	303.1	295.4	338.0
2067	Chewing gum	218.0	242.2	242.2	242.9	242.9	242.9	242.9	262.3	262.3	262.3	262.3	281.9	281.9	282.0
2074	Cottonseed oil mills	183.1	192.5	210.4	224.5	214.1	217.9	214.9	204.7	205.6	182.4	184.3	170.4	154.8	150.5
2075	Soybean oil mills	225.6	237.7	251.1	262.8	250.0	248.6	244.7	242.4	241.9	235.1	226.2	219.3	212.6	212.5
2077	Animal and marine fats and oils	287.9	363.8	335.3	352.0	321.4	333.8	333.7	315.2	300.7	298.1	282.6	297.3	274.0	263.0
2083	Malt	181.5	190.8	201.4	201.4	201.4	214.9	214.9	228.2	228.2	244.1	244.1	244.1	244.1	244.1
2085	Distilled liquor, except brandy (12/75 = 100)	106.7	113.6	113.6	113.6	115.7	117.1	117.1	118.1	118.1	118.6	118.7	118.7	118.7	118.9
2091	Canned and cured seafoods (12/73 = 100)	136.4	140.9	142.1	148.5	148.2	154.0	154.3	155.6	159.8	160.9	164.0	165.7	170.2	173.2
2092	Fresh or frozen packaged fish	303.8	362.4	397.6	403.7	391.5	389.2	400.1	391.4	388.4	380.7	386.6	392.6	371.5	361.6
2095	Roasted coffee (12/72 = 100)	262.3	231.7	244.2	271.0	279.2	279.2	280.0	287.5	287.5	281.3	273.9	274.0	273.9	273.9
2098	Macaroni and spaghetti	176.0	186.6	188.6	203.5	210.4	210.4	210.4	221.5	227.7	227.7	227.7	227.7	230.5	230.5
2111	Cigarettes	204.6	221.4	221.4	221.5	228.9	229.1	229.2	229.2	234.3	245.8	245.9	245.9	248.1	254.2
2121	Cigars	141.4	145.4	145.3	149.8	150.1	150.1	149.8	150.4	150.4	151.2	151.6	151.8	152.7	152.7
2131	Chewing and smoking tobacco	222.0	245.9	245.9	248.4	248.4	255.8	260.4	260.8	260.8	260.9	265.1	267.3	274.3	274.6
2211	Weaving mills, cotton (12/72 = 100)	181.1	192.7	194.3	196.1	196.5	198.7	201.1	201.6	201.9	204.4	206.5	209.1	210.9	211.6
2221	Weaving mills, synthetic (12/77 = 100)	109.0	113.6	114.1	116.2	116.3	116.2	116.8	117.3	117.2	118.1	117.8	119.6	122.4	121.8
2251	Women's hosiery, except socks (12/75 = 100)	91.5	97.3	97.6	99.6	98.1	97.5	98.2	100.3	100.2	103.3	103.6	103.7	104.4	105.4
2254	Knit underwear mills	164.1	173.1	173.3	172.9	174.0	174.0	174.3	174.6	178.3	182.5	184.5	186.2	186.4	187.1
2257	Circular knit fabric mills (6/76 = 100)	98.5	94.1	95.8	96.1	96.4	96.2	96.9	98.4	98.6	99.3	100.0	103.1	103.6	104.1
2261	Finishing plants, cotton (6/76 = 100)	111.0	120.8	120.9	122.5	123.2	124.0	126.1	126.3	126.6	128.7	129.5	131.7	131.9	133.2
2262	Finishing plants, synthetics, silk (6/76 = 100)	101.4	106.3	107.0	107.5	108.2	108.3	109.3	109.7	109.8	110.3	109.3	110.3	111.3	112.1
2271	Woven carpets and rugs (12/75 = 100)	114.7	116.7	117.1	([2])	([2])	([2])	([2])	([2])	([2])	([2])	([2])	([2])	([2])	([2])
2272	Tufted carpets and rugs	125.3	127.7	128.1	127.6	128.6	129.0	129.8	130.1	130.1	134.7	135.2	137.5	135.9	138.7
2281	Yarn mills, except wool (12/71= 100)	167.4	174.5	175.7	177.5	177.4	179.4	181.2	183.0	183.7	188.0	197.4	199.3	203.8	204.5
2282	Throwing and winding mills (6/76 = 100)	99.2	106.3	107.5	108.5	109.7	111.2	110.4	109.6	109.2	110.1	108.8	111.3	114.8	116.3
2284	Thread mills (6/76 = 100)	114.6	120.4	120.4	120.5	128.1	128.1	128.4	128.4	128.6	128.7	129.2	129.3	133.9	142.2
2298	Cordage and twine (12/77 = 100)	99.3	102.8	105.4	105.4	113.5	115.1	114.9	114.9	114.9	115.0	117.2	118.5	123.6	123.8
2311	Men's and boys' suits and coats	194.3	204.2	204.5	205.8	206.5	206.5	206.6	206.8	206.7	209.0	209.6	209.7	205.7	207.0
2321	Men's and boys' shirts and nightwear	180.8	192.4	193.5	194.7	195.9	196.0	196.1	196.6	196.3	197.7	196.6	197.3	202.9	203.5
2322	Men's and boys' underwear	180.6	188.7	188.7	188.7	190.0	190.0	190.0	190.0	194.0	199.8	202.2	204.0	204.2	204.3
2323	Men's and boys' neckwear (12/75 = 100)	102.3	103.4	103.4	103.4	110.9	110.9	110.9	110.9	110.9	112.4	112.4	112.4	106.3	106.3
2327	Men's and boys' separate trousers	152.7	162.3	162.5	162.5	162.7	162.7	162.9	163.4	163.5	164.2	174.3	174.4	174.8	174.9
2328	Men's and boys' work clothing	195.2	206.5	209.0	208.9	210.7	210.9	213.4	219.1	219.6	225.1	234.1	235.4	240.9	241.7
2331	Women's and misses' blouses and waists (6/78 = 100)	([2])	100.3	100.5	102.6	102.7	102.8	103.0	105.9	106.8	107.1	107.2	107.2	107.6	107.7
2335	Women's and misses' dresses (12/77 = 100)	100.7	105.9	105.9	106.4	108.3	108.3	108.7	108.8	108.8	112.9	113.9	113.9	113.9	113.9
2341	Women's and children's underwear (12/72 = 100)	132.1	143.3	143.3	144.2	145.3	145.3	146.7	147.4	147.7	149.4	150.1	152.4	152.4	153.2
2342	Brassieres and allied garments (12/75 = 100)	111.7	116.2	117.5	117.5	117.8	117.8	117.8	117.8	118.8	119.7	123.0	124.9	125.4	125.4
2361	Children's dresses and blouses (12/77 = 100)	([2])	106.7	102.1	102.4	102.4	103.7	105.7	105.7	105.6	105.3	105.3	106.0	106.0	106.0
2381	Fabric dress and work gloves	214.4	243.9	243.9	245.4	245.4	245.4	245.4	246.9	246.9	257.7	261.7	264.8	267.5	271.1
2394	Canvas and related products (12/77 = 100)	99.6	105.9	106.9	108.4	111.0	111.4	112.3	112.1	120.1	122.1	122.8	123.4	123.4	123.4
2396	Automotive and apparel trimmings (12/77 = 100)	106.3	107.1	114.3	114.3	114.3	114.3	114.3	114.3	114.3	114.3	114.3	122.3	122.3	122.3
2421	Sawmills and planing mills (12/71 = 100)	228.9	251.6	250.9	251.3	259.1	265.6	262.2	250.2	237.9	234.8	239.6	230.1	215.7	209.3
2436	Softwood veneer and plywood (12/75 = 100)	150.1	151.1	140.7	148.1	153.4	156.0	153.1	142.9	138.9	138.5	143.9	139.8	121.4	129.6
2439	Structural wood members, n.e.c. (12/75 = 100)	136.2	150.1	150.0	150.0	149.9	150.8	158.2	158.2	158.2	158.2	158.2	158.3	158.2	152.1
2448	Wood pallets and skids (12/75 = 100)	149.4	166.7	167.0	166.9	166.8	167.9	167.9	171.0	170.5	169.8	167.0	166.3	164.6	162.8
2451	Mobile homes (12/74 = 100)	126.5	137.3	138.0	138.2	139.6	140.7	143.0	144.0	144.1	144.8	146.1	146.7	149.0	150.0
2492	Particleboard (12/75 = 100)	159.7	141.6	137.4	134.3	134.7	138.5	139.5	136.8	134.5	136.9	149.0	158.9	161.9	167.3
2511	Wood household furniture (12/71 = 100)	152.4	164.6	164.0	164.5	164.6	168.0	169.3	172.3	174.5	177.5	177.4	177.6	179.7	180.8
2512	Upholstered household furniture (12/71 = 100)	143.1	149.2	149.4	150.0	150.2	151.6	151.8	153.8	155.7	155.9	156.6	156.6	158.7	158.9
2515	Mattresses and bedsprings	156.3	163.2	164.1	164.5	165.8	165.8	168.9	172.3	172.3	169.9	169.7	169.7	171.5	174.8
2521	Wood office furniture	194.4	214.3	214.2	216.8	216.8	216.8	217.6	217.6	221.9	226.2	233.7	233.8	233.9	233.9
2611	Pulp mills (12/73 = 100)	178.5	195.2	198.8	205.4	205.7	205.8	213.5	213.9	213.9	225.2	227.0	227.4	244.9	246.0
2621	Paper mills, except building (12/74 = 100)	115.7	129.3	129.5	130.2	131.0	131.4	135.1	136.5	136.8	139.0	140.0	142.7	145.1	146.1
2631	Paperboard mills (12/74 = 100)	106.4	118.1	118.5	119.7	121.9	123.4	125.4	126.3	127.6	131.3	132.3	134.1	137.0	141.5
2647	Sanitary paper products	251.4	271.7	271.9	276.4	285.9	285.4	286.3	288.4	290.9	295.8	303.8	311.6	312.2	318.1
2654	Sanitary food containers	170.8	189.1	189.1	189.6	189.6	191.8	195.8	196.2	199.9	202.6	202.6	207.3	212.9	216.7
2655	Fiber cans, drums, and similar products (12/75 = 100)	123.0	132.2	134.0	136.6	136.6	136.6	138.5	138.5	142.3	143.2	143.2	143.3	145.7	147.8
2812	Alkalies and chlorine (12/73 = 100)	198.8	204.9	206.3	209.5	212.2	213.1	214.1	216.7	217.3	220.4	224.9	227.1	234.0	236.6
2821	Plastics materials and resins (6/76 = 100)	103.8	117.7	118.6	124.9	127.8	128.9	132.9	133.8	134.1	138.5	139.3	140.6	145.4	147.0
2822	Synthetic rubber	180.5	200.9	206.6	214.2	223.4	223.8	225.7	228.0	230.4	240.9	243.2	243.8	255.7	256.2
2824	Organic fiber, noncellulosic	107.6	115.9	117.4	118.6	119.8	123.5	123.6	123.2	122.6	124.1	124.8	127.1	128.8	131.9
2873	Nitrogenous fertilizers (12/75 = 100)	96.6	101.9	101.4	102.8	104.1	106.1	108.0	111.7	113.5	114.3	119.4	122.2	123.9	124.4
2874	Phosphatic fertilizers	166.0	185.1	184.2	188.9	199.4	204.3	213.2	221.6	223.4	229.2	233.9	235.7	237.3	236.4
2875	Fertilizers, mixing only	181.9	197.8	197.8	198.1	205.6	211.1	218.3	227.0	227.1	233.2	240.8	243.1	247.9	246.0
2892	Explosives	217.3	239.0	239.3	240.1	240.7	250.3	250.8	251.7	252.5	253.6	255.5	260.5	271.3	272.6
2911	Petroleum refining (6/76 = 100)	119.6	146.6	155.1	165.5	178.6	188.9	196.4	201.0	204.8	213.9	228.7	242.2	250.4	253.0
2951	Paving mixtures and blocks (12/75 = 100)	117.1	130.1	131.2	134.4	134.9	141.6	145.6	145.6	145.7	150.0	157.3	167.8	172.6	172.6
2952	Asphalt felts and coatings (12/75) = 100)	128.2	139.3	141.6	143.6	142.7	145.8	147.6	152.2	151.9	156.1	162.4	169.5	176.5	173.6
3011	Tires and inner tubes (12/73 = 100)	154.0	169.2	170.6	176.8	181.2	184.2	186.9	191.2	191.4	193.0	196.2	198.3	198.8	199.0

30. Continued—Producer Price Indexes for the output of selected SIC industries

[1967=100 unless otherwise specified]

1972 SIC code	Industry description	Annual average 1978	1979								1980				
			May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.[1]	Feb.	Mar.	Apr.	May
3021	Rubber and plastic footwear (12/71 = 100)	150.7	169.5	169.6	171.0	173.4	173.4	173.5	173.5	173.5	173.5	173.8	173.8	173.8	173.8
3031	Reclaimed rubber (12/73 = 100)	154.3	167.6	169.1	169.2	169.2	177.7	178.8	179.2	179.5	179.7	177.9	182.7	183.7	184.3
3079	Miscellaneous plastic products (6/78 = 100)	...	109.0	110.7	111.4	112.3	113.1	114.3	114.6	115.6	116.6	118.8	118.7	120.1	120.3
3111	Leather tanning and finishing (12/77 = 100)	119.1	201.3	195.8	181.8	172.9	155.2	161.9	150.8	153.5	164.3	160.8	146.7	140.8	137.9
3142	House slippers (12/75 = 100)	122.5	138.5	142.0	135.0	135.0	135.0	135.8	135.9	135.9	143.5	146.7	146.7	146.8	146.8
3143	Men's footwear, except athletic (12/75 = 100)	127.1	152.8	155.4	155.4	158.2	160.1	160.4	160.3	160.3	160.3	157.9	158.4	158.4	158.4
3144	Women's footwear, except athletic	164.1	192.2	195.4	198.7	201.5	201.6	202.3	204.0	204.0	205.6	206.4	213.5	213.8	213.8
3171	Women's handbags and purses (12/75 = 100)	111.4	131.7	131.8	131.8	131.8	131.8	131.8	131.8	131.8	131.9	131.9	132.1	132.1	140.8
3211	Flat glass (12/71 = 100)	142.7	150.8	151.8	151.9	151.9	152.3	152.6	153.3	153.9	157.6	157.4	157.9	157.9	157.9
3221	Glass containers	244.3	265.2	265.2	265.2	265.2	265.2	265.2	265.2	274.2	274.3	274.5	274.5	294.5	294.5
3241	Cement, hydraulic	251.2	283.2	283.7	285.4	285.4	285.4	285.4	285.5	286.2	305.7	303.2	303.2	308.8	310.7
3251	Brick and structural clay tile	230.8	258.3	259.7	261.0	263.3	265.9	261.3	261.3	262.7	268.3	270.4	271.9	276.4	278.5
3253	Ceramic wall and floor tile (12/75 = 100)	107.7	113.0	113.0	120.2	120.2	120.2	120.2	120.2	130.3	130.4	130.4	130.4	130.4	117.6
3255	Clay refractories	221.4	234.6	236.9	246.5	246.7	247.1	251.0	252.9	254.0	255.1	260.9	265.3	275.4	277.1
3259	Structural clay products, n.e.c.	176.3	186.8	187.8	188.2	192.1	192.1	192.8	192.3	196.5	196.3	198.6	198.7	200.6	201.6
3261	Vitreous plumbing fixtures	189.7	204.6	206.4	210.1	212.4	213.1	214.5	215.7	217.3	219.2	224.6	226.7	227.5	236.1
3262	Vitreous china food utensils	268.8	290.6	290.6	297.5	297.5	298.0	298.0	305.4	308.2	308.2	307.9	308.2	313.4	313.4
3263	Fine earthenware food utensils	228.1	237.1	236.4	238.8	238.8	246.0	246.0	248.4	294.3	294.3	290.3	294.0	294.8	293.6
3269	Pottery products, n.e.c. (12/75 = 100)	122.2	129.2	129.0	131.0	131.0	133.3	133.3	135.5	150.1	150.1	148.8	150.0	151.3	151.4
3271	Concrete block and brick	202.0	232.6	232.7	232.7	235.7	237.8	240.0	240.0	240.2	249.5	250.6	252.3	258.3	258.4
3273	Ready-mixed concrete	217.6	245.2	247.5	249.6	250.5	252.4	254.0	254.6	257.0	270.8	271.9	274.9	278.9	281.6
3274	Lime (12/75 = 100)	129.5	139.8	140.1	141.8	142.9	144.2	144.6	144.3	144.8	149.5	153.7	155.5	156.7	156.9
3275	Gypsum products	229.5	249.4	251.9	252.3	252.8	255.4	255.9	256.8	255.6	255.9	262.8	268.1	264.6	257.0
3291	Abrasive products (12/71 = 100)	172.3	185.1	185.8	187.7	188.6	190.4	195.1	195.3	196.5	199.4	202.2	203.9	210.1	211.9
3297	Nonclay refractories (12/74 = 100)	133.6	140.5	143.9	148.1	148.1	148.7	150.1	152.3	152.3	152.6	153.3	154.2	157.4	159.7
3312	Blast furnaces and steel mills	262.3	285.3	285.8	292.8	293.0	293.2	296.4	297.1	297.7	302.4	302.9	304.1	311.9	313.2
3313	Electrometallurgical products (12/75 = 100)	94.8	111.7	112.3	115.5	116.5	116.0	116.2	117.5	117.6	117.8	117.8	118.0	118.7	118.5
3316	Cold finishing of steel shapes	241.0	259.8	261.3	270.6	270.8	270.9	271.7	273.4	273.9	274.1	277.2	277.2	285.9	288.1
3317	Steel pipes and tubes	256.2	264.5	264.5	271.9	271.3	271.3	272.7	273.1	273.2	280.5	281.2	283.6	286.9	286.9
3321	Gray iron foundries (12/68 = 100)	233.5	253.3	254.5	253.9	253.8	254.8	267.1	268.6	268.7	273.7	275.4	275.7	278.4	279.0
3333	Primary zinc	223.2	274.5	275.2	281.4	285.5	264.2	265.2	257.8	265.7	266.1	272.4	279.6	274.2	268.2
3334	Primary aluminum	217.4	237.4	238.5	244.9	247.4	248.2	256.0	263.2	266.6	267.0	267.0	267.8	276.0	287.0
3351	Copper rolling and drawing	170.2	215.6	211.7	211.2	213.8	216.7	226.3	222.6	225.0	231.0	253.2	238.7	230.1	222.9
3353	Aluminum sheet plate and foil (12/75 = 100)	137.6	148.7	148.8	149.6	149.8	150.0	150.7	151.3	151.7	153.2	153.5	155.5	158.0	157.6
3354	Aluminum extruded products (12/75 = 100)	134.3	147.5	147.6	150.3	151.9	151.9	155.2	157.4	158.0	158.8	158.9	160.8	167.6	167.7
3355	Aluminum rolling, drawing, n.e.c. (12/75 = 100)	119.7	131.5	131.6	132.7	133.1	133.5	138.9	138.9	140.5	140.7	140.8	141.2	143.8	145.2
3411	Metal cans	238.5	263.8	262.2	262.2	262.9	263.5	273.8	274.6	274.7	276.6	276.6	279.5	295.1	295.2
3425	Hand saws and saw blades (12/72 = 100)	147.9	161.9	162.5	162.8	166.3	166.4	167.1	169.5	169.8	173.1	173.6	175.4	177.8	181.3
3431	Metal sanitary ware	209.1	222.2	224.1	226.4	228.9	229.2	230.1	231.7	232.9	237.8	242.1	243.1	245.5	248.7
3465	Automotive stampings (12/75 = 100)	118.8	127.0	127.1	127.8	130.9	131.6	132.4	132.4	132.4	132.4	132.8	133.0	133.8	134.1
3482	Small arms ammunition (12/75 = 100)	119.5	130.4	131.4	134.0	134.0	134.0	133.2	133.6	143.2	143.2	147.9	147.3	146.3	147.1
3493	Steel springs, except wire	204.6	218.7	220.5	221.6	222.1	222.8	223.7	224.1	225.6	226.1	226.5	228.4	228.9	228.9
3494	Valves and pipe fittings (12/71 = 100)	185.5	203.6	204.2	205.3	206.2	207.5	210.4	212.5	214.3	216.9	218.8	221.3	227.3	229.1
3498	Fabricated pipe and fittings	265.5	288.2	290.7	294.8	294.8	294.9	297.3	297.4	297.4	301.7	301.8	303.5	306.8	306.9
3519	Internal combustion engines, n.e.c.	220.1	239.0	239.2	242.3	245.7	251.8	254.2	254.9	254.9	260.5	260.5	264.2	269.2	270.2
3531	Construction machinery (12/76 = 100)	114.0	123.9	124.0	125.6	126.3	126.5	128.9	129.4	130.9	134.6	135.3	135.8	136.0	136.7
3532	Mining machinery (12/72 = 100)	209.5	228.4	226.4	231.2	231.5	232.7	233.1	235.4	236.4	245.8	244.2	244.8	254.1	256.2
3533	Oilfield machinery and equipment	246.2	288.4	290.0	292.0	293.3	296.8	300.5	302.8	309.1	314.2	315.9	319.0	329.5	332.9
3534	Elevators and moving stairways	204.2	213.6	214.2	215.4	214.6	218.1	219.4	220.6	220.9	225.6	225.4	228.8	232.6	234.1
3542	Machine tools, metal forming types (12/71 = 100)	213.6	238.8	240.6	244.6	245.1	247.9	249.8	253.7	258.7	268.1	259.2	271.2	276.1	275.7
3546	Power driven hand tools (12/76 = 100)	111.1	117.8	118.7	119.2	120.2	120.4	122.0	122.8	124.4	126.3	126.5	127.3	128.6	130.4
3552	Textile machinery (12/69 = 100)	179.9	191.7	192.6	195.0	197.5	198.2	199.3	200.6	200.6	202.6	205.2	207.0	212.5	213.0
3553	Woodworking machinery (12/72 = 100)	168.1	183.2	184.5	185.9	187.7	190.0	192.6	192.7	192.9	201.2	202.0	205.5	212.7	212.5
3576	Scales and balances, excluding laboratory	179.7	192.8	193.7	194.8	195.4	195.4	195.7	199.5	201.0	204.2	201.9	204.1	205.1	208.2
3592	Carburetors, pistons, rings, valves (6/76 = 100)	128.2	138.6	138.7	139.2	139.6	140.7	142.8	145.1	145.3	147.5	147.6	148.5	152.5	152.8
3612	Transformers	158.3	168.0	168.5	167.9	167.6	168.4	171.2	170.4	171.6	172.9	176.1	177.4	180.0	181.7
3623	Welding apparatus, electric (12/72 = 100)	178.1	191.5	191.9	193.5	194.1	195.1	196.9	198.6	200.3	201.3	202.6	206.3	207.3	209.8
3631	Household cooking equipment (12/75 = 100)	114.8	120.7	120.9	122.0	123.4	124.3	124.4	125.9	126.3	128.7	129.1	129.3	129.6	132.5
3632	Household refrigerators, freezers (6/76 = 100)	109.6	111.9	112.6	113.6	114.3	115.1	115.1	115.7	116.3	117.0	118.0	118.2	119.0	119.0
3633	Household laundry equipment (12/73 = 100)	141.0	147.0	147.2	148.8	149.9	150.6	150.9	152.3	153.5	154.0	156.5	158.2	159.0	159.7
3635	Household vacuum cleaners	135.5	141.2	141.5	141.6	141.7	141.9	144.5	144.7	145.8	146.1	149.6	149.9	150.2	149.2
3636	Sewing machines (12/75 = 100)	111.2	121.1	121.1	121.8	122.2	122.2	122.6	122.6	122.6	122.6	128.6	128.6	128.6	128.6
3641	Electric lamps	214.7	229.8	229.7	240.8	244.3	242.7	244.8	238.7	240.8	249.5	252.2	251.8	252.4	252.3
3644	Noncurrent-carrying wiring devices (12/72 = 100)	185.8	202.6	203.0	203.3	207.7	209.1	210.5	211.9	215.0	212.9	217.5	217.5	219.7	220.3
3646	Commercial lighting fixtures (12/75 = 100)	112.7	126.8	127.4	127.9	127.9	130.5	131.4	131.6	131.9	132.4	134.8	136.6	138.4	138.9
3648	Lighting equipment, n.e.c. (12/75 = 100)	114.6	124.0	124.6	127.6	128.2	128.5	129.6	129.8	130.5	133.0	133.2	134.5	138.6	139.4
3671	Electron tubes receiving type	200.9	211.3	226.4	226.5	226.6	227.2	227.2	227.4	227.7	229.1	229.4	229.5	253.9	254.3
3674	Semiconductors and related devices	85.3	84.7	84.7	84.2	84.3	84.7	85.1	85.6	86.4	86.8	88.0	88.9	90.7	90.7
3675	Electronic capacitors (12/75 = 100)	111.5	120.1	122.1	128.7	129.3	134.1	133.9	135.8	138.0	147.7	149.1	149.0	155.6	158.4
3676	Electronic resistors (12/75 = 100)	118.3	123.2	123.2	124.0	124.6	125.2	126.6	126.7	127.3	127.4	128.8	131.8	131.9	132.8
3678	Electronic connectors (12/75 = 100)	118.9	128.6	128.9	133.4	134.1	137.6	138.9	140.7	142.1	145.1	144.9	146.1	147.3	146.8
3692	Primary batteries, dry and wet	162.0	172.1	172.7	172.8	172.8	172.8	173.1	173.1	174.1	174.2	176.5	176.6	176.8	178.4
3711	Motor vehicles and car bodies (12/75 = 100)	115.9	124.6	124.8	125.1	122.1	122.5	130.2	130.1	130.4	132.7	131.4	131.6	136.0	133.2
3942	Dolls (12/75 = 100)	103.2	109.3	109.3	111.8	112.6	112.6	112.9	112.9	113.0	122.7	123.7	129.9	126.0	126.7
3944	Games, toys, and children's vehicles	172.3	182.3	183.1	183.5	184.4	185.1	196.2	196.3	196.6	196.7	202.0	202.0	202.6	203.5
3955	Carbon paper and inked ribbons (12/75 = 100)	105.1	120.2	116.7	117.1	118.3	118.7	123.1	125.2	125.2	126.2	128.1	128.3	131.5	133.3
3995	Burial caskets (6/76 = 100)	113.0	121.7	121.7	123.9	123.8	124.8	123.1	124.8	124.8	128.3	128.3	128.3	128.1	130.0
3996	Hard surface floor coverings (12/75 = 100)	116.3	123.7	124.5	128.3	128.3	128.3	131.0	134.1	134.1	136.6	136.7	136.7	143.2	143.3

[1] Data for January 1980 have been revised to reflect the availability of late reports and corrections by respondents. All data are subject to revision 4 months after original publication.

[2] Not available.

PRODUCTIVITY DATA

PRODUCTIVITY DATA are compiled by the Bureau of Labor Statistics from establishment data and from estimates of compensation and output supplied by the U.S. Department of Commerce and the Federal Reserve Board.

Definitions

Output is the constant dollar gross domestic product produced in a given period. Indexes of **output per hour of labor input,** or labor productivity, measure the value of goods and services produced per hour of labor. **Compensation per hour** includes wages and salaries of employees plus employers' contributions for social insurance and private benefit plans. The data also include an estimate of wages, salaries, and supplementary payments for the self-employed, except for nonfinancial corporations, in which there are no self-employed. **Real compensation per hour** is compensation per hour adjusted by the Consumer Price Index for All Urban Consumers.

Unit labor cost measures the labor compensation cost required to produce one unit of output and is derived by dividing compensation by output. **Unit nonlabor payments** include profits, depreciation, interest, and indirect taxes per unit of output. They are computed by subtracting compensation of all persons from the current dollar gross domestic product and dividing by output. In these tables, **Unit nonlabor costs** contain all the components of unit nonlabor payments except unit profits. **Unit profits** include corporate profits and inventory valuation adjustments per unit of output.

The **implicit price deflator** is derived by dividing the current dollar estimate of gross product by the constant dollar estimate, making the deflator, in effect, a price index for gross product of the sector reported.

The use of the term "man-hours" to identify the labor component of productivity and costs, in tables 31 through 34, has been discontinued. **Hours of all persons** is now used to describe the labor input of payroll workers, self-employed persons, and unpaid family workers. **Output per all-employee hour** is now used to describe labor productivity in nonfinancial corporations where there are no self-employed.

Notes on the data

In the private business sector and the nonfarm business sector, the basis for the output measure employed in the computation of output per hour is Gross Domestic Product rather than Gross National Product. Computation of hours includes estimates of nonfarm and farm proprietor hours.

Output data are supplied by the Bureau of Economic Analysis, U.S. Department of Commerce, and the Federal Reserve Board. Quarterly manufacturing output indexes are adjusted by the Bureau of Labor Statistics to annual estimates of output (gross product originating) from the Bureau of Economic Analysis. Compensation and hours data are from the Bureau of Economic Analysis and the Bureau of Labor Statistics.

Beginning with the September 1976 issue of the *Review,* tables 31–34 were revised to reflect changeover to the new series—private business sector and nonfarm business sector—which differ from the previously published total private economy and nonfarm sector in that output imputed for owner-occupied dwellings and the household and institutions sectors, as well as the statistical discrepancy, are omitted. For a detailed explanation, see J. R. Norsworthy and L. J. Fulco, "New sector definitions for productivity series," *Monthly Labor Review,* October 1976, pages 40–42.

31. Indexes of productivity and related data, selected years, 1950–79

[1967=100]

Item	1950	1955	1960	1965	1970	1972	1973	1974	1975	1976	1977	1978	1979
Private business sector:													
Output per hour of all persons	61.2	70.6	79.0	95.1	104.4	111.5	113.6	110.2	112.6	116.6	118.7	119.3	118.3
Compensation per hour	42.6	56.1	72.2	88.7	123.3	139.8	151.3	166.2	181.7	197.6	213.3	231.5	253.2
Real compensation per hour	59.2	69.9	81.4	93.9	106.0	111.6	113.6	111.8	112.7	115.9	117.5	118.5	116.4
Unit labor cost	69.6	79.4	91.4	93.3	118.2	125.4	133.2	149.8	161.3	169.5	179.7	194.0	214.0
Unit nonlabor payments	73.1	80.4	85.4	95.9	106.8	118.9	124.9	130.3	150.3	157.9	166.5	174.3	184.4
Implicit price deflator	70.8	79.8	89.3	94.2	113.9	123.2	130.3	143.1	157.5	166.5	174.8	187.2	203.6
Nonfarm business sector:													
Output per hour of all persons	67.2	74.6	81.2	96.0	103.2	110.1	112.0	108.6	110.7	114.6	116.4	117.0	115.7
Compensation per hour	45.6	59.0	74.5	89.4	121.9	138.4	149.2	163.0	179.3	194.2	209.6	227.6	246.0
Real compensation per hour	63.3	73.6	84.1	94.6	104.8	110.5	112.1	110.4	111.2	113.9	115.5	116.5	114.1
Unit labor cost	68.0	79.1	91.7	93.2	118.1	125.7	133.2	150.1	161.9	169.5	180.1	194.6	214.4
Unit nonlabor payments	71.4	80.1	84.4	95.8	106.0	117.4	117.8	124.7	145.9	156.0	163.8	169.9	178.6
Implicit price deflator	69.1	79.4	89.2	94.1	114.0	122.9	127.9	141.4	156.4	164.8	174.5	186.1	202.1
Nonfinancial corporations:													
Output per hour of all employees	([1])	([1])	80.6	96.9	103.7	110.6	112.9	108.7	112.2	115.8	117.0	118.1	117.7
Compensation per hour	([1])	([1])	76.0	90.1	121.8	136.7	147.6	161.7	177.9	192.7	208.0	225.2	245.2
Real compensation per hour	([1])	([1])	85.7	95.3	104.7	109.1	110.9	109.5	110.4	113.0	114.6	115.3	112.8
Unit labor cost	([1])	([1])	94.3	93.0	117.4	123.7	130.7	148.8	158.6	166.4	177.7	190.6	208.4
Unit nonlabor payments	([1])	([1])	90.8	100.1	100.5	114.8	116.8	124.8	148.1	156.8	164.4	170.6	179.5
Implicit price deflator	([1])	([1])	93.1	95.5	112.5	120.5	125.8	140.2	154.9	163.0	173.0	183.5	198.1
Manufacturing:													
Output per hour of all persons	65.8	75.0	79.8	98.4	105.0	115.7	118.9	113.0	118.8	124.0	127.7	129.3	[1]129.5
Compensation per hour	45.6	61.2	78.0	91.1	122.3	138.6	146.5	161.7	181.1	196.1	212.7	230.2	251.3
Real compensation per hour	63.3	76.3	89.0	96.4	105.1	109.0	110.1	109.5	112.3	115.0	117.2	117.8	115.6
Unit labor cost	69.4	81.6	97.7	92.6	116.5	118.1	123.2	143.1	152.4	158.2	166.6	178.4	194.1
Unit nonlabor payments	82.3	88.6	92.3	103.3	98.2	107.4	108.4	106.6	128.4	138.6	147.4	152.4	([1])
Implicit price deflator	73.3	83.8	96.1	95.9	110.3	114.8	118.0	131.6	145.1	152.5	160.7	171.1	([1])

[1] Not available.

32. Annual percent change in productivity and related data, 1969–79

Item	Year											Annual rate of change	
	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1950-79	1960-79
Private business sector:													
Output per hour of all persons	0.2	0.7	3.3	3.4	1.9	−3.0	2.1	3.5	1.8	0.5	−0.9	2.5	2.1
Compensation per hour	6.9	7.2	6.7	6.2	8.2	9.2	10.0	8.8	8.0	8.5	9.3	5.9	6.9
Real compensation per hour	1.4	1.2	2.3	2.8	1.9	−1.6	.8	2.8	1.4	0.8	−1.7	2.5	2.0
Unit labor cost	6.6	6.4	3.3	2.8	6.2	12.5	7.7	5.0	6.0	8.0	10.3	3.3	4.7
Unit nonlabor payments	1.0	1.2	6.8	5.3	5.0	4.4	15.3	5.1	4.8	5.3	5.8	3.0	4.2
Implicit price deflator	4.7	4.7	4.4	3.6	5.8	9.8	10.1	5.0	5.6	7.1	8.9	3.2	4.5
Nonfarm business sector:													
Output per hour of all persons	−.2	.2	3.0	3.6	1.7	−3.1	2.0	3.5	1.5	.5	−1.1	2.1	1.9
Compensation per hour	6.4	6.8	6.7	6.4	7.8	9.2	10.0	8.3	7.9	8.6	[r]8.9	5.6	6.7
Real compensation per hour	1.0	.8	2.3	3.0	1.5	−1.6	.8	2.4	1.4	.9	−2.1	2.2	1.7
Unit labor cost	6.7	6.5	3.5	2.7	6.0	12.7	7.9	4.7	6.3	8.0	10.2	3.4	4.7
Unit nonlabor payments	.4	1.6	6.7	3.8	.3	5.9	17.0	6.9	5.0	3.7	5.1	2.9	4.0
Implicit price deflator	4.5	4.9	4.5	3.1	4.1	10.5	10.6	5.4	5.9	6.6	8.6	3.3	4.5
Nonfinancial corporations:													
Output per hour of all employees	.4	−.0	3.3	[r]3.1	2.1	−3.7	3.2	3.2	1.1	1.0	−.4	(1)	1.9
Compensation per hour	6.8	6.8	6.2	5.7	7.9	9.6	10.0	8.3	7.9	8.3	8.9	(1)	6.5
Real compensation per hour	1.3	.8	1.8	2.4	1.6	−1.3	.8	2.4	1.4	.6	−2.1	(1)	1.6
Unit labor cost	6.3	6.8	2.7	2.5	5.7	13.8	6.6	4.9	6.8	7.3	9.3	(1)	4.5
Unit nonlabor payments	0	.5	7.3	3.3	−1.8	6.8	18.7	5.8	4.9	3.8	5.2	(1)	3.6
Implicit price deflator	4.1	4.6	4.2	2.8	4.4	11.5	10.5	5.2	6.1	6.1	7.9	(1)	4.2
Manufacturing:													
Output per hour of all persons	1.3	−.1	5.2	4.8	2.8	−5.0	5.1	4.4	3.0	.5	[r]0.9	[r]2.5	2.5
Compensation per hour	6.6	7.1	6.2	5.2	7.2	10.4	12.0	8.3	8.5	8.2	9.2	5.5	6.5
Real compensation per hour	1.2	1.1	1.9	1.8	.9	−.5	2.6	2.4	1.9	.5	−1.9	2.1	1.6
Unit labor cost	5.2	7.2	.9	.4	4.3	16.1	6.6	3.8	5.3	7.7	[r]8.2	2.9	[r]3.9
Unit nonlabor payments	−4.4	−3.2	9.2	2.3	−1.0	−.7	21.6	8.8	5.5	3.4	(1)	[r]2.5	[r]2.5
Implicit price deflator	2.3	4.2	3.1	1.0	2.8	11.5	10.2	5.1	5.4	6.5	(1)	2.6	[r]3.5

[1] Not available.

33. Indexes of productivity, hourly compensation, unit costs, and prices, seasonally adjusted

[1967 = 100]

Item	Annual average		Quarterly indexes									
			1977		1978				1979				1980
	1978	1979	III	IV	I	II	III	IV	I	II	III	IV	I
Private business sector:													
Output per hour of all persons	119.3	118.3	119.6	119.0	118.5	119.1	119.8	119.9	119.0	118.4	118.0	117.9	[r]117.6
Compensation per hour	231.5	253.2	215.6	218.8	224.5	228.8	233.9	238.7	245.1	250.6	256.0	260.6	[r]267.6
Real compensation per hour	118.5	116.4	117.8	117.9	118.8	118.3	118.3	118.1	118.0	.7.1	115.9	114.3	[r]112.9
Unit labor cost	194.0	214.0	180.2	183.9	189.4	192.1	195.2	199.0	205.9	211.7	217.0	221.1	[r]227.5
Unit nonlabor payments	174.3	184.4	167.9	168.5	164.8	173.9	177.0	181.2	180.8	183.6	185.5	186.2	[r]189.8
Implicit price deflator	187.2	203.8	176.0	178.6	180.9	185.8	188.9	192.9	197.2	202.0	206.1	209.7	[r]214.5
Nonfarm business sector:													
Output per hour of all persons	117.0	115.7	116.9	116.4	116.1	116.7	117.5	117.7	116.8	115.5	115.1	115.4	[r]114.9
Compensation per hour	227.6	248.0	211.5	215.1	220.9	225.0	229.8	234.7	240.5	245.1	250.2	255.9	[r]262.2
Real compensation per hour	116.5	114.1	115.6	115.9	116.9	116.3	116.2	116.1	115.8	114.6	113.3	112.3	[r]110.6
Unit labor cost	194.6	214.4	181.0	184.8	190.2	192.8	195.6	199.4	206.0	212.2	217.3	221.8	[r]228.1
Unit nonlabor payments	169.9	178.6	167.1	165.9	161.1	169.1	173.0	176.0	174.3	177.6	180.4	182.5	[r]185.5
Implicit price deflator	186.1	202.1	176.2	178.3	180.2	184.7	187.8	191.4	195.1	200.3	204.7	208.4	[r]213.5
Nonfinancial corporations:													
Output per hour of all employees	118.1	117.7	117.7	116.9	116.9	118.1	118.7	119.0	118.4	117.5	117.4	117.3	[p]117.1
Compensation per hour	225.2	245.2	209.9	213.2	218.9	222.8	227.3	231.7	237.9	242.5	247.6	252.6	[p]258.9
Real compensation per hour	115.3	112.8	114.7	114.9	115.8	115.2	115.0	114.6	114.6	113.3	112.1	110.8	[p]109.2
Total unit costs	193.3	210.4	182.4	186.3	190.8	191.6	194.0	196.8	202.3	208.0	213.2	218.0	[p]224.6
Unit labor cost	190.6	208.4	178.4	182.3	187.3	188.7	191.5	194.8	201.0	206.4	210.8	215.3	[p]221.1
Unit nonlabor costs	201.8	216.6	194.8	198.7	201.5	200.8	201.6	203.1	206.5	213.2	220.5	226.1	[p]235.4
Unit profits	127.2	127.8	130.9	122.2	107.1	129.2	132.7	138.7	130.3	129.2	127.5	124.0	[p]118.6
Implicit price deflator	183.5	199.1	174.7	176.8	178.3	182.3	184.9	188.2	191.6	196.3	200.4	204.0	[p]208.8
Manufacturing:													
Output per hour for all persons	128.3	[r]129.5	128.9	128.3	126.3	127.8	129.5	129.9	128.7	[r]129.2	130.1	[r]129.6	[r]128.9
Compensation per hour	230.2	251.3	214.8	218.3	223.8	227.3	232.0	237.2	243.2	248.9	253.7	259.0	265.1
Real compensation per hour	117.8	115.6	117.4	117.6	118.4	117.5	117.4	117.3	117.1	116.3	114.9	113.6	111.8
Unit labor cost	179.4	[r]194.1	166.7	[r]170.1	[r]177.2	177.9	179.1	[r]182.7	[r]189.0	192.6	195.0	199.8	[r]205.8

34. Percent change from preceding quarter and year in productivity, hourly compensation, unit costs, and prices, seasonally adjusted at annual rate

[1967=100]

Item	Quarterly percent change at annual rate						Percent change from same quarter a year ago					
	III 1978 to IV 1978	IV 1978 to I 1979	I 1979 to II 1979	II 1979 to III 1979	III 1979 to IV 1979	IV 1979 to I 1980p	IV 1977 to IV 1978	I 1978 to I 1979	II 1978 to II 1979	III 1978 to III 1979	IV 1978 to IV 1979	I 1979 to I 1980p
Private business sector:												
Output per hour of all persons	0.3	−3.0	−2.2	−1.4	−0.3	r−0.7	0.8	0.4	−0.6	−1.6	−1.7	r−1.2
Compensation per hour	8.5	11.1	9.3	8.8	7.4	r11.2	9.1	9.2	9.5	9.4	r9.3	r9.2
Real compensation per hour	−.9	−.1	−3.1	−4.0	−5.4	r−4.9	.1	−.6	−1.0	−2.0	−3.2	r−4.4
Unit labor cost	8.1	14.6	11.8	10.3	7.8	r12.0	8.3	8.7	10.2	11.2	11.1	r10.5
Unit nonlabor payments	9.9	−1.0	r6.6	4.2	r6.0	r3.4	7.5	9.7	5.6	4.8	3.9	r5.0
Implicit price deflator	8.7	9.3	10.1	8.3	7.2	r9.3	8.0	9.0	8.7	9.1	8.7	r8.7
Nonfarm business sector:												
Output per hour of all persons	.8	−3.2	−4.1	−1.4	.7	r−1.4	1.1	.5	−1.0	−2.0	−2.0	r−1.5
Compensation per hour	8.8	10.4	7.9	8.5	9.4	r10.2	9.1	8.9	9.0	8.9	9.0	r9.0
Real compensation per hour	−.6	−.7	−4.4	−4.3	−3.7	r−5.8	.1	−.9	−1.5	−2.5	−3.3	r−4.5
Unit labor cost	8.0	14.0	12.5	10.1	8.6	r11.8	7.9	8.3	10.1	11.1	11.3	r10.7
Unit nonlabor payments	7.3	−3.9	7.8	6.6	4.6	r16.8	6.1	8.2	5.0	4.3	3.7	r6.5
Implicit price deflator	7.8	8.1	11.0	9.0	7.4	r10.3	7.3	8.3	8.5	9.0	8.9	r9.4
Nonfinancial corporations:												
Output per hour of all employees	1.1	−2.1	−2.9	−0.2	−0.5	p0.7	1.8	1.3	−.5	−1.0	−1.4	p−1.1
Compensation per hour	8.1	11.0	8.0	8.6	8.3	p10.4	8.7	8.7	8.9	8.9	9.0	p8.8
Real compensation per hour	−1.3	−.1	−4.3	−4.3	−4.6	p9.8	−.2	−1.1	−1.6	−2.5	−3.3	p−4.7
Total unit costs	5.9	11.7	11.8	10.2	9.3	p12.7	5.6	6.1	8.6	9.9	10.8	p11.0
Unit labor costs	6.9	13.4	11.2	8.8	8.9	p11.1	6.8	7.3	9.4	10.1	10.6	p10.0
Unit nonlabor costs	2.9	6.8	13.5	14.6	10.6	p17.3	2.2	2.5	6.2	9.4	11.3	p14.0
Unit profits	19.5	−22.1	−3.4	−5.3	10.4	p−16.3	13.6	21.7	0	−3.9	−10.6	p−9.0
Implicit price deflator	7.3	7.6	10.2	8.6	7.3	p9.8	6.4	7.5	7.7	8.4	8.4	p9.0
Manufacturing:												
Output per our of all persons	r1.0	r−3.6	r1.8	2.7	−1.5	r−2.3	r1.2	r1.9	r1.2	r0.4	r0.2	r0.1
Compensation per hour	9.3	10.4	9.8	8.0	8.6	9.8	8.7	8.6	9.5	9.3	9.2	9.0
Real compensation per hour	r−.2	r−.7	−2.7	−4.8	−4.4	−6.1	−.3	−1.1	−1.1	−2.1	−3.2	−4.5
Unit labor cost	r8.2	r14.5	7.9	5.2	10.3	r12.4	r7.4	r6.6	8.2	8.9	r9.4	r8.9

LABOR-MANAGEMENT DATA

MAJOR COLLECTIVE BARGAINING DATA are obtained from contracts on file at the Bureau of Labor Statistics, direct contact with the parties, and from secondary sources. Additional detail is published in *Current Wage Developments*, a monthly periodical of the Bureau. Data on work stoppages are based on confidential responses to questionnaires mailed by the Bureau of Labor Statistics to parties involved in work stoppages. Stoppages initially come to the attention of the Bureau from reports of Federal and State mediation agencies, newspapers, and union and industry publications.

Definitions

Data on wage changes apply to private nonfarm industry agreements covering 1,000 workers or more. Data on wage and benefit changes *combined* apply only to those agreements covering 5,000 workers or more. **First-year wage settlements** refer to pay changes going into effect within the first 12 months after the effective date of the agreement. **Changes over the life of the agreement** refer to total agreed upon settlements (exclusive of potential cost-of-living escalator adjustments) expressed at an average annual rate. **Wage-rate changes** are expressed as a percent of straight-time hourly earnings, while **wage and benefit changes** are expressed as a percent of total compensation.

Effective wage-rate adjustments going into effect in major bargaining units measure changes actually placed into effect during the reference period, whether the result of a newly negotiated increase, a deferred increase negotiated in an earlier year, or as a result of a cost-of-living escalator adjustment. Average adjustments are affected by workers receiving no adjustment, as well as by those receiving increases or decreases.

Work stoppages include all known strikes or lockouts involving six workers or more and lasting a full shift or longer. Data cover all workers idle one shift or more in establishments directly involved in a stoppage. They do not measure the indirect or secondary effect on other establishments whose employees are idle owing to material or service shortages.

35. Wage and benefit settlements in major collective bargaining units, 1975 to date

[In percent]

Sector and measure	Annual average					Quarterly average						
	1975	1976	1977	1978	1979	1978		1979				1980 p
						III	IV	I	II	III	IV	I
Wage and benefit settlements, all industries:												
First-year settlements	11.4	8.5	9.6	8.3	9.0	7.2	8.1	2.8	10.5	9.0	8.5	8.6
Annual rate over life of contract	8.1	6.6	6.2	6.3	6.6	5.8	5.2	5.3	7.8	8.1	6.0	6.4
Wage rate settlements, all industries:												
First-year settlements	10.2	8.4	7.8	7.6	7.4	7.5	7.4	5.7	8.9	6.8	6.3	7.8
Annual rate over life of contract	7.8	6.4	5.8	6.4	6.0	6.4	5.9	6.6	7.2	5.1	5.3	6.3
Manufacturing:												
First-year settlements	9.8	8.9	8.4	8.3	6.9	8.4	9.5	8.7	9.7	6.3	5.6	7.0
Annual rate over life of contract	8.0	6.0	5.5	6.6	5.4	7.2	7.4	7.7	8.1	4.7	4.2	5.0
Nonmanufacturing (excluding construction):												
First-year settlements	11.9	8.6	8.0	8.0	7.6	7.4	6.4	3.2	8.5	9.4	7.8	9.1
Annual rate over life of contract	8.0	7.2	5.9	6.5	6.2	5.9	5.1	5.6	5.8	6.5	7.4	7.1
Construction:												
First-year settlements	8.0	6.1	6.3	6.5	8.8	7.0	8.4	9.7	8.7	9.7	7.5	9.6
Annual rate over life of contract	7.5	6.2	6.3	6.2	8.3	7.2	7.1	8.2	8.3	8.5	7.6	9.3

36. Effective wage adjustments going into effect in major collective bargaining units, 1975 to date

[In percent]

Sector and measure	Average annual changes					Average quarterly changes								
	1975	1976	1977	1978	1979	1978				1979				1980 p
						I	II	III	IV	I	II	III	IV	I
Total effective wage rate adjustment, all industries	8.7	8.1	8.0	8.2	9.1	1.3	2.6	2.7	1.4	1.4	2.6	3.3	1.6	1.3
Change resulting from:														
Current settlement	2.8	3.2	3.0	2.0	3.0	.5	.4	.5	.4	.2	1.1	1.0	.5	.3
Prior settlement	3.7	3.2	3.2	3.7	3.0	.6	1.4	1.2	.5	.6	1.0	1.0	.4	.5
Escalator provision	2.2	1.6	1.7	2.4	3.1	.3	.6	1.0	.5	.6	.5	1.2	.7	.6
Manufacturing	8.5	8.5	8.4	8.6	9.6	1.4	2.2	2.9	1.9	1.5	2.3	3.2	2.4	1.6
Nonmanufacturing	8.9	7.7	7.6	7.9	8.0	1.3	2.9	2.5	1.1	1.4	2.8	3.4	1.0	1.1

NOTE: Because of rounding and compounding, the sums of individual items may not equal totals.

37. Work stoppages, 1947 to date

Month and year	Number of stoppages		Workers involved		Days idle	
	Beginning in month or year	In effect during month	Beginning in month or year (thousands)	In effect during month (thousands)	Number (thousands)	Percent of estimated working time
1947	3,693	....	2,170	....	34,600	.30
1948	3,419	....	1,960	....	34,100	.28
1949	3,606	....	3,030	....	50,500	.44
1950	4,843	....	2,410	....	38,800	.33
1951	4,737	....	2,220	....	22,900	.18
1952	5,117	....	3,540	....	59,100	.48
1953	5,091	....	2,400	....	28,300	.22
1954	3,468	....	1,530	....	22,600	.18
1955	4,320	....	2,650	....	28,200	.22
1956	3,825	....	1,900	....	33,100	.24
1957	3,673	....	1,390	....	16,500	.12
1958	3,694	....	2,060	....	23,900	.18
1959	3,708	....	1,880	....	69,000	.50
1960	3,333	....	1,320	....	19,100	.14
1961	3,367	....	1,450	....	16,300	.11
1962	3,614	....	1,230		18,600	.13
1963	3,362	....	941	....	16,100	.11
1964	3,655	....	1,640	....	22,900	.15
1965	3,963	....	1,550	....	23,300	.15
1966	4,405	....	1,960	....	25,400	.15
1967	4,595	....	2,870	....	42,100	.25
1968	5,045	....	2,649	....	49,018	.28
1969	5,700	....	2,481	....	42,869	.24
1970	5,716	....	3,305		66,414	.37
1971	5,138	....	3,280	....	47,589	.26
1972	5,010	....	1,714	....	27,066	.15
1973	5,353	....	2,251	....	27,948	.14
1974	6,074	....	2,778	....	47,991	.24
1975	5,031	....	1,746	....	31,237	.16
1976	5,648	....	2,420	....	37,859	.19
1977	5,506	....	2,040	....	35,822	.17
1978	4,230	....	1,623	....	36,922	.17
1979: April	512	....	426	....	5,126	.27
May	556	....	132	....	3,682	.19
June	536	....	137	....	2,980	.16
July	471	....	168	....	3,001	.16
August	463	....	119	....	3,152	.15
September	464	....	135	....	2,319	.13
October	443	....	230	....	2,969	.15
November	257	....	91	....	2,720	.15
December	134	....	42	....	1,976	.11
1980: January[p]	352	441	207	292	3,142	.16
February[p]	354	590	114	332	3,025	.17
March[p]	396	631	123	310	2,706	.14
April	425	663	116	231	2,786	.14

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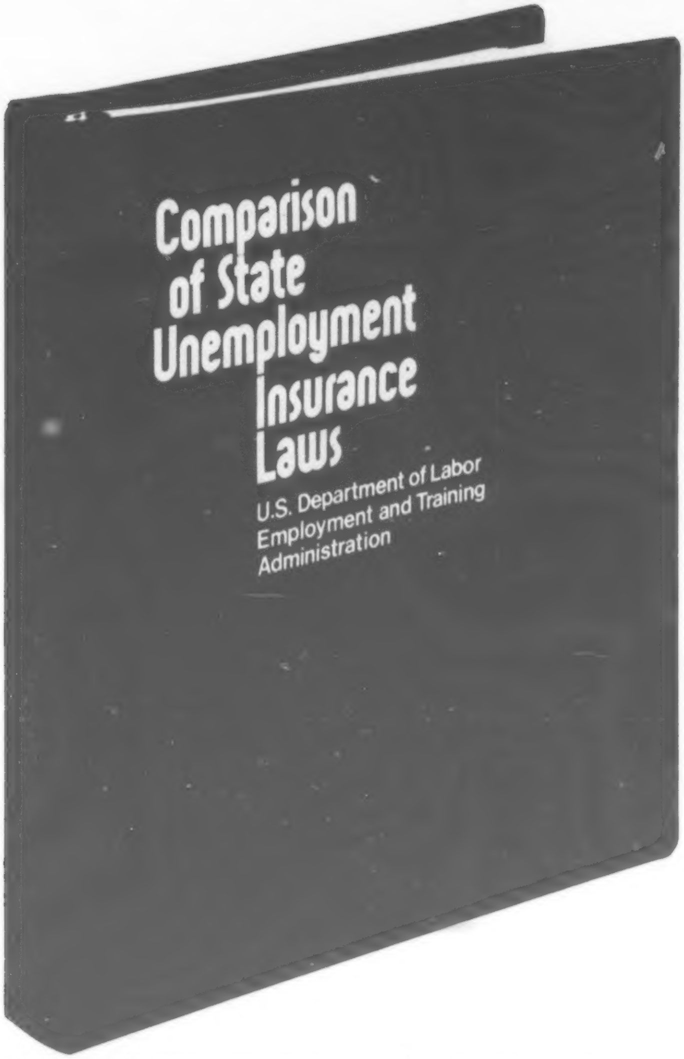
Comparison of State Unemployment Insurance Laws
U.S. Department of Labor
Employment and Training Administration

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- Includes rules, regulations, opinions of attorneys general, or court decisions that implement State Statutes, with notes indicating their source.
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- Compares the laws of four States which provide benefits for unemployment due to nonoccupational disability.
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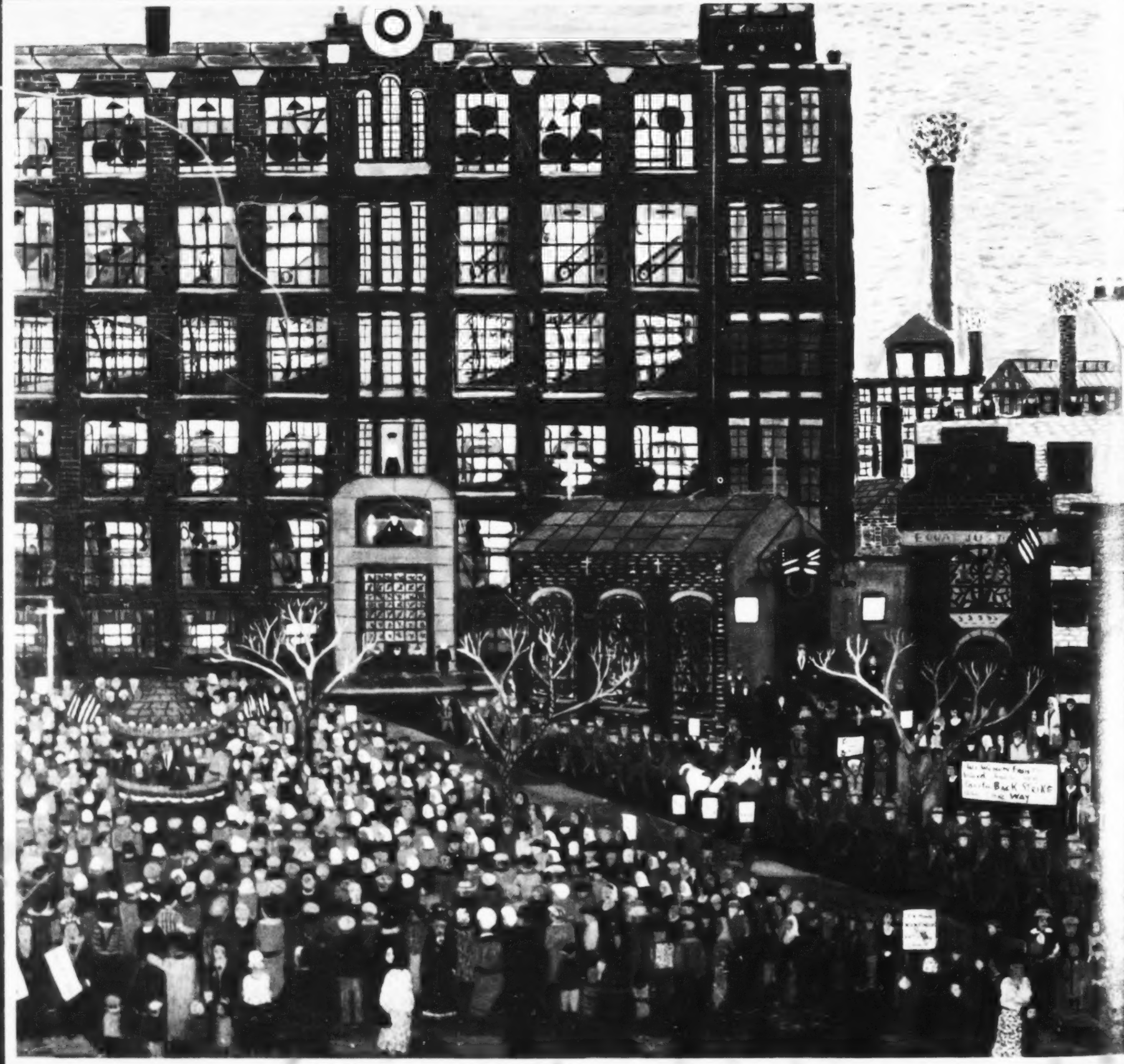

MONTHLY LABOR REVIEW

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Bureau of Labor Statistics
August 1980

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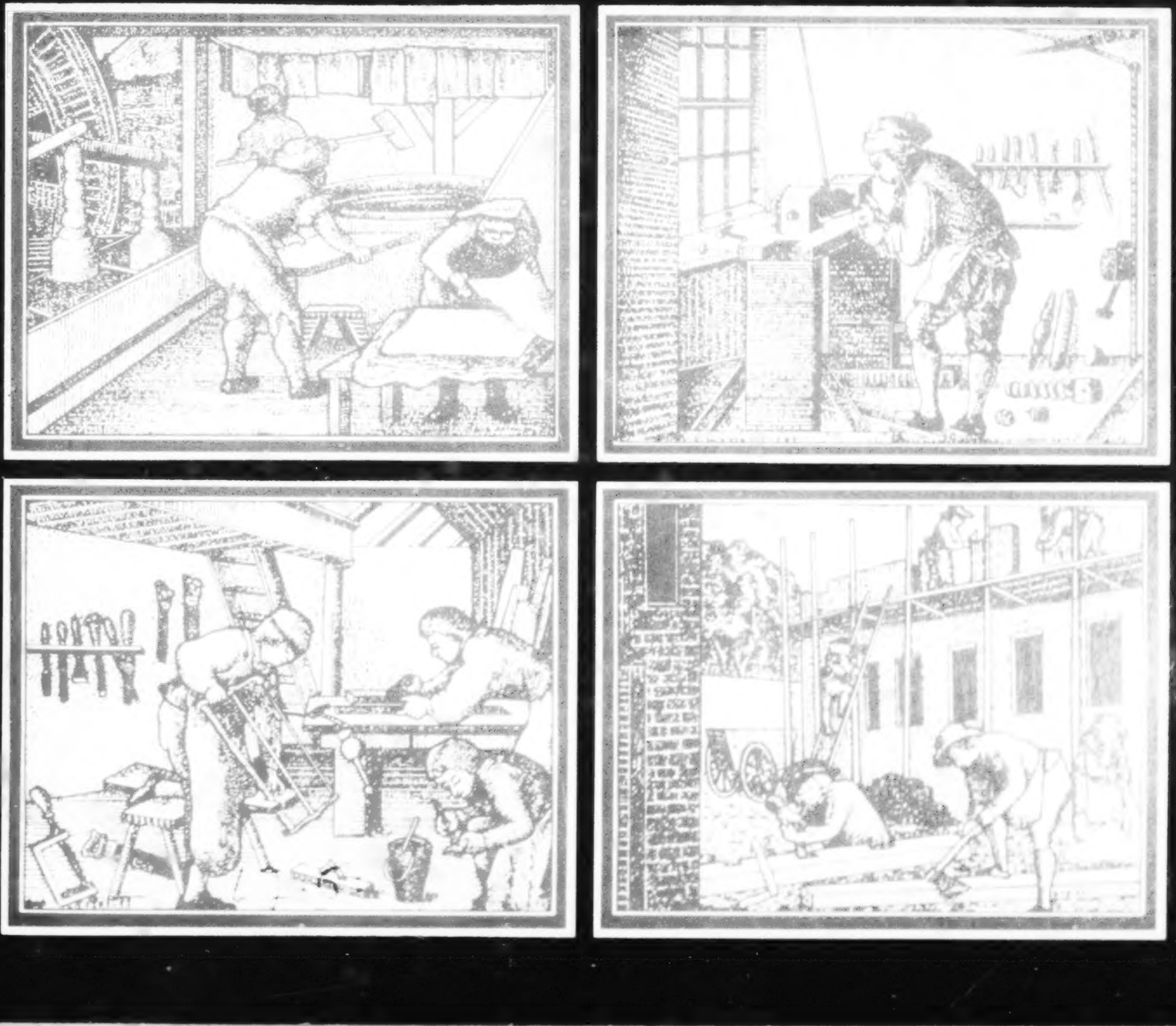

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Labor Month In Review

OCCUPATIONAL DISEASES. In *An Interim Report to Congress on Occupational Diseases,* Secretary of Labor Ray Marshall discussed the difficulty of linking diseases to employment and the limitations on income support for those afflicted. Excerpts:

Diagnosis. Almost 2 million workers report they are severely or partially disabled from an occupationally related disease. Approximately 700,000 suffer long-term total disability. The 1.2 million workers partially disabled are either temporarily out of the labor force because of the impairment or limited in the work they can perform.

Because of the length of time between exposure to an industrial health hazard and the onset of disability or death, it is difficult, in many cases, to link diseases to employment. For example, symptoms of pulmonary disease or cancer can occur 4 to 10 hours after exposure to cadmium, 10 to 20 years after exposure to asbestos, and 20 to 45 years after exposure to silica.

The major health effects now linked to asbestos exposure are asbestosis (a chronic lung disease) and various types of cancer. Once established, asbestosis progresses even after exposure is terminated. The two major asbestos-related cancers are lung cancer (clinically indistinguishable from lung cancer of other causes) and mesothelioma (a rare cancer of the linings of the lungs and abdominal cavity). In addition, asbestos exposure is associated with increased risk of cancer of the esophagus, larnyx, oropharynx, stomach, colon, rectum, and recently with kidney cancer. In 1974, at least 1.6 million workers were exposed to asbestos.

Byssinosis is the most significant health hazard resulting from exposure to cotton dust. The conditions (chest tightness, wheezing, shortness of breath) generally are reversible during the early stages. The more serious (chronic) effects may be arrested (but not reversed) if the worker avoids further exposure. Diagnosis is difficult because the symptoms of chronic byssinosis are indistinguishable from those of chronic bronchitis and emphysema. An estimated 600,000 workers are currently exposed to cotton dust.

The most common form of disease resulting from silica exposure causes progressive scarring of the lungs and loss of pulmonary function. As the disease progresses, complications such as tuberculosis, other chest infections, and ultimately cardio-respiratory failure make diagnosis more difficult. There is no effective treatment to stop the progression of the disease even after removal from exposure. An estimated one million workers currently are exposed to silica.

Other hazardous substances which cause chronic respiratory disease or cancer discussed in the report are beryllium, cadmium, chromium, arsenic, nickel, coal tar products, and diisocyanates.

Income support. Public and private income support programs replace about 40 percent of the wages lost by individuals who are severely disabled from an occupational disease.

Although social security is the major source of income support for those severely disabled from an occupational disease, not all severely disabled workers are eligible for benefits. The major reason: they cannot meet the "recency of employment" requirement. Even for those eligible, there is a 5-month waiting period for cash payments and an additional waiting period of 2 years for medicare benefits.

The small percentage receiving workers' compensation benefits result, in part, from difficulties involved in establishing the work relationship of disabling illnesses.Even after establishing that an illness is occupationally related, a disabled worker still has more problems collecting benefits than those injured on the job. For example, on average, a disabled worker with an occupational disease waits a year before receiving the first compensation payment (work injury cases are settled in about 2 months); 60 percent of all occupational disease awards are initially denied (compared with 10 percent of the injury awards); and more than half of the occupational disease awards rely on compromise-and release-agreements involving small lump-sum settlements which release insurance carriers from further liability for both income maintenance and health costs (16 percent of the injury awards receive such treatment).

The *Interim Report* is available from the U.S. Department of Labor, Office of Assistant Secretary for Policy, Evaluation and Research, Washington 20210. ☐

Employment and unemployment in the first half of 1980

As the new decade began, the Nation entered a recession; employment dropped and unemployment surged; housing construction and automobile manufacturing, which strongly influence employment in other industries, showed the earliest signs of deterioration

RICHARD M. DEVENS, JR.

The relative stability of the 1979 labor market ended abruptly in early 1980. Employment growth, which started to slow down in the first quarter, dropped sharply in the second. For the first time in 2 years the unemployment rate inched up to more than 6 percent in the first quarter, and jumped to 7.5 percent in the second quarter. The quarter-to-quarter surge equaled the largest ever recorded in the series (which dates back to 1940).

The increase in unemployment was not matched by the drop in employment. (See chart 1.) This development reflects the impact of labor force entrants, as well as the complex nature of our economy which permits some sectors to continue to expand while others are laying off workers. The labor force participation rate rose slowly over the first half, reflecting continuing increases in the labor force participation of women.

Even in the relative calm of the late 1979 job market, there were signs in two important industries that foreshadowed the deterioration of the labor market. Residential housing construction and automobile manufacturing, both industries with high potential to produce "ripple effects" through the rest of the economy, have traditionally been among the first to feel the effects of deteriorating economic conditions. In late 1979 and early 1980, reports of tight financial markets, falling demand for new housing, oil price boosts, declining auto sales, high interest rates, and other indicators augured the onset of hard times in these two industries.

This article highlights recent trends in total employment and industry payrolls (particularly in the homebuilding and automobile industries), analyzes the sudden and steep rise in unemployment from the perspective of its differential impacts on groups of workers, and examines other labor market indicators to better gauge the overall magnitude of the economic downturn.

Employment declines

Total employment. The impact of production cutbacks on total employment became very obvious in the second quarter of the year. After a small rise in the first quarter, the number of persons holding jobs dropped by 900,000 in the second to 96.9 million (seasonally adjusted). (See table 1.) This was the first quarter-to-quarter employment decline in 5 years and was the third largest absolute decline recorded in the series. The only larger declines came during the 1957–58 and 1973–75 recessions. The proportion of the employed noninstitutional population fell 0.6 percentage point between the first and second quarters of 1980 to 58.4 percent, the lowest level in 2 years.

Total employment rose slightly in the first quarter of 1980. Women accounted for the entire increase, as em-

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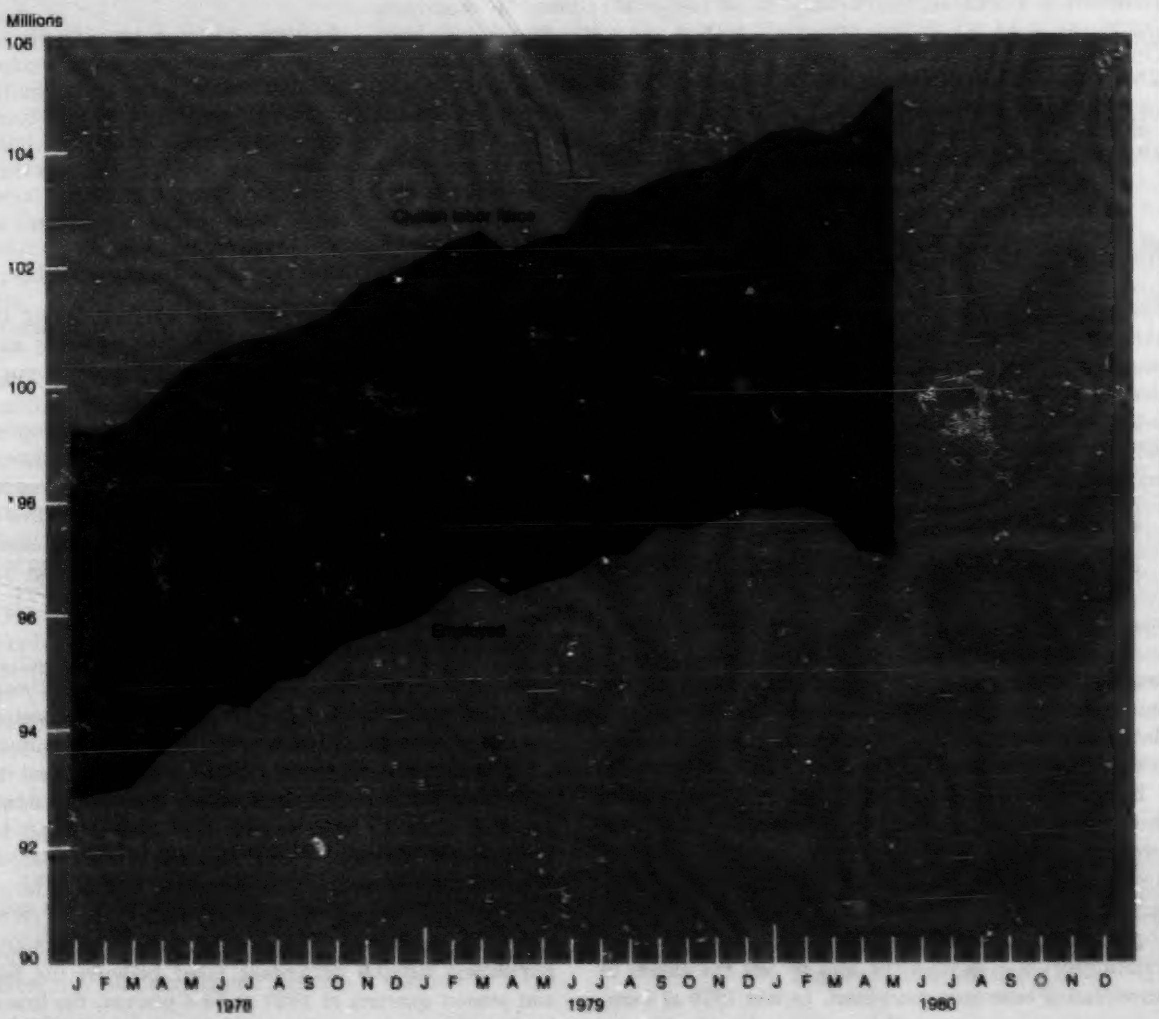
Richard M. Devens, Jr., is an economist in the Office of Current Employment Analysis, Bureau of Labor Statistics.

ployment was little changed over the quarter among men and teenagers.[1] The situation in the second quarter was reversed: teenagers suffered about a third of the decline in employment, men accounted for the remaining two-thirds, and the employment of women was unchanged.

Employment among white workers rose by 290,000 in the first 3 months, only to fall by 825,000 in the second quarter to 86.1 million, a net decline of 0.6 percent over the first half. Black workers experienced employment declines in both quarters; the declines totaled 270,000, or 2.4 percent. Employment among blacks stood at 10.8 million in the second quarter.

Industry payrolls. The second-quarter drop in payroll employment totaled 545,000 and occurred almost exclusively in the goods-producing sector of the economy. (See table 2.) Service-producing employment continued to follow its long-run upward trend, although at a considerably slower rate in the second quarter of 1980. The gains in the service sector thus partially offset the decline in the goods sector. Although some part of these divergent movements may be attributed to a long-term shift in the structure of the economy, employment has

Chart 1. Civilian labor force, the employed, and the unemployed, 1978-80



SOURCE: Current population survey.

traditionally been more cyclically sensitive in the goods-producing than in the service-producing sector.

The overall pattern of the service-producing sector masked some important differences among the several industries within this broad group. Wholesale and retail trade and transportation and public utilities were the biggest job losers in the sector (down 110,000 and 40,000, respectively) while government and services were job gainers (295,000 and 110,000). Virtually all of the Federal increase was attributable to the impact of temporary hirings for the 1980 Decennial Census.

The two industry groups that were hardest hit at the outset of the economic downturn were construction and manufacturing, both of which are in the goods-producing sector. During the second quarter of 1980, construction employment dropped 215,000 to a level of 4.4 million; manufacturing employment fell by 655,000 to 20.3 million.

Table 1. Employment status by sex, age, and race, seasonally adjusted quarterly averages, 1979–80

[Numbers in thousands]

Characteristic	1979				1980	
	I	II	III	IV	I	II
TOTAL						
Civilian labor force	102,315	102,357	103,328	103,749	104,194	104,701
Participation rate	63.7	63.5	63.8	63.8	63.8	63.9
Employed	96,425	97,467	97,231	97,665	97,804	96,893
Employment-population ratio	59.3	59.1	59.3	59.3	59.2	58.4
Unemployed	5,890	5,890	6,008	6,084	6,390	7,808
Unemployment rate	5.8	5.8	5.8	5.9	6.1	7.5
Men, 20 years and over						
Civilian labor force	54,285	54,299	54,637	54,750	54,963	55,267
Participation rate	80.0	79.7	79.9	79.6	79.5	79.6
Employed	52,129	52,136	52,363	52,432	52,370	51,725
Employment-population ratio	75.0	74.7	74.7	74.4	74.0	72.8
Unemployed	2,156	2,163	2,274	2,318	2,593	3,542
Unemployment rate	4.0	4.0	4.2	4.2	4.7	6.4
Women, 20 years and over						
Civilian labor force	38,393	38,562	39,192	39,489	39,829	40,169
Participation rate	50.3	50.3	50.9	51.0	51.2	51.4
Employed	36,190	36,361	36,983	37,254	37,558	37,569
Employment-population ratio	47.3	47.4	47.9	48.0	48.2	48.0
Unemployed	2,203	2,201	2,209	2,235	2,271	2,600
Unemployment rate	5.7	5.7	5.6	5.7	5.7	6.5
Teenagers, 16 - 19 years						
Civilian labor force	9,637	9,496	9,409	9,510	9,403	9,265
Participation rate	58.8	57.9	57.5	58.2	57.7	56.9
Employed	8,106	7,970	7,885	7,979	7,876	7,599
Employment-population ratio	49.5	47.7	47.3	47.9	47.4	45.8
Unemployed	1,530	1,526	1,524	1,531	1,526	1,666
Unemployment rate	15.9	16.1	16.2	16.1	16.2	18.0
White						
Civilian labor force	90,161	90,110	90,834	91,323	91,883	92,238
Participation rate	64.0	63.8	64.0	64.1	64.3	64.3
Employed	85,658	85,635	86,174	86,640	86,933	86,109
Employment-population ratio	60.1	59.9	60.1	60.1	60.1	59.4
Unemployed	4,503	4,475	4,660	4,683	4,950	6,129
Unemployment rate	5.0	5.0	5.1	5.1	5.4	6.6
Black and other						
Civilian labor force	12,172	12,223	12,378	12,445	12,360	12,441
Participation rate	61.7	61.6	61.9	61.8	61.0	61.0
Employed	10,781	10,823	11,023	11,048	10,913	10,778
Employment-population ratio	53.5	53.4	53.9	53.7	52.7	51.6
Unemployed	1,391	1,400	1,355	1,397	1,447	1,663
Unemployment rate	11.4	11.5	10.9	11.2	11.7	13.4

Table 2. Nonagricultural payroll employment, seasonally adjusted quarterly averages, 1979–80

[Numbers in thousands]

Industry	1979				1980	
	I	II	III	IV	I	II
Total nonagricultural payroll employment	89,141	89,668	90,186	90,557	91,120	90,574
Goods-producing industries	26,426	26,517	26,555	26,549	26,604	25,745
Mining	934	947	971	986	1,005	1,019
Construction	4,403	4,451	4,499	4,566	4,644	4,428
General building contractors	1,262	1,276	1,280	1,283	1,280	1,211
Manufacturing	21,088	21,119	21,085	20,997	20,955	20,298
Durable goods	12,771	12,819	12,815	12,721	12,701	12,162
Motor vehicles and equipment	1,046	1,035	968	932	869	743
Nondurable goods	8,317	8,300	8,270	8,276	8,254	8,136
Service-producing industries	62,715	63,150	63,632	64,008	64,516	64,802
Transportation and public utilities	5,082	5,095	5,174	5,210	5,201	5,161
Wholesale and retail trade	20,114	20,201	20,302	20,447	20,592	20,483
Wholesale trade	5,150	5,188	5,221	5,255	5,294	5,265
Retail trade	14,964	15,012	15,081	15,192	15,298	15,218
Finance, insurance, and real estate	4,889	4,948	5,008	5,049	5,102	5,137
Services	16,829	12,018	17,153	17,311	17,527	17,635
Government	15,801	15,890	15,994	15,990	16,093	16,387
Federal	2,758	2,771	2,786	2,772	2,834	3,095
State and local	13,043	13,119	13,208	13,219	13,259	13,291

Within manufacturing, job losses occurred in the second quarter of the year and were concentrated among durable goods industries. These cutbacks were pervasive: lumber and wood products, fabricated metal products, and transportation equipment all sustained substantial reductions. Except in rubber and plastics, the nondurable goods industries showed little or no change in employment in the first half of 1980.

Layoffs in manufacturing, as measured by the Bureau of Labor Statistics' labor turnover survey, which had been averaging less than 1.0 per hundred workers in early 1979, rose from 1.2 to 1.4 per hundred between the last quarter of 1979 and the first quarter of 1980. The manufacturing workweek, which, like layoffs, is considered by analysts to be a good leading indicator of the business cycle,[2] fell sharply in the spring of 1980. The aggregate hours index which reflects changes in both employment and hours declined by 2.3 percent between the fourth quarter of 1979 and the second quarter of 1980.

Unemployment up among all groups

After edging up in the first quarter, the overall rate of unemployment rose 1.4 percentage points in the second quarter of the year; men, women, and teenagers reported increased rates of joblessness. The jobless rate for men, usually the most cyclically sensitive, showed a marked deterioration earlier than other worker groups. The rate for men rose from 4.2 to 4.7 percent between the end of 1979 and the first quarter of 1980, and surged to 6.4 percent in the second quarter. The rate for women did not begin to rise until the second quarter, when it advanced 0.8 percentage point to 6.5 percent. The jobless rate for teenagers also rose only in the second quarter, jumping 1.8 percentage points to a mid-year 18.0 percent.

The jobless rate for blacks rose more, in absolute terms, than the rate for whites. For each percentage point rise in the white rate, the rate for blacks rose 1.5 percentage points. However, because the black rate was already more than twice as high as the white rate, the *relative* increase in the black rate was smaller than that in the white rate. This produced a narrowing of the ratio between the two rates, an occurrence that is common in the initial stages of recession but that is usually reversed during the recovery period.[3]

The Hispanic unemployment rate was about unchanged in the first quarter of 1980, but moved up 1.2 percentage points to 10.2 percent in the second quarter. The ratio of Hispanic to white unemployment rates fell between the end of 1979 and the middle of 1980. However, in this case, the changes in unemployment rates were about in proportion (that is, there was about 0.9 percentage point of additional Hispanic unemployment for each increment of 1.0 percentage point of white joblessness).

Following are the seasonally adjusted unemployment rates for whites, blacks, and Hispanics in the last quarter of 1979 and the first half of 1980 (data are not yet available for the Hispanic age-sex groups):

	IV	*I*	*II*
White:			
Total	5.1	5.4	6.6
Men	3.7	4.2	5.7
Women	5.0	5.0	5.7
Teenagers	14.0	13.9	16.2
Black and others:			
Total	11.2	11.7	13.4
Men	8.6	9.4	11.8
Women	9.9	9.8	11.4
Teenagers	34.1	35.2	33.2
Hispanic origin:			
Total	8.9	9.0	10.2

Other indicators. Developments in major unemployment indicators between the end of 1979 and second quarter of 1980 included a rise in the jobless rate for blue-collar workers, for workers in manufacturing industries, for full-time workers, and for married men. Among occupations, recession-related unemployment increases in the first half of the year were most visible among sales workers, craft workers, and transport operatives. Among industries, severe increases in joblessness were recorded in construction and durable goods manufacturing.

In the first quarter, the number of persons on layoff (a sensitive cyclical indicator) was above the million mark for the first time since the end of 1977, and rose again substantially in the second. The second quarter level of 1.8 million represented about 23 percent of total unemployment; by comparison, workers on layoff in 1979 accounted for 14.0 percent of total unemployment. New entrants to the labor force declined as a share of unemployment during the second quarter of 1980.

The other widely followed indicators of labor market activity include data on part-time workers and discouraged workers. The number of persons on part-time schedules for economic reasons, sometimes referred to as the "partially unemployed," rose 675,000 in the first half of the year to 4.1 million. After reaching 995,000 in the first quarter, the number of discouraged workers, sometimes referred to as the "hidden unemployed," fell slightly in the second quarter. Increases in the number working part time for economic reasons, moreover, usually lead rises in unemployment. Among discouraged workers, most of the changes occurred among persons citing job-market factors as their reason for discouragement, rather than personal factors.

Developments in two key industries

The general decline in labor market conditions was preceded by troubled times in the housing construction and automobile industries. Construction and auto manufacturing are industries in which changes in production and employment affect the rest of the economy through relatively strong linkages. For example, the building industry is quite obviously linked to the lumber and wood products industry, and in a similar manner, automaking is linked to the production of steel and other metals. The "sensitivity ratio" is a measure of the effect of demand changes for a product on employment in the industry manufacturing that product and in related industries. A study analyzing the employment drop in the last recession established the sensitivity ratios for housing and automobiles at 2.50 and 2.75, respectively.[4] Following are some related industries in which employment is most likely to be affected by demand changes in the housing and automobile industries:

Housing:
- Blast furnaces and steel mill products
- Fabricated metal products
- Railroad and truck transportation
- Lumber and wood products
- Stone, clay, and glass products
- Furniture and fixtures
- Finance, insurance, and real estate

- Wholesale and retail trade
- Miscellaneous business services
- Miscellaneous professional services

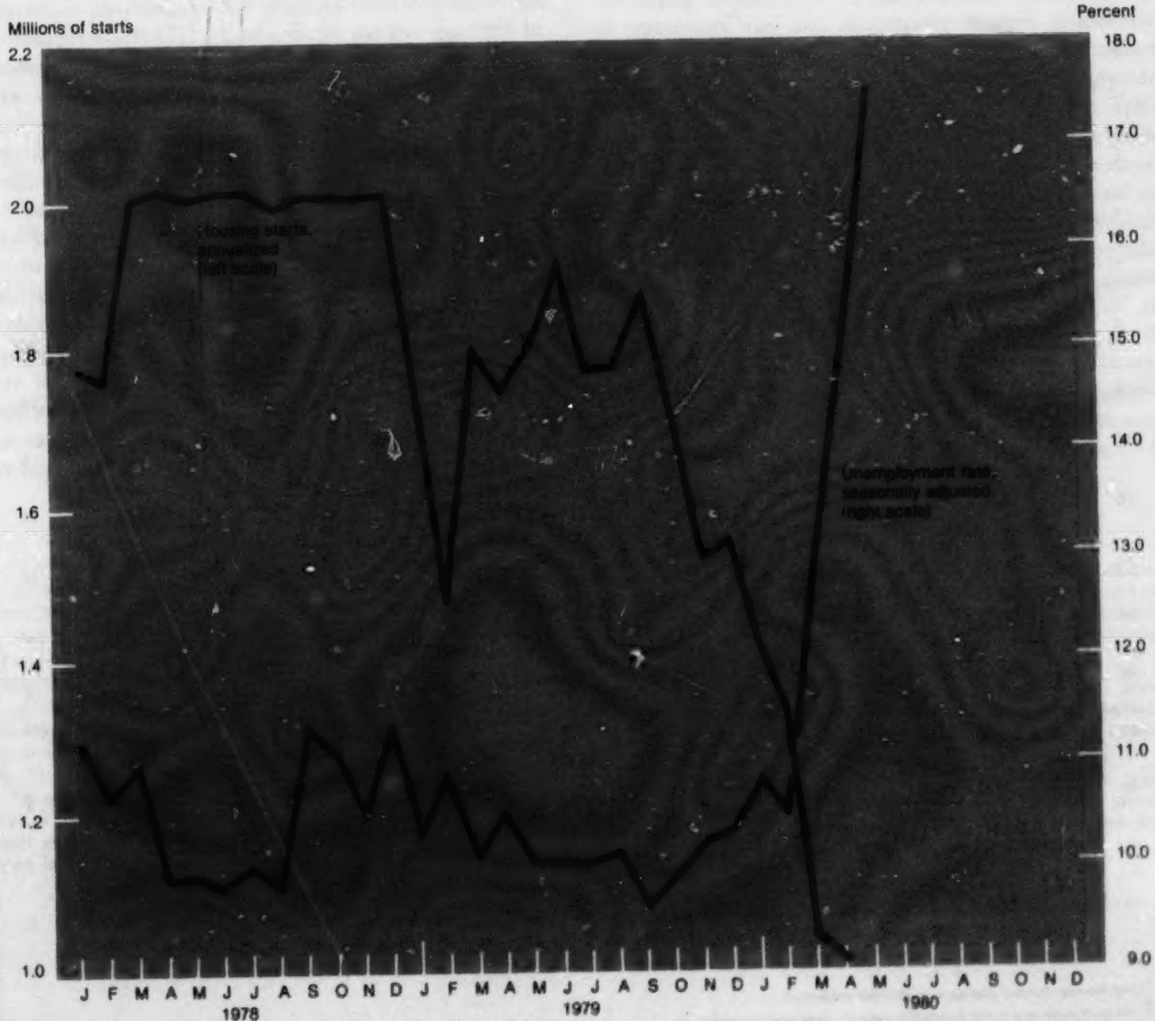
Automobiles:

- Blast furnaces and steel mill products
- Fabricated metal products
- Railroad and truck transportation
- Machinery, except electrical
- Textile mill products
- Wholesale and retail trade
- Miscellaneous business services
- Automobile repair services
- Rubber and plastics

Using construction as an illustration, the sensitivity ratio (2.5 to 1) indicates that for every job lost in the industry there is a total loss of 2.5 jobs (the original construction job plus 1.5 positions in other industries.)

Construction and residential housing. One of the measures of production for the housing market is the annualized rate of private housing units started, as reported monthly by the Bureau of the Census. As chart 2 illustrates, there were signs of weakening in the housing market as early as the beginning of 1979. In each month last year, starts were lower, and in some cases

Chart 2. Housing starts and unemployment in construction, 1978-80



SOURCE: U.S. Bureau of the Census (housing starts); unemployment rate from unpublished data from the Current Population Survey.

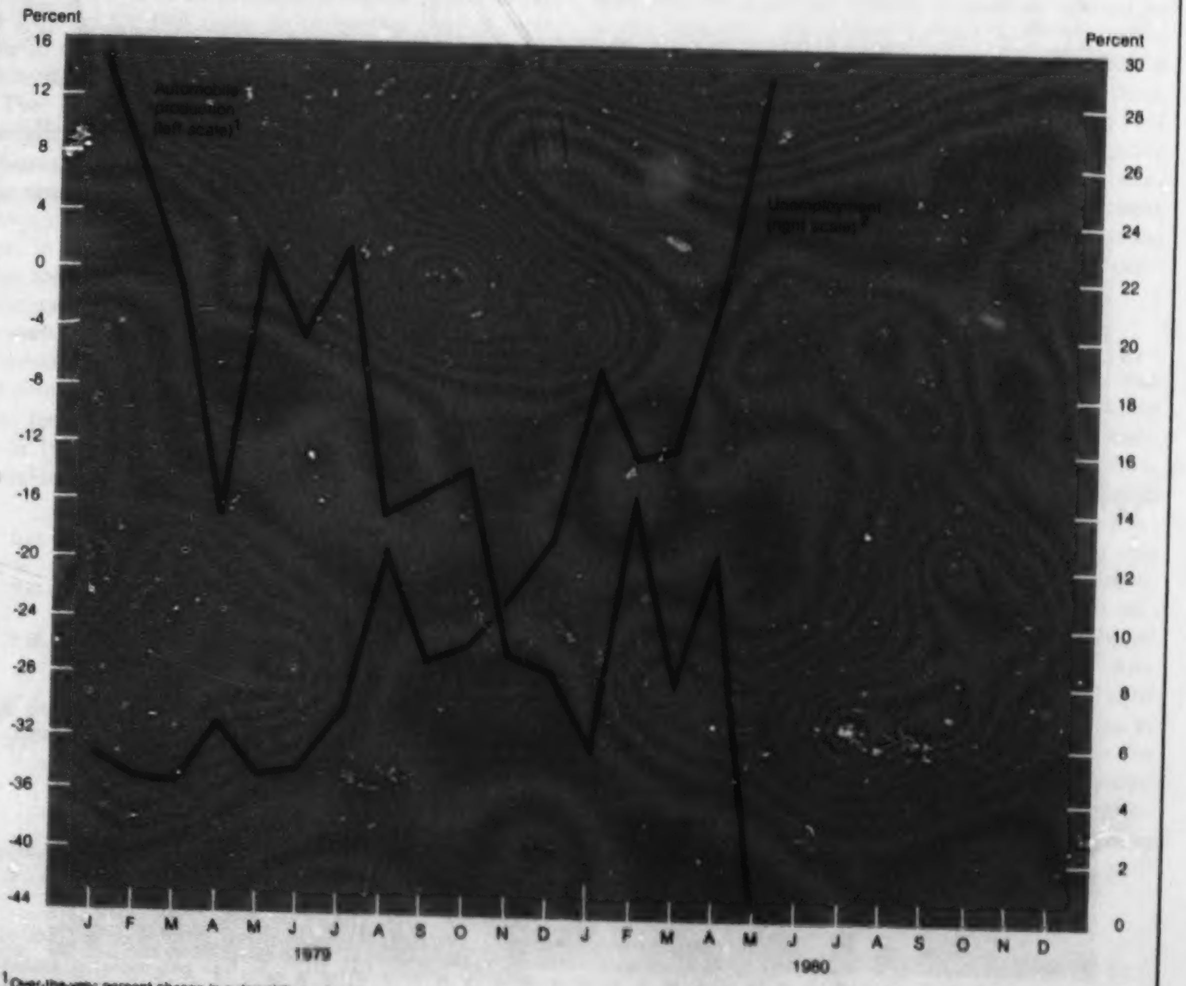
substantially lower, than in the corresponding month of 1978. In the third quarter of 1979, housing starts declined even more quickly, and by mid-1980, housing starts were hovering around the 1 million mark, about half the level of the second quarters of 1977 and 1978.

On a seasonally adjusted basis, payroll employment data for the general building construction industry group (SIC 15), a group that includes the bulk of residential construction activity, showed a great deal of strength throughout 1979, when compared to the previous year.[5] This development reflects the relatively high levels of housing starts in 1978. However, there was a complete stop in the housing industry's employment growth in the fourth quarter of 1979, followed by a sharp contraction in the first 2 quarters of 1980.

Moreover, the unemployment rate for wage and salary workers in the construction industry also illustrated a deteriorating labor market in the housing industry. After dropping in 1977, 1978, and 1979, the jobless rate in construction rose 1.3 percentage points from the last quarter of 1979 to the first quarter of 1980 and then went up 4.9 more percentage points, to 16.3 percent, in the second quarter.

Automobiles. Like housing construction, the automobile sector showed signs of declining somewhat earlier than

Chart 3. Production of automobiles and unemployment in the automobile industry, 1979-80



[1] Over-the-year percent change in automobile production.

[2] Unemployment rate in the automotive industry, seasonally adjusted.

SOURCE: Ward's *Automotive Reports* (automobile production, unemployment rate from unpublished data from the Current Population Survey.

the rest of the economy. In addition to being affected by the rising costs of financing consumer sales, the domestic automobile industry has been squeezed by the rising prices of gasoline and other petroleum products and the accompanying rapid shift in consumer demand for smaller cars. Demand for domestic automobiles, as reflected by sales figures, started to weaken in early 1979 in response to those factors. Starting in March 1979, sales were below their year-earlier levels for each of the 16 months up through June 1980. Domestic production started a similar pattern of consistent decline a few months later (August 1979), as manufacturers began to reconcile their marketing, inventory, and production plans to falling demand.[6]

These developments had a profound effect on employment and unemployment in the automobile industry. Payroll employment in the industry (motor vehicles and equipment—SIC 371) fell in each of the five quarters beginning in the second quarter of 1979. The total loss of jobs between the first quarter of 1979 and the second quarter of 1980 has been 300,000, or 29 percent. In the second quarter of 1980, there were 745,000 workers on motor vehicle and equipment makers' payrolls.

Unemployment in the auto manufacturing industry also started to change dramatically in the second quarter of 1979. After rising from 3.2 percent in the first quarter of 1978 (the lowest rate since the historically high rates of 1974 and 1975) to 5.2 percent in the second quarter of 1979, the auto industry unemployment rate jumped 4 percentage points in the third quarter of that year. After a smaller increase in the fourth quarter, the rate rose 5.8 points in the first quarter of 1980 and an additional 8.5 points in the second, to 25.2 percent. (See chart 3.) Between the second quarters of 1979 and 1980, the number of unemployed auto workers rose by a quarter of a million.

Recession verified

The National Bureau of Economic Research, a well-known group of private-sector economists that traditionally establishes business cycle turning points in the United States, announced that the Nation entered the recessionary phase of the cycle in January 1980. Overall, employment remained relatively strong through that first quarter, however, distinct weakenings in the markets for labor in two key industries appeared as early as mid-1979. Employment in automaking peaked in the first quarter of 1979, and the subsequent drops in production and employment have been partly responsible for falling employment in iron and steel foundries, metal stampings, tire and automotive dealers, and service stations. Cutbacks in housing construction, which started in late 1979 and early 1980, have led to employment losses in saw mills, plywood makers, household appliance manufacturers, floor covering mills, and paving and roofing material makers. By midyear, these developments, combined with the generally weaker total demand associated with recession, brought the Nation's total employment down sharply from its record-setting (both as an absolute and as a percent of population) peak of 1979. The unemployment rate rose to the highest point since the early stages of recovery from the 1973–75 downturn. And, after 5 months of the current downslide, several of the leading indicators of marginal employment adjustment, such as the factory workweek, layoffs, and accessions, were continuing to worsen. ☐

FOOTNOTES

[1] In this article, "men" and "women" refer to persons age 20 and over; "teenagers" are persons age 16 to 19 years.

[2] For a complete treatment of economic indicators, see Geoffrey Moore and Julius Shiskin, *Indicators of Business Expansions and Contractions* (New York, National Bureau of Economic Research, 1967).

[3] For a detailed discussion of the analysis of relative changes in unemployment, see Curtis Gilroy, "Black and white unemployment: the dynamics of the differential," *Monthly Labor Review*, February 1974, pp. 38–47.

[4] A sensitivity ratio is an industry's direct employment per billion dollars of demand divided by total—direct and indirect—employment per billion dollars. The estimated sensitivity ratios were developed from the input-output matrix, which illustrates the extent of interindustry relationships among 129 industries. See *The Structure of the U.S. Economy in 1980 and 1985*, Bulletin 1831 (Bureau of Labor Statistics, 1975) and Robert W. Bednarzik, "The plunge of employment during the recent recession," *Monthly Labor Review*, December 1975.

[5] Seasonally adjusted payroll employment series for the general building construction and motor vehicles and equipment industries (SIC 15 and 371) are not published regularly by the Bureau of Labor Statistics, but are prepared for special analyses.

[6] Various issues of *Ward's Automotive Report* (Detroit, Mich., Ward's Communication). Because seasonally adjusted data are not reported by Ward's, year-to-year changes were used to analyze developments in domestic automobile sales and production.

The labor force experience of black youth: a review

Jobless rates among black youths have remained far above prerecession levels; regression analysis shows military reductions, population share, and the minimum wage contributed to black youths' problems; jobs programs have helped, as could new efforts that integrate school and work in low-income areas

GEORGE IDEN

The unemployment situation of black youths grew markedly worse in the 1970's. For black teens, ages 16 to 19, this continued a long-term trend beginning in the 1950's. But for older black male youths, ages 20–24, the increase in unemployment of the 1970's was a marked change from earlier patterns.

Since early 1978, the black youth employment situation showed some modest improvement because of relatively more openings in the job market and because youth employment programs were expanded—particularly under the Youth Employment and Demonstration Projects Act of 1977. These gains, however, were not enough to restore the losses sustained earlier in the decade.

Two longer term factors are taking on increased importance in the labor market situation for black youth: first, black youths seem to have been affected disproportionately by the generally unfavorable job market that characterized much of the 1970's. Second, although school enrollment rates for black youths have increased substantially, black students seem to be having a particularly difficult time in obtaining part-time jobs. This, in turn, represents a loss of potential experience and income that may exacerbate future employment difficulties.

A dual situation seems to characterize the experience of black youths in the labor market in the 1970's. Wages of black youths are very close to those of white youths.[1] In addition, some recent research indicates substantial progress during the 1960's and 1970's in closing the occupational gap between white youths and black youths.[2] However, an examination of employment and unemployment indicators suggests that differentials between blacks and whites seem to be widening. Thus, it may be becoming increasingly difficult for a growing proportion of black youths to get jobs at the same time a growing proportion may be getting better jobs.

The elements behind the worsening job market expe-

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rience of black youths are investigated in three sections. First, trends in black youth unemployment and employment during the 1970's are examined, with emphasis on the period since 1977.[3] Second, a simple multiple regression model is used to analyze factors affecting teenage employment rates by race, including the effects of overall labor market conditions, supply factors, the minimum wage, and the expansion in youth employment programs after 1977. The third section discusses the increasing school enrollment rate for black youths coupled with extremely low labor force participation rates of young black students. Following this analysis, principal conclusions and policy implications are summarized.

Review of labor market trends

In analyzing the labor market situation of black youths, it is important to focus on employment-population ratios as well as unemployment rates because a large proportion of black youths are not actively seeking a job and therefore are not counted as unemployed. For example, in 1978 the number of unemployed black teenagers was about 381,000. But, if the labor force participation rate had been the same for black as for white teens, there would have been about 500,000 more young blacks in the labor force. In addition, youth labor force participation rates tend to decline during recessions and to increase during business expansions. Thus, changes in unemployment rates understate both the deterioration in the youth labor market during recessions and the improvement during recoveries. For example, the unemployment rate of black teenagers in 1978 was about the same as in 1975—the worst recession year—but the employment-population ratio showed significant improvement.

Trends in unemployment rates and employment-population ratios for black and for white teenagers in the 1970's are summarized in table 1. The most striking thing about this summary is that unemployment and employment indicators for black teenagers seldom improved and frequently got worse, while that was not the case for white teenagers. For example, in the recovery from the 1974–75 recession, the black teenage unemployment rate was actually higher in 1977 than in 1975; not until 1978 did the black teenage unemployment rate decline noticeably. By contrast, the unemployment rate for white teenagers declined 2.5 percentage points by 1977, and by 1978 it approached the 1973 level.

Table 1. Employment indicators for teenagers (ages 16 to 19), by race, selected years, 1970 to 1979

[In percent]

Measure	1970	1973	1975	1977	1978	1979
Unemployment rate						
Black	29.1	30.2	36.9	38.3	36.3	33.5
White	13.5	12.6	17.9	15.4	13.9	13.9
Employment-population ratio[1]						
Black	28.9	28.0	24.6	23.7	26.5	27.1
White	44.5	49.0	46.6	50.2	52.5	52.7
Labor force participation rate[2]						
Black	40.5	40.2	39.0	38.3	41.6	40.8
White	51.5	56.0	56.7	59.4	61.0	61.2

[1] Civilian employment as a percent of the civilian noninstitutional population.
[2] Civilian labor force as a percent of the civilian noninstitutional population.

Table 2. Employment indicators for black youths, ages 20 to 24, selected years, 1970 to 1979

[In percent]

Measure	1970	1973	1975	1977	1978	1979
Unemployment rate						
Men	12.6	12.6	22.9	21.7	20.0	17.0
Women	15.0	17.6	22.5	23.6	21.3	20.8
Employment-population ratio[1]						
Men	73.0	71.5	60.4	61.2	62.4	66.5
Women	49.0	47.4	43.6	45.4	49.4	48.0
Labor force participation rate[2]						
Men	83.5	81.8	78.4	78.2	78.0	80.1
Women	57.7	57.5	56.2	59.4	62.8	61.5

[1] Civilian employment as a percent of the civilian noninstitutional population.
[2] Civilian labor force as a percent of the civilian noninstitutional population.

Data from the 1974–75 recession and previous recessions since 1954 suggest that teenage employment—and black teenage employment in particular—is much more affected by the business cycle than overall employment. In addition, the employment of black teenagers continues to fall or fails to rise for several quarters after recovery begins. In the 1975–78 expansion, black teenage employment showed no growth in the first two years.

Unemployment and employment indicators for older black youths, ages 20 to 24, are summarized in table 2 for the period since 1970. These young blacks also are disproportionately affected by the business cycle. However, the increase in their unemployment rate and decline in their employment-to-population ratio during much of the 1970's may reflect more than cyclical influences. There was significant improvement in these indicators in 1978–79, but it is too early to determine if the improvement is more than temporary.

Location. Unpublished Bureau of Labor Statistics data on employment and unemployment of black youths in 1978 show that employment problems for black youths are especially severe in low-income areas of large cities, particularly older cities along the Atlantic coast and in the industrial Midwest. Comparisons of unemployment rates for poverty and other areas understate the true differences in labor force activity because labor force participation rates are significantly higher in areas where average income is above the poverty line. Nevertheless, huge gaps in employment status exist between white youths and black youths regardless of location.

Work force factors. The demographic bulge (in the size of the youth population) has generally been emphasized as an important cause of the increase in teenage unemployment rates in the 1960's. Additional factors such as location, discrimination, inadequate education, and changing characteristics of jobs have been emphasized as causes for the increase in black teenage unemployment.[4] But what factors account for the increase in unemployment rates of black—but not white—males, ages 20 to 24 beginning about 1970? The reasons may include the following:

- The unfavorable job market for entry-level workers in general during the decade—a condition exacerbated by the bulge in the population size of this age group, the end of rising school enrollment rates for white youths, and increases in labor force participation rates of women;
- The decline in the size of the military by about 1 million men in the under age 25 group between the late 1960's and the early 1970's;
- The declining proportion of young black males with family responsibilities;
- Changing requirements for entry-level jobs; and
- The long-term effects of more than a decade of very high unemployment for black teenagers.[5]

In sum, the job market for youths became much more congested in the 1970's compared even with the previous decade. Youths, in general, suffered a decline in earnings relative to older workers. But for some youths, particularly black men, the labor market in the 1970's meant no job rather than one at a lower wage.

Rapid growth in the number of black youths, in conjunction with these labor force factors, has exacerbated the situation. The more rapid growth of the number of black youths compared to the growth in the white youth population would not be a causal factor if barriers such as discrimination, location, and educational deficiencies were not also present.

It may be that labor market indicators would have deteriorated for young black men ages 20 to 24 years in the 1960's, if it had not been for the personnel requirements of the Vietnam War and the exceptionally favorable job market of 1965–69. Changing family responsibilities over time probably also played some role. For example, between 1973 and 1978, the proportion of young black men (ages 20 to 24) in the labor force, who were married living with spouse, declined from almost 40 percent to about 25 percent. If martial arrangements had been the same in 1978 as in 1973 and unemployment differentials among marital groups remained the same, the unemployment rate for the group would have been about 1¾ percentage points lower. However, marital arrangements may be related to unemployment conditions, so that causation runs both ways. In any case, the proportion of young white men married living with spouses also declined during this period but without an increasing trend in unemployment.

Regression analysis

Teenage employment-population ratios, by race, can be analyzed using multiple regression techniques. Employment-population data are used because, with unemployment rates for black youths so high, changes in labor force participation are both hard to explain and of questionable importance.

The model underlying the regression analysis has become fairly standard. The employment-population ratio for the teenage group is strongly related to overall labor market conditions, represented by the unemployment rate for "prime working-age" men (ages 25 to 54). In addition, this relationship was thought to be nonlinear, with teenage employment rates showing a greater response when jobseekers outnumber jobs than when the reverse exists. The reasons for this nonlinearity include a larger supply elasticity for youths compared with the labor force in general and a preference on the part of employers for more mature and experienced workers.

The relative supply of teenagers would also be a relevant factor depending on how readily teenagers may be substitutable for other groups in the labor market and whether the market is free to adjust. Two supply factors are important here: the proportion of teenagers in the population of working age and the size of the armed forces relative to the size of the teenage population. In addition, the level and coverage of the minimum wage could also be a consideration because of possible constraints on the wage flexibility of the youth labor market in response to fluctuations in supply and demand.

Government employment policy, particularly the Youth Employment and Demonstration Projects Act of 1977 (YEDPA), may have had an influence on teenage employment rates. An attempt was made to capture the effect of the recent youth initiatives by including a dummy variable which was assigned a value of 1 for quarters beginning with 1978:1. Enrollments in the youth act programs began increasing very rapidly beginning in 1978:1 and leveled off by mid-1978 at approximately 200,000. In addition, the Summer Youth Employment Program was increased by about 100,000 jobs in 1978 compared with 1977. The additional jobs associated with these programs were disproportionately filled by minority youths.

Finally, a time trend was included to capture other longer term influences. For white teenagers, the trend variable was assigned a value of 1 beginning with the first quarter of 1965, 2 for the second quarter, and so on, and zero before 1965. Although admittedly quite arbitrary, this formulation was chosen because the employment-population ratios for white teenagers apparently began increasing on a long term basis about 1965, as did white teenage labor force participation rates. For black teenagers, the regression time trend was started at the beginning of the period (1954:1) because a perusal of the employment-population series suggested that there might be a negative trend throughout 1954–79.[6]

Using quarterly data for the period 1954:1 through 1979:2, the parameters for the following equation were estimated for black and white teenagers separately:

$$E/P = a + b_1 UH_{-1} + b_2 UL_{-1} + b_3 T + b_4 M + b_5 P + b_6 MW + b_7 D + E \text{ where:}$$

E/P = employment-population ratio (in percent) for teenagers, by race;

UH_{-1} = the unemployment rate of men ages 25 to 54 in excess of 3.4 percent, and zero otherwise, lagged 1 quarter;

UL_{-1} = the unemployment rate of men ages 25 to 54 minus 3.4 percent, when the unemployment rate of that group was equal to, or fell below, 3.4 percent, and zero otherwise, lagged 1 quarter;

T = time trend, beginning with 1954:1 for blacks and 1965:1 for whites (T_2);

M = number of persons in the armed services divided by the teenage population, ages 16 to 19;

P = teenagers, ages 16 to 19, as a percent of the population ages 16 to 64;

MW = minimum wage variable consisting of the basic minimum wage as a percent of hourly earnings, weighted by industry employment and coverage under the law, with a distributed (second degree polynomial) lag over 6 quarters;

D = dummy variable equal to 1 for quarters beginning 1978:1;

E = error term.

The results—summarized in table 3—confirm that youth employment is very sensitive to overall job market conditions. But in addition, they indicate a larger response to an expanding job market when unemployment for the prime working-age male group is below the postwar average, compared with unemployment above the average. In the equation for black teenagers, the coefficient for high unemployment periods (b_1) was quite small and that for low unemployment periods (b_2) quite large—suggesting that the black teenage employment-population ratio does not increase very much until the unemployment rate for prime working-age men gets below 3.4 percent.

In an unfavorable job market, the addition of some job opportunities helps but does not seem to greatly spur employment of black teenagers. After the unemployment rate for prime working-age males declines to the average for the postward period, further expansion of the job market seems to cause more marked improvement. In the 1970's, however, the unemployment rate for males ages 25 to 54 seldom got below 3.4 percent.

The coefficient for the military variable was both large and statistically significant in the equations for black teenagers, but not in those for white teenagers. This suggests that black youths have relatively more difficulty adapting to fluctuations in military personnel needs than white youths.

The population share and minimum wage variables proved to be important for both races, but comparatively more important for blacks.[7]

The results suggest that the recent youth employment programs may have increased the employment rate for black teenagers by about 1 percentage point, although this is not statistically significant at the 95 percent confidence level. The effect of the jobs programs on white teenage employment rates appears negative, but this result also was not significant.

The time trend variable was not statistically significant in the equations for black teenagers; but it was

Table 3. Regression results of factors affecting teenage (age 16 to 19) employment rates, by race, 1954 to 1979

("t" values in parentheses)

Race and sex	Adult male unemployment (t-1)		Time trend		Military personnel level	Population ratio	Minimum wage	Jobs programs	RHO [1]	Constant	R^2
	High	Low	1954	1965							
Black											
Teenagers	0.64 (2.16)	−3.36 (5.72)	0.07 (1.58)		23.56 (1.98)	−2.16 (3.89)	−0.36 (2.99)	0.94 (.86)	0.50 (5.46)	56.43 (8.09)	0.93
Male teenagers	1.51 (4.22)	−2.70 (4.02)			39.35 (4.13)	−1.87 (3.16)	−.43 (4.69)	.91 (.75)	.28 (2.79)	64.64 (8.41)	.95
White											
Teenagers	−1.00 (5.85)	−2.60 (7.52)		.31 (18.56)	−1.56 (.27)	−1.54 (4.63)	−.27 (4.42)	−.42 (.89)	.56 (6.50)	65.38 (15.24)	.97
Male teenagers	−1.20 (5.53)	−3.35 (7.93)		.29 (13.91)	−1.38 (.19)	−1.83 (4.44)	−.34 (4.53)	−.90 (1.22)	.60 (6.47)	77.05 (14.45)	.95

[1] Autocorrelation correction factor.

positive, significant, and rather large in the equation for whites. As a test, the time trend in the equation for whites was started at the beginning of the period (1954:1) rather than the first quarter of 1965. With this specification, the coefficients for the time and unemployment variables were not substantially changed, but that was not the case for several of the other coefficients. Specifically, the coefficient for military became significant and positive, while the coefficients for the minimum wage and population share variables were larger.

In the equations for whites, the sensitivity of some of the coefficients to the specification of the time variable suggests that their magnitudes are especially uncertain.[8] However, this problem was not apparent in the equations for black teenagers, because the coefficient for the time trend was not statistically significant and because omission of the time variable did not substantially affect other coefficients.

The results suggest that the military factor, population share, and minimum wage were approximately of equal importance in accounting for the decline in the employment-population rate for black teenage males during the 1955 to 1970 period—each contributing approximately 6 to 7 percentage points to the decline. However, in 1970–79, the military factor became relatively much more important, accounting for a decline of about 4 percentage points. In the latter period, the minimum wage accounted for only about 1 percentage point of the decline, while the population share had a slightly off-setting effect.

Student workers: a wide racial gap

The racial gap in labor force participation rates for youths is much larger for students than for nonstudents. In October 1977, the labor force participation rate for white teenagers in school was 22.5 percentage points higher than the comparable rate for black teenagers; the racial gap was 13.3 percent for the out-of-school group. (See table 4.)

In the early 1970's school enrollment rates were higher for white teenagers than black teenagers. By the end of the decade, however, the situation had been reversed. Substantially increased rates of school enrollment for black youths and decreased rates for most groups of white youths may "explain" an important part of the widening racial gaps in labor force participation rates and employment-population ratios. Although the gains in school enrollment rates for black youths are impressive, one of the reasons behind the increases is that black youths tend to finish high school at older ages than white youths. Furthermore, poor alternatives in the job market may be a factor influencing young blacks' decisions to stay in school.

Table 4. Labor force participation rates and school enrollment rates of youths by race, 1970 and 1977

[In percent]

Sex and race	Labor force participation rate				School enrollment rate	
	Youth enrolled in school		Youth not in school			
	1970	1977	1970	1977	1970	1977
Male						
Ages 16 to 19						
Black	26.2	27.6	72.3	77.7	66.6	74.0
White	41.5	49.4	87.3	90.5	75.4	69.1
Ages 20 to 24						
Black	41.3	43.7	90.5	88.8	18.1	27.5
White	52.1	55.7	95.3	95.7	30.9	25.7
Female						
Ages 16 to 19						
Black	22.3	21.9	50.7	56.9	64.1	68.4
White	36.7	45.1	61.4	69.3	66.1	65.2
Ages 20 to 24						
Black	38.9	40.6	60.7	64.6	13.0	21.2
White	51.9	59.2	59.9	70.8	15.5	19.8

Why are labor force participation rates so much lower for black teenagers in school compared with their white counterparts? One basic reason is that there are simply many more students looking for parttime jobs than are available, so the jobs are rationed. The most advantaged students tend to get the jobs. Parents' influence in the community may be especially important in securing part-time jobs for their student sons and daughters. The minimum wage may exacerbate the employment difficulties of black students by reducing the number of jobs potentially available. Discrimination also plays a role, and its existence can be more easily concealed by employers faced with many more jobseekers than needed.

In addition, location may play a role, because part-time jobs for students are concentrated in retail trade,[9] and that sector is, in general, not prosperous in large central cities where many black youths are located. Poorer quality of education available to black youths in inner city schools may also be a substantial handicap in competing for limited job opportunities.

Some observers argue that labor market experience for youths in school is of little consequence and that public resources should be concentrated on youths who are "out of school and out of work." Although that group may well be more disadvantaged than the in-school group, it is also true that some work experience while in school seems to improve job opportunities after leaving school.[10] Moreover, recent black high school graduates tend to have extremely high unemployment rates. The Current Population Survey for October 1978 indicated an unemployment rate of approximately 40 percent for recent black high school graduates, compared with 10 percent for recent white graduates.[11] Thus, less job experience and poor labor market knowledge may partially explain the difficulty of black youths in obtaining post-school employment.[12]

What future course?

Based on the unemployment and employment experience of black youths in the 1970's, the outlook for the early 1980's is not encouraging. In general, black youth unemployment continued to get worse in the 1970's. Although some improvement took place beginning in 1978, it was not enough to make up for losses in the first 7 years of the decade. In 1978, the black youth unemployment rate remained above 40 percent in central city poverty areas and above 30 percent in suburban and rural areas.

One of the most troublesome issues identified in this analysis is that the black teenage employment-population rate is much less responsive to improving job markets when measured unemployment remains above average historical levels. Unfortunately, we seem to be in an era of continually unfavorable job markets—partly as a result of an inflationary environment and partly as a result of very rapid growth in the labor force. According to some analyses,[13] unemployment in 1978 may have been at the lowest noninflationary level now possible, and yet the unemployment rate of men age 25 to 54 was very close to its average for the postwar period—not its average for business cycle peaks. Moreover, most recent forecasts show overall unemployment rising from its 1978–79 plateau of about 6 percent to more than 8 percent in 1980–81. In sum, the gains in black youth employment since 1978 seem likely to be only temporary, given the outlook for a weaker economy and the adverse trend in the labor market for black youths during much of the 1970's.

The size of the armed forces in relation to the size of the teenage group was an important factor affecting black, but not white, teenage employment rates.

The turnaround in the demographic situation should help youth employment rates of both races, but in the case of blacks the improvement seems likely to be small in relation to current employment indicators.

The direct positive effects of the youth employment programs have already been realized by black youths, with additional benefits only if there is a further increase in the scale or effectiveness of these programs. The only major recent policy innovation that has not yet been phased in is the targeted jobs tax credit passed by Congress in 1978. The Administration has recently proposed a modification and expansion of youth programs, but according to the present time table, it would not have much effect until after 1981. However, both efforts reflect some commitment to resolve the problems of black youth employment.

The case for doing more to reverse the trends in black youth employment and unemployment includes the following: the extreme concentration of serious youth employment problems—geographic and racial—has especially serious implications because such an environment often undermines productive or socially constructive behavior. The problems seem to be getting worse, and there is some evidence to suggest that the employment problems of teenagers become employment problems of young adults. Moreover, black youth unemployment probably can be reduced without increasing the inflation rate.

Finally, the very low employment rates for black students—and the probability that work experience during school provides invaluable job market information—suggests the need to target employment programs to help low-income youths in school, as well as those out of school and out of work. Several of the policy instruments for this kind of initiative are already in place; for example, the provisions in Title IV of the Comprehensive Employment and Training Act, which were designed to encourage the cooperation of local school systems, and the targeted jobs tax credit. Also, the Administration's recent proposals imply close cooperation between CETA, the public schools, and the private sector. However, these kinds of policies may be especially difficult to implement successfully because they require a high degree of commitment and cooperation. □

FOOTNOTES

ACKNOWLEDGMENT: Curtis Gilroy, Robert Goldfarb, James Wetzel, and colleagues at the Congressional Budget Office provided helpful comments on earlier versions of this work. I am also grateful to Antoinette Gibbons for research assistance and Debra Blagburn for manuscript preparation.

[1] For example, in May 1976, median hourly earnings were $2.48 for white and $2.40 for black teenage males. See *Weekly and Hourly Earnings Data*, Bureau of Labor Statistics, Special Report 195, 1977.

[2] See, for example, Richard B. Freeman, "Time Series Evidence on Black Economic Progress: Shifts in Demand or in Supply?" Harvard Institute of Economic Research, Discussion Paper 632, July 1978.

[3] Throughout the paper, statistics cited for "black" youths pertain to "black and other nonwhite" individuals. The reason for this is to permit comparisons with earlier periods for which data are unavailable for blacks separately.

[4] See, for example, *Youth Unemployment: The Outlook and Some Policy Strategies*, (Washington, Congressional Budget Office, 1978); Norman Bowers, "Young and marginal: an overview of youth employment," *Monthly Labor Review*, October 1979, pp. 4–16; and Morris J. Newman, "The labor market experience of black youth, 1954–78," *Monthly Labor Review*, October 1979, pp. 17–27.

[5] Many people have speculated that poor experience in the labor market may have longer-term repercussions for youths. Recently some research that documents this hypothesis has become available. See Wayne Stevenson, "The Relationship Between Early Work Experience and Future Employability," in A.V. Adams and G.L. Mangum, eds., *The Lingering Crisis of Youth Unemployment* (Kalamazoo, Mich., W.E. Upjohn Institute for Employment Research, 1978); and David Ellwood, "Teenage Unemployment: Permanent Scars or Temporary Blemishes," *Conference on Youth Joblessness and Employment* (Washington, National Bureau of Economic Research, 1979),

held at Arlie House, Va., May 17–18, 1979.

[6] For a discussion of some of the factors, for which the time trend is a proxy, see *Youth Unemployment: The Outlook . . .*, and Morris J. Newman, "The labor market experience . . ."

[7] For a study of the employment impact of the minimum wage on teenagers during 1947–68, see Jacob Mincer, "Unemployment Effects of Minimum Wages," *Journal of Political Economy*, August 1976, Part 2. For a summary of the econometric literature on the impact of the minimum wage, see Robert S. Goldfarb, "The Policy Content of Quantitative Minimum Wage Research," *Proceedings of the 27th Annual Meeting of the Industrial Relations Research Association*, 1974. Other recent studies include James F. Regan, Jr., "Minimum Wages and the Youth Labor Market," *The Review of Economics and Statistics*, May 1977; and Edward M. Gramlich, "The Impact of Minimum Wages on Other Wages, Employment, and Family Incomes," *Brookings Papers on Economic Activity*, No. 2, 1976.

[8] Multicolinearity among several key variables has been a frequent problem encountered in research on the employment impact of the minimum wage. See Robert S. Goldbarb, "The Policy Content . . . ," pp. 263–64.

[9] In October 1978, about one-half of all employed teenagers who were enrolled in school were employed in wholesale and retail trade.

[10] See Stanley P. Stephenson, Jr., "The Transition from School to Work With Job Search Implications," in *Conference Report on Youth Unemployment: Its Measurement and Meaning*, (Washington, U.S. Department of Labor, 1978).

[11] Bureau of Labor Statistics, *Students, Graduates, and Dropouts in the Labor Market, October 1978*, Special Labor Force Report 223, Table 3.

[12] Several researchers have documented that youths from lower socioeconomic groups score low on knowledge of the labor market. Moreover, their perceptions about the labor market tend to be exaggerated or distorted. See James S. Coleman, "The School to Work Transition," in *The Teenage Unemployment Problem: What are the Options* (Washington, Congressional Budget Office, 1977).

[13] For discussions of the lowest noninflationary unemployment rate, see Michael L. Wachter, "The Demographic Impact on Unemployment: Past Experience and the Outlook for the Future," in *Demographic Trends and Full Employment*, National Commission for Manpower Policy, Special Report No. 12, December 1976; and *Economic Report of the President*, January 1979, p. 118.

Benchmark revisions

Establishment statistics published by the Bureau of Labor Statistics are based on a monthly survey of 160,000 business establishments and government units. Once a year, these survey statistics are adjusted to benchmarks of complete counts. The counts are derived from unemployment insurance records.

The data in tables 8-20 of the Current Labor Statistics section of this issue of the *Monthly Labor Review* have been revised as a result of such benchmark revisions. The tables also reflect revised seasonal factors to incorporate seasonal experience through March 1980.

An article discussing the benchmark revisions and their effect on the establishment statistics appears in the July issue of the BLS periodical, *Employment and Earnings*.

Women in domestic work: yesterday and today

A century ago, half of all wage-earning women were private household workers; in 1979, fewer than 3 percent were so employed; today's black domestic is likely to be a middle-aged cleaner or servant; a white domestic, a young babysitter

ALLYSON SHERMAN GROSSMAN

Private household workers—a group that consists of cleaning workers and servants, childcare workers, housekeepers, cooks, and launderers—continue to dwindle in number. Domestic work is viewed more and more as a low-skill, low-status occupation, and young women, especially black women, are increasingly shying away from it. Today, domestic workers, who tend to be older women with relatively little education, often receive less than the minimum wage. This article provides a historical overview of private household workers and a close look at their status today. Because 98 percent of all private household workers are women, this article focuses exclusively on them.

The past: domestics predominate

A century ago, private household work[1] was the predominant occupation of all gainfully employed women and girls 10 years old and over. Always a female occupation, in 1870, domestic work accounted for more than half of all female wage earners. (See table 1.) While native-born white women tended to shun this occupation which did not require formal education, experience, or well-developed skills, it was an important source of income for many immigrant and black women.[2]

During the 40 years between 1870 and 1910, the number of private household workers nearly doubled—from 960,000 to 1.8 million—as a result of both a steadily growing supply of labor and an ever-increasing demand. A great influx of immigrants had entered the country, and domestic service was the only type of employment available to many. These newly arrived women often replaced other household workers, particularly native-born white women, who were leaving their jobs for a variety of reasons, such as marriage, childbirth, or work in other occupations. At the turn of the century, private household work required living in the employer's residence, and such service was often terminated, or at least interrupted, when a woman married or had a child. During this period, the rapid industrialization

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and concomitant urbanization of the country gave rise to an expanding number of middle and upper class families who wanted and could afford household help. In fact, the demand for private household workers far outstripped supply.

The number of private household workers declined between 1910 and 1920, as immigration fell and child labor diminished. Proportionately more immigrants from Russia, Poland, and Italy were entering the country during this period, and they were less inclined to be domestic workers than the women from Germany, Ireland, and Scandinavia who had been in the forefront of earlier waves of immigration. Also, young girls age 10 to 15, who formerly had been a source of domestic workers, were increasingly unavailable, as child labor came under attack and compulsory education spread. In addition, the continued urbanization of the country and the onset of World War I altered the focus of female employment. More and more women worked at professional (teaching and nursing), clerical, manufacturing, and sales jobs, so that private household workers accounted for a declining share of female workers.

Yet, demand continued to be strong, as domestic work was viewed by some employers as providing enviable opportunities to women. As one female author discussed in relation to the dearth of such workers in 1915:

> Work in a private house is infinitely more desirable, from the point of view of the influence of one's surroundings, than daily labor in a factory or store. The variety of domestic duties, the freedom of moving from one room to another, or sitting or standing to do one's work, are much to be preferred to the work that compels the worker to stand or sit in one place all day long.
>
> If it be admitted, then, that housework is in itself a desirable and suitable occupation for women who must earn their living by manual labor, it cannot be the work itself, but the conditions surrounding it that make it so distasteful to the modern working woman.[3]

Table 1. Private household workers as a proportion of all employed women, selected years, 1870–1979

[Numbers in thousands]

Year	All employed women	Private household workers	
		Total	As a percent of all employed women
1870	1,836	960	52.3
1880	2,647	1,078	40.7
1890	3,915	1,433	36.6
1900	5,319	1,526	28.7
1910	8,076	1,784	22.1
1920	8,550	1,360	15.9
1930	10,752	1,909	17.8
1940	11,178	2,277	20.4
1950	17,340	1,459	8.4
1960	21,874	1,943	8.9
1970	29,667	1,518	5.1
1971	29,875	1,449	4.9
1972	31,072	1,403	4.5
1973	32,446	1,330	4.1
1974	33,417	1,201	3.6
1975	33,553	1,141	3.4
1976	35,095	1,095	3.1
1977	36,685	1,123	3.1
1978	38,881	1,135	2.9
1979	40,446	1,062	2.6

SOURCES: *Historical Statistics of the U.S. Colonial Times to 1970,* Bicentennial Edition Part I (U.S. Bureau of the Census, 1975).

Employment and Training Report of the President (U.S. Department of Labor, Employment and Training Administration, 1979); and Alba M. Edwards, *Sixteenth Census of the United States: 1940, Population Comparative Occupation Statistics for the United States, 1870 to 1940* (U.S. Bureau of the Census, 1943).

The number of domestic workers rebounded to nearly 2 million between 1920 and 1930, in part, because immigration again accelerated and women more inclined to household work were entering the country. However, other types of employment were growing even faster, and domestic work continued to lose ground as a major source of employment for women. By this time, the nature of private household work had changed, evolving into a job much like any other: the employee lived independently of the employer.

The changing racial composition of the occupational group was a primary force behind this evolution. By the end of World War I, the number of white women in domestic service had dropped substantially. At the same time, black women—who had been concentrated in household work in the South—started migrating in great numbers to Northern cities. They began taking the places of white women who left the occupation for marriage or for other jobs that were increasingly available.

Black women, regardless of marital status, worked outside their homes to a much greater extent than white women. The Department of Labor's Women's Bureau in 1920 reported ". . . it is a well-known fact that most Negro women must continue as breadwinners practically all their lives, marriage rarely meaning a withdrawal from the wage earning ranks."[4] Live-out jobs allowed married black women to work and still raise families of their own. Because private household employment was, in many cases, the only type of work open to them, black women began to account for a growing proportion of domestic workers.

Nevertheless, the high point for private household work as a major employer of all women had long since passed. Immigration had peaked years before, and World War II and its aftermath wrought tremendous changes in American society and the nature of work performed by women. By 1950, fewer than 1 of 10 employed women were private household workers. More recently, with the rapid expansion of the female labor force, this proportion has dropped further.

The present: numbers declining

At the beginning of the 1970's, there were 1.5 million female private household workers, and they accounted for 5 percent of all employed women. By the end of the decade, the number of domestics had fallen to slightly more than 1 million, or less than 3 percent of all female workers.[5] Both a slackened demand for this type of employee and a diminished supply contributed to this drop. For instance, along with the advent of smaller families, continued improvements in household technology eliminated many of the time-consuming, tedious, and difficult tasks associated with running a home. At the same time, increased employment opportunities in other fields, heightened educational attainment (which would provide workers with skills to obtain other types of jobs), and greater availability of public assistance may have hastened the departure of women from this field.[6]

The exodus was more pronounced among black than among white women. While the number of white women dropped significantly from 1970 to 1975 and then plateaued, the number of black women has fallen steadily. By 1979, 45 percent fewer were working in this occupation than in 1970. As the following tabulation shows, in March 1979 very few black women under age 35 worked as domestics:

	Domestic workers (thousands)		
	March 1970	*March 1975*	*March 1979*
Total, 16 years and over	1,649	1,217	1,093
White	974	730	733
Black	633	480	345
Other	42	7	15
Total, 16 to 34 years	599	477	451
White	476	411	417
Black	113	64	30
Other	10	2	4
Total, 35 years and over	1,050	740	642
White	498	319	315
Black	520	416	315
Other	32	5	12

As a result, the racial composition of this occupational group changed from 38 percent black in 1970 to 32 percent black in 1979. Because the basic demographic characteristics of black and white private household workers differ substantially, the following sections focus separately on the two groups.

Black women. Black women employed as domestics in 1979 were older and less educated than black women workers overall. The vast majority worked as cleaners and servants. Many maintained their own families, and their employment provided a major share of their families' support.

Table 2. Selected characteristics of private household workers, by race, March 1979

[Numbers in thousands]

Characteristic	Total	White	Black
Total, 16 years old and over	1,093	733	345
Employment status:			
Employed full time	336	237	94
Employed part time	757	495	251
Unemployed	50	24	26
Unemployment rate (percent)	4.4	3.2	7.1
Age:			
16-24 years	309	292	14
25-34 years	142	125	16
35-44 years	121	65	54
45-64 years	369	169	192
65 years and over	152	82	69
Median age (in years)	42.9	31.0	54.2
Marital status:			
Never married	329	270	53
Married, husband present	450	310	135
Married, husband absent	86	24	60
Widowed	157	89	65
Divorced	72	40	32
Median years of school completed:			
Total	10.9	11.3	9.5
16-44 years	11.5	11.6	10.5
45 years and over	9.5	10.2	8.8
Median earnings, 1979:			
Hourly earnings of those paid by the hour	$2.44	$2.13	$2.68
Usual weekly earnings of full-time wage and salary workers	$89	$80	$110

NOTE: Due to rounding, some components may not add to totals.

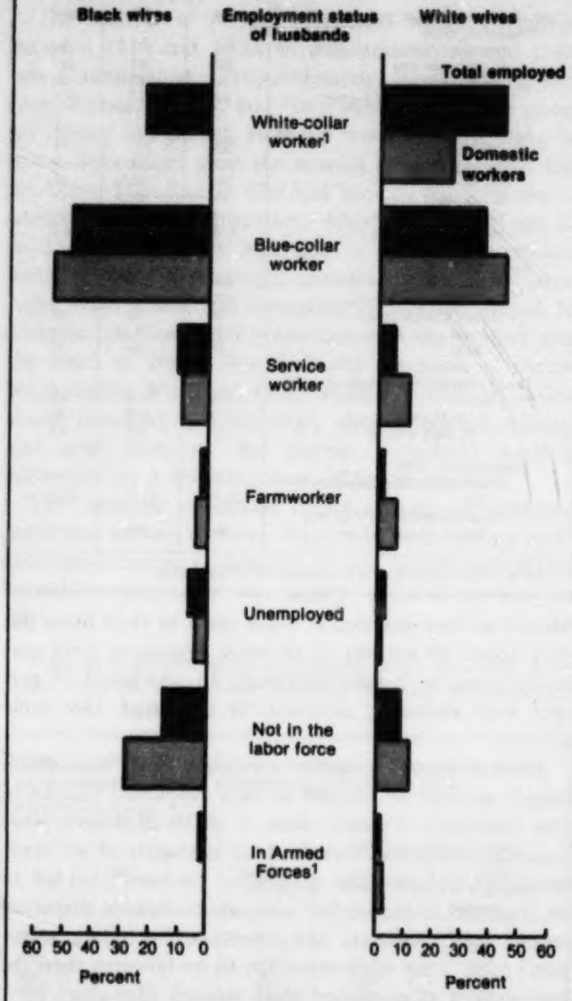
In March 1979, more than 3 of 5 black women in private household work were between the ages of 45 and 64 years, and an additional 1 of 5 were over age 65. Most had been married at some point in their lives, but only about 40 percent of all black domestics were currently living with their husbands; an additional 45 percent were widowed, divorced, or separated. (See table 2.)

Married black domestics were less likely than black female workers in general to have employed husbands. The husbands of fewer than 7 of 10 domestics were working, compared with 8 of 10 husbands of all black employed women. The domestics' husbands tended to be clustered in blue-collar jobs, about equally dispersed among craft, laborer, and operative (including transport) jobs. They were more apt to be laborers than the husbands of all employed black women. (See chart 1.)

Many black women may have stayed in private household work because they are educationally disadvantaged. As a group, black domestics averaged 9.5 years of school in March 1979, with those over age 45 having completed less than 9 years. The median for all black female workers was 12.4 years. Thus, without the schooling or training to meet the requirements of other jobs in today's labor market, many women may be unable to leave household work.

Like most domestic workers, black household workers typically work part time. In March 1979, 7 of 10 reported that they were employed fewer than 35 hours per week. The intermittent nature of the work and the advanced age of many of the women in this group obviously contribute to the high proportion of part-time em-

Chart 1. Employment status of husbands of domestic workers and other employed wives, March 1979



[1] No black domestic workers with husbands in this category.

ployees. Only about 1 of 6 black domestics reported that she worked all year, full time in 1978.

About 25 percent of all black private household workers maintained their own families, and an additional 30 percent were married to men who were out of the labor force. (Of course, because black domestics are older, many of their husbands may be retired.) As a result, these women may be providing a great share of their families' support.

The earnings of private household workers are extremely low by any measure. Although most have been eligible for coverage by minimum wage provisions of the Fair Labor Standards Act since 1974,[7] a large amount of noncompliance with the law is apparent. For instance, in 1974, covered black household employees averaged slightly over $2 per hour. However, 45 percent of those eligible for the minimum wage earned less than the $1.90 hourly rate prescribed by law.[8] Reasons for this apparent noncompliance include: ignorance of the law among some employers and employees; a willingness on the part of some employees to work for less than the legally required minimum in order to have a job; and errors by workers in reporting their wages and perquisites.[9]

As the 1970's closed, the earnings of private household workers remained far below average. In 1979, median earnings for all black women paid by the hour were $3.60; in contrast, 7 of every 10 black domestics earned the minimum wage of $2.90 or less. Black private household workers who were full-time wage and salary workers—slightly more than one-quarter of the total—earned $110 weekly, about one-third less than the median for all full-time black female wage and salary workers.

Despite perquisites—such as lunches and transportation—that some private household workers receive, despite payments in kind, and despite the underreporting or nonreporting of income by some,[10] many domestics are living at the subsistence level. Almost 50 percent of the black women who maintained families and who reported private household work as the occupation at which they worked the longest were below the poverty level in 1978 (the latest year for which poverty data are available). The same was true for half of the black women who did not have any immediate family responsibilities.[11]

White women. The situation for white private household workers was entirely different. As shown in the following tabulation, white women were heavily concentrated in childcare work in 1979:

	Annual averages		
	Total	*White*	*Black and other*
Total (percent)	100.0	100.00	100.00
Childcare workers	43.7	60.2	10.5
Cooks	2.4	1.5	4.0
Housekeepers	8.9	7.6	11.6
Launderers	.6	.4	9
Cleaners and servants	44.4	30.3	73.0

A large component of these childcare workers were youthful babysitters whose social and demographic characteristics were overwhelmingly represented in the composite portrait of white household workers.

Fitting the babysitter pattern, nearly one-third of all white women working in this occupation in March 1979 were never married and under age 25. Because more than half had to balance employment with school attendance, most worked part time, earning only a few hundred dollars in 1978.

The demographic characteristics of the remaining white private household workers were significantly different from those of their black counterparts. On average, they were younger, better educated, and less likely to maintain their own families. In fact, only 1 of 10 white domestics maintained her own family.

About 40 percent were between 25 and 44 years of age. Overall, they had completed an average of 11.9 years of school. A larger proportion—59 percent—were married. Their husbands were employed to a greater degree than were the black husbands, and white husbands were far less likely to be out of the labor force. Blue-collar work was, again, the most prevalent type of employment of the white husbands, although not to the extent of the black husbands. The spouses of white private household workers were much more likely than the blacks to be white-collar workers. However, their proportion was far below that for husbands of all white female workers. (See chart 1.)

In terms of employment status, most of the white domestics were part-time workers; fewer than 10 percent worked all year full time. Median hourly earnings in 1979 of those paid by the hour were about $2.15, with 4 of 5 earning less than $2.90. It should be noted, however, that this median, which was lower than that of their black counterparts, was greatly influenced by the earnings of large numbers of youthful babysitters who were not subject to the minimum wage. White domestics who were full-time wage and salary workers—about 30 percent of all white private household workers—earned $80 weekly, more than $100 below the average for all white female full-time wage and salary workers.

The future: will demand increase?

The nature of household work may change in the years to come. As more commercial enterprises enter the field, domestic workers may find themselves employees of cleaning businesses. As such, they would be subject to the rights and privileges of other workers, such as more rigorous compliance with minimum wage and social security requirements. In addition, the 1980's may witness an upsurge in the demand for private household workers. As greater numbers of women are employed outside their homes, they may seek to substitute paid labor—either from individuals or from businesses—for the work they previously performed in their own homes.

Moreover, efforts have recently been undertaken to upgrade the status of private household workers. Some of this group's needs were included in *The Spirit of Houston*, the official report in 1978 of the National Commission on the Observance of International Women's Year.[12] Also, the National Committee on Household Employment is trying to organize domestic workers throughout the country.[13] This organization, among others, is striving to change the image of domestic workers in both the employee's and the employer's view. By making both parties aware of their legal rights and responsibilities and by emphasizing that household work can be a career with business and professional aspects, the committee hopes to aid private household workers gain greater returns to their labor market experiences. ☐

FOOTNOTES

[1] In this report, the terms "private household work" and "domestic service work" are synonymous.

[2] Historical information in this section is based, in part, on David M. Katzman, *Seven Days a Week* (New York, Oxford University Press, 1978).

[3] C. Helene Barker, *Wanted a Young Woman to Do Housework* (New York, Moffat, Yard and Company, 1915), pp. 25–26. Some of the conditions which made domestic service unpleasant were the necessity of wearing a uniform, the extremely long hours, the isolation, and derision workers suffered. For more information see Katzman, *Seven Days*, especially pp. 8–43 and 233–34.

[4] *Family Status of Breadwinning Women in Four Selected Cities* (U.S. Department of Labor, Women's Bureau, 1926), p. 14.

[5] Labor force data in this section are based primarily on information obtained from the Current Population Survey, a survey of the labor force conducted for the Bureau of Labor Statistics by the Bureau of the Census. Estimates based on sample numbers such as those shown in the tables may vary considerably from results obtained by a complete count in cases where the numbers shown are small. Therefore, differences between small numbers or percents based on them may not be significant. For more information on sampling error, see *Employment and Earnings*, published monthly by the Bureau of Labor Statistics.

[6] *Domestic Service Workers* (U.S. Department of Labor, Employment Standards Administration, 1979), p. 13. See this publication for more complete information about minimum wage and overtime coverage of private household workers.

[7] *Domestic Service*, p. 9.

[8] Ibid., p. A–27.

[9] Ibid., p. 19.

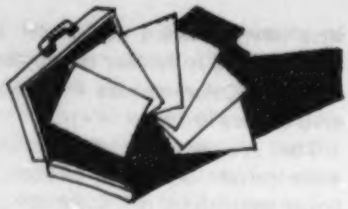
[10] *Domestic Workers Covered Under OASDHI, 1976*, Research and Statistics Note 1 (U.S. Department of Health and Human Services, Social Security Administration, 1980).

[11] *Money Income and Poverty Status of Families and Persons in the United States: 1978, Current Population Reports*, Series P–60, No. 124 (Bureau of the Census, 1980), p.1.

[12] National Commission on the Observance of International Women's Year, *The Spirit of Houston* (Washington, U.S. Government Printing Office, 1978), p. 48.

[13] For more information, contact the National Committee on Household Employment, 500 East 62nd Street, New York, N.Y. 10021.

Conference Papers



The following excerpts are adapted from papers presented at the Thirty-Second Annual Meeting of the Industrial Relations Research Association, December 28–30, 1979 in Atlanta, Ga.

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Vinyl chloride protection: less costly than predicted

CHARLES R. PERRY

The battle over the permanent Federal standard for permissible levels of worker exposure to vinyl chloride was beset with predictions of dire economic consequences which have become commonplace in the standard-setting process. Such consequences clearly have not come to pass, a fact which prompted some to conclude that the industry "cried wolf."[1] That conclusion, strictly speaking, is not justified. But, justified or unjustified, it has had the effect of tempering the industry response to other proposed regulations.

The permanent standard initially proposed by the Occupational Safety and Health Administration (OSHA) called for a level of "no detectable" exposure to the cancer agent. The industry responded that such a standard "is not technologically feasible and, if adopted, would shut down the industry."[2] Interestingly, this claim was supported by the conclusion of a feasibility study, commissioned by OSHA.[3] The consequences of a possible industry shutdown were detailed in a separate study which indicated that $65 to $90 billion in Gross National Product and 1.7 to 2.2 million jobs were dependent on the production of polyvinyl chloride (PVC) resins.[4]

The industry argued for a standard which would set a time-weighted exposure limit of 10 parts per million (PPM) for polyvinyl chloride resin plants and 5 ppm for vinyl chloride monomer (VCM) plants,[5] based on feasibility considerations. Organized labor endorsed the "no detectable level" standard and disputed the infeasibility of such a standard. The results of its own feasibility study forced OSHA to withdraw from the no detectable level standard and to adopt in its place a 1 ppm standard. The industry challenged both the necessity for and feasibility of this stringent limit in the courts with a notable lack of success, particularly because the court of appeals specifically ruled that:

> the secretary is not restricted to the status quo. He may raise standards which require improvements in existing technologies or which require the development of new technology. . . .[6]

The actual economic consequences of this technology-forcing standard for the viability of PVC plants and the availability of jobs in those plants were remarkably modest. A few older PVC plants were shut down, in whole or substantial part, because of the projected cost of bringing those facilities into compliance with the requirements of the standard. These shutdowns resulted in the loss of about 325 million pounds of production capacity and 375 jobs—approximately 5 percent of the industry total. Much of the credit for the modesty of these adverse effects now is attributed by the industry to the reasonableness of the standard itself, as is evident in the following confidential statement of one company representative:

> The OSHA–VCM program was, in the end, a real success story for both OSHA and the VCM–PVC industry. By fighting the "absolute zero" concept originally proposed, industry achieved a more practical 1 ppm standard that allowed it to continue to operate and grow. And, apparently the standard has protected the workers . . . so at least in this case we have a government regulation that has been practical and beneficial to all concerned.

The vinyl chloride standard may not have been catastrophic for the industry, but it was expensive. The first public estimate of the cost of compliance with the 1 ppm standard indicated that the industry would have to invest $200 million (excluding development costs) in im-

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mediate process improvements to satisfy the requirements of the standard.[7] The VCM–PVC industry actually invested about $130 million in such process improvements to bring existing production facilities into compliance with the standard. More than 90 percent of this total was accounted for by PVC plants, which employ only about 75 percent of the workers in the industry.

The apparent $70 million cost "saving" recorded by the industry is an attractive focus of attention but in no way offsets the $130 million actually invested in compliance with the standard. It is difficult to identify the sources of the saving without knowledge of the basis of the original $200 million cost estimate, but three possibilities deserve note. First, part of the savings may be attributable to the decision to close rather than modify some older PVC plants. Assuming that these plants had the most acute and expensive compliance problems, they may well have accounted for as much as 10 percent of estimated compliance cost, although they represented only 5 percent of PVC capacity, and for as much as $20 million of the $70 million saving. Second, part of the savings may have stemmed from miscalculation of the significance of the relative cost advantage of VCM facilities in complying with the standard. For example, there was an almost $4,000 per worker difference between average compliance cost for PVC and for VCM–PVC plants which, if not accounted for in industry cost projections, would have added another $25 million to those estimates. Finally, the industry was able to find more efficient means to achieve compliance than were foreseen at the time the standard was adopted. The largest producer in the industry reported it had been able to reduce its projected $42 million compliance cost by 10 to 15 percent through technological developments.[8] If other producers were able to realize similar economies, the total savings for the industry would have been another $25 million.

Compliance with the vinyl chloride standard entailed incremental operating as well as capital costs. Data on incremental operating costs are limited, but the data which are available suggest that compliance probably cost the industry close to $10 million per year or $100 million in present value terms, assuming a 10 percent interest rate and infinite time horizon. Approximately 70 percent of this incremental operating cost was attributable to added activity and staff in two areas—exposure monitoring and equipment maintenance.

The incremental operating costs associated with compliance are noteworthy for three reasons. First, they were not included in public estimates of compliance costs. Second, they were sizable both in absolute amount and in relation to the capital costs of compliance. Finally, they appear to have been primarily a product of exposure control, *per se*, rather than the more peripheral requirements of the standard such as recordkeeping or medical surveillance.

The incremental capital and operating costs associated with compliance constitute the most visible dimension of the economic impact of regulation. A much more subtle and surprising economic impact of the vinyl chloride standard was a significant reduction in effective production capacity and output per man-hour in the industry.

Compliance with the exposure limits set by the standard required substantial changes in work procedures in the industry. These changes resulted in less efficient utilization of existing equipment and manpower, which lowered effective capacity by approximately 15 percent. The actual loss of product and productivity immediately after the standard became effective was slightly less than 15 percent because there was some temporary excess capacity in the industry. Over the longer run, however, the loss of product and productivity in then existing facilities has approached the full 15 percent for two reasons. First, industry sales generally have been capacity limited and second, little progress has been made in eliminating the need for modified work procedures which limit capacity.

The incremental capital and operating costs for compliance with the vinyl chloride standard represent the equivalent of a $23-million increase in annual production cost. That $23 million, in turn, is the equivalent of a $3,000 per year or $1.50 per hour wage premium for the approximately 7,000 workers employed in the VCM–PVC industry. Assuming average hourly compensation of $10 for those workers, the OSHA vinyl chloride standard mandated a 15 percent increase in effective wage rate in the industry. That 15 percent increase coupled with a 15 percent drop in productivity suggests that compliance resulted in a 35-percent increase in unit labor costs. Labor costs, however, are only a small percentage of total costs in the VCM–PVC industry and probably account for no more than 10 percent of total operating costs. Thus, OSHA regulation added no more than 3.5 percent to the cost of PVC resins—about $.005 per pound. Assuming production from then existing facilities of 4.5 to 4.8 million pounds, the cost to consumers would be about $23 million per year. ☐

———*FOOTNOTES*———

[6] Steven Rattner, "Did Industry Cry Wolf? Polyvinyl Chloride Health Rules Can Be Met," *The New York Times*, Dec. 28, 1975, p. C-5.

[7] "Post-Hearing Memorandum of the Society of the Plastics Industry, Inc.—Proposed Findings of Fact and Conclusions Supported by the Record." (Memorandum presented to the U.S. Department of Labor, Occupational Safety and Health Administration, in the matter of proposed permanent standard for occupational exposure to vinyl chloride, Washington, D.C., Aug. 22, 1974), p. 5.

[8] "Showdown on Vinyl Plant Rule Presages Shutdowns," *Chemical Week*, Sept. 25, 1974, p. 15.

[4] Arthur D. Little, Inc., *United States Polyvinyl Chloride Industry Impact Analysis* (Cambridge, Mass: Arthur D. Little, Inc., 1974), p. 5.

[5] "Showdown on Vinyl," p. 16.

[6] Brief for SPI at 39, *Society of the Plastics Industry, Inc. v. Occupational Safety and Health Administration*, 509 F.2d 1309 (2d Cir. 1975).

[7] "PVC Plants are Ready to Pass First Test," *Chemical Week*, May 7, 1975, p. 49.

[8] "Goodrich Cuts Cost of Meeting VCM Limits," *Chemical Week*, Dec. 10, 1975, p. 59.

A view of the costs and benefits of the job safety and health law

RICHARD E. GINNOLD

A major issue in criticism of the Occupational Safety and Health Administration's enforcement of the Occupational Safety and Health Act has been the alleged onerous increases in costs of production. Industry has raised the issue in standards hearings, in contesting penalties, and politically. Not only does OSHA impose high costs, say critics, but the law provides few or no benefits. Opponents of this reasoning have argued that a select minority of workers bears risks so that the general public can consume. To balance worker protection against costs to the consuming public is immoral and inequitable.[1]

While some courts have required OSHA to consider economic feasibility, a recent D.C. Circuit Court decision on the cotton dust standard clearly states that economic feasibility tests were purposefully left out of the law, in contrast to other environmental laws. The court says:[2]

> In the Clean Air Act, for example, Congress required the Environmental Protection Agency (EPA) to perform a "cost-benefit analysis" . . . Some Congressional acts require a showing of 'unreasonable risk' prior to regulation. The legislative histories of these acts have led the courts to construe this provision to require regulatory agencies to balance costs and benefits of proposed action. In the OSH Act, in contrast, Congress itself struck the balance between costs and benefits in the mandate to the agency. Section 6(b)(5) unequivocally mandates OSHA to:
>
> > 'set the standard which most adequately assures, to the extent feasible, on the basis of the best available evidence, that no employee will suffer material impairment of health or functional capacity.'
>
> In contrast to the acts for which Congress contemplated a cost-benefit requirement, the legislative history of the Occupational Safety and Health Act contains no reference to this kind of economic analysis.

This view contrasts with the 5th Circuit view in the benzene cases now before the Supreme Court. If the D.C. Circuit view prevails, it will greatly assist OSHA in sustaining other urgent but costly health standards.

High costs imposed?

Regardless of the legal position, the cost issue is of practical importance. How do the costs impact on the economy or individual employers? What are the corresponding benefits? Concerning overall costs, it appears they have been greatly exaggerated. Brookings Institution economist Edward Denison did a special study of the impact of environmental costs on growth.[3] He found that all environmental impacts from 1967 had lowered productivity 1.8 percent by 1975.

However, only one-quarter of this, or .42 percent, was due to health and safety regulations. Furthermore, .09 percent was due to auto safety, .24 percent was due to mine safety, and only .09 percent to one-tenth of one percent of total productivity loss was due to OSHA. As Denison points out, this was a measure of gross cost alone, and he did not attempt to measure the health benefits resulting from the costs measured.

Another recent source is a study by the Business Roundtable[4] which measured the incremental costs of environmental regulation by 48 companies making up over one-quarter of the total manufacturing sector (among others) with over $25.8 billion in capital expenditures and $16.6 billion in corporate after-tax profits. These companies reported that the added cost of business due to six Federal regulatory agencies in 1977 was $2.7 billion. The costs of EPA compliance made up 70 percent of the total, which the industry estimates thus far have not caused significant economic problems. Also, as Nicholas Ashford and others have argued,[5] frequently OSHA standards speed up the normal replacement cycles and cause the industry to install a possibly more productive and competitive technology than it was using previously. Costs related to job safety and health were $184 million, or 7 percent of the total. The companies also reported that most of this expense was incurred in earlier years. The McGraw-Hill survey of business safety and health expenditures shows planned spending of $4.9 billion in 1979, as compared with $2.5 billion in 1972. This is a large rise, but not too much more than the rise in producer prices.

There still is the question of long-term economic impacts, effects on worker productivity and employment effects on industries which have refitted or changed production methods to comply with job safety and health requirements. It is important to have a better idea of these costs. Also, given the standard, how long does it

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take to get it fully enforced in all firms? More detailed impact studies should be done for individual firms applying new standards or complying with a controversial standard, for example, noise control and ventilation.

The impression that compliance costs have not been onerous is also confirmed by a number of cases cited by Basil Whiting, OSHA deputy assistant secretary, where the costs of industry compliance with new health standards—vinyl chloride, acrylonitrile, beryllium—turn out to be far lower than initial projections indicated.[6] It should be mentioned that in most of these cases there has not been a thorough followup study, after the standard has taken full effect, looking at both economic and health impacts. These studies are obviously needed.

Because of the uncertain knowledge of firms faced with expensive compliance, there should also be an OSHA hotline and clearinghouse of information on technical and economic feasibility. Case studies of successful compliance efforts could be obtained from Federal and State compliance officers, State consultants and the National Institute for Occupational Safety and Health. This would greatly assist OSHA officers in informal conferences with employers and in handling contested cases. It could also be used by employers and unions dealing with specific compliance problems.

If we ask workers in hazardous jobs about the impact of the Occupational Safety and Health Act and its benefits, there will be no question. The improvement in ventilation, noise reduction, machine guarding, and management's willingness to correct hazards is much greater than before OSHA. Workers can get information on toxic substances for the first time. Yet this anecdotal evidence needs more concrete supporting data. John Mendeloff calculated a possible benefit of $380 million from injury reduction, projected nationally.[7] A recent report estimated the law's injury and illness reduction benefits at over $5 billion, exceeding current projected industry costs for safety and health.[8]

However, we can't even quantify the impact in most areas, let alone attach benefits to it. To go further in measuring benefits, it is necessary to have much more microresearch into injury rate data and case studies of particular firms, industries, and standards to build the base for more global estimates.

Maximizing OSHA's impact

The foregoing discussion indicates that the law has not had the exaggerated cost impact its critics have charged and on balance has had some measurable positive impacts. Yet, it is important and possible for OSHA to produce more tangible impacts on the injury and illness problem. There are several areas of needed action.

Injury and fatality data are being used widely by OSHA's critics to show negative effects. OSHA and the Bureau of Labor Statistics should quickly investigate the anomalies mentioned earlier and also determine to what extent outside factors like workers' compensation improvements are causing the stability or rise in injury rates and how to obtain a rate which more truly reflects changes in job hazards.

As nationwide surveys show,[9] only 20 to 25 percent of all workers are exposed to serious safety and health hazards and just 16 percent of the workers surveyed had experienced an injury or illness in the past 3 years. Only 7 percent felt their injury or illness was a serious problem. The same concentration is seen on the employer side. Approximately 125,000 employers with more than 20 employees have above average injury rates. In the State of Washington, 10,000 employers have almost all the injuries. Even allowing for some statistical turnover of employers from year to year, it is clear that safety and health risks are a priority issue for a minority of employees and employers. OSHA should be directing its entire focus at this group (granted the need to respond to complaints from workplaces missed by the general rule).

Once high hazard employers are identified, their injury and illness experience should be analyzed and related to needed control measures. Where codes are lacking, general duty guidelines should be made available. The targeting emphasis should not stop with inspections, but should be incorporated into the focus of OSHA-funded State consultation programs and "New Directions" education programs. OSHA and its related agencies should all be thinking in terms of a specific injury reduction target—say, 10 percent per year—and making that the focus of activity. There would be some conflicts between this goal and some natural increase in compensation claims from increased awareness and past exposure, but this could be kept separate.

Many of the fastest growing injury causes are not covered by standards, such as back injuries and tendonitis. With a decline in physical conditioning and more women in the labor force, many tools, machines, work procedures, and lifting customs are increasingly hazardous. OSHA now has no standards in these areas, even though some OSHA offices have been citing job design problems in cases where large numbers of "carpal tunnel syndrome" (a wrist nerve deterioration) are seen. OSHA should establish general duty guidelines and practical control measures for citing the most frequent physical stress problems, for example, excessive lifting, job designs which require twisting under load, improperly designed tools and chairs, and standing for long periods on hard floor surfaces.

There are many other issues which could be discussed. OSHA needs to expand the use of general duty citations to overcome the delay in standard-setting. Labor Department lawyers and Occupational Safety and

Health Review Commission judges see the use of general duty as a litigation problem, but 90 percent of OSHA citations are settled in the field and a strongly based general duty clause is worth as much as a standard. □

FOOTNOTES

[1] Nicholas Ashford, *Crisis in the Workplace: Occupational Disease and Injury* (MIT Press, Cambridge, 1976), pp. 359–60.

[2] *Marshall v. AFL-CIO, Marshall v. Cotton Warehouse Association, et al.*, U.S. Court of Appeals, D.C. Circuit (Oct. 24, 1979), p. 55.

[3] Edward Denison, "Effects of Selected Changes in the Institutional and Human Environment Upon Output Per Unit of Input," *Survey of Current Business* (January 1978), pp. 21–44.

[4] The Business Roundtable, *Cost of Governmental Regulation Study* (March 1979).

[5] Ashford, *Crisis in the Workplace.*

[6] Basil Whiting, Jr., "Regulatory Reform and OSHA: Fads and Realities," *Labor Law Journal* (August 1979), p. 514.

[7] John Mendeloff, *Regulating Safety* (MIT Press, Cambridge, 1979).

[8] Mark Green and Norman Waitzman, *Business War on the Law* (Ralph Nader, 1979), p. 81.

[9] R. Quinn and G. Staines, *The 1977 Quality of Employment Survey* (Ann Arbor, Survey Research Center, University of Michigan).

Rise of pensions and social security created alternating goals for unions

BRUNO STEIN

Private pensions and social security retirement benefits easily accommodated each other from the late 1940's until the mid-1960's. Afterwards, the rapid growth in social security benefits altered the role of pension retirement systems and cast doubt upon their future, much to the distress of segments of the pension community.

The important breakthrough on the pension scene occurred in the late 1940's at the bargaining table, when unions began to demand pensions. At the time, social security retirement benefits averaged $29 per month and replaced about 20 percent of the median wage as it was in the year prior to retirement.[1] In view of these low benefits, unions had found an important bargaining issue. But income taxes were now a factor. Before World War II, most workers were below the income tax threshold, but afterward the tax became a wedge between a worker's gross and net incomes; pensions act as a tax shelter. Initially, the tax advantage to workers may have been less obvious in pensions than in other fringe benefits. However, the advantages increased with age, income, and inflation.[2]

Pension coverage grew sharply in the union sector, and spilled over into the nonunion sector. In 1950, 9.8 million workers had coverage; 10 years later, 18.7 million. After that, growth stemmed more from the increasing number of workers in businesses with existing plans than from the inauguration of new plans. By 1975, coverage had reached 30.3 million workers.[3]

Although the low level of social security benefits may have caused the rise of pensions, those benefits began a dramatic upward march in 1970. Between 1970 and 1977, nominal benefits increased by 105 percent. The replacement rate for a median wage earner retiring at age 65 rose from 29.6 percent in 1969 to 44.7 percent in 1977. With a dependent spouse age 62, the replacement rate reached 62 percent.[4] Those who also received pensions found that the social security benefit often was the greater of the two. Moreover, social security benefits were permanently tied to the Consumer Price Index in 1975, a feature that was virtually absent in private pension plans.

Part of the increase in social security benefits was intentional, for example, the *ad hoc* increases before 1975 and the indexing of benefits. However, part of the increase was the unintended byproduct of a faulty benefit computation formula, enacted in 1972 and effective starting in 1975. This—the famous decoupling problem—drove future benefits upward faster than expected, and overcompensated for inflation.[5] The problem was—one hopes—corrected by the 1977 amendments.

Understandably, the pension community became nervous. As early as 1970, Robert J. Meyers sounded the warning that "expansionists" in the Social Security Administration sought to change social security from a floor of protection to a virtually complete replacement of preretirement income.[6] Pension planners indeed had cause to worry. If social security benefits continued to increase, they might crowd out the need for pensions. It is not surprising, therefore, that, by the mid-1970's, the labor movement no longer placed priority on social security benefit increases, leaving some room for pension improvements at the bargaining table.[7]

The 1977 amendments to the Social Security Act have ended the rise of benefits as measured by the replacement rate. As a result, social security is now less likely to crowd out pensions, and the latter will retain their importance as income maintenance for future retired workers. □

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FOOTNOTES

[1] Alicia H. Munnell, "The Future of the U.S. Pension System," in Colin D. Campbell, ed., *Financing Social Security* (Washington, American Enterprise Institute, 1979), p. 256.

[2] Donald J. Cymrot, "The Effect of Tax Incentives on the Rate of Return for Private Pensions," January 1978, unpublished.

[3] Alfred M. Skolnick, "Private Pension Plans, 1950–1974," *Social Security Bulletin*, June 1976, p. 4; and Martha Remy Yohalem, "Employee Benefit Plans, 1975," *Social Security Bulletin*, November 1977, pp. 20–26.

[4] Munnell, "The Future of the U.S. Pension System," pp. 255–56.

[5] An excellent treatment of this complicated issue is found in Robert S. Kaplan, *Indexing Social Security: An Analysis of the Issues* (Washington, American Enterprise Institute, 1977). For a broader view of the issues, see the papers, comments, and discussion in Campbell, *Financing Social Security*, pp. 91–169.

[6] Robert J. Myers, "The Future of Social Security: Is It in Conflict with Private Pension Plans?" *Pension and Welfare News*, January 1970, pp. 38–48. For a more complete discussion of Myers' position, see Martha Derthick, *Policymaking for Social Security* (Washington, The Brookings Institution, 1979), pp. 23–27, 31, 177–79.

[7] Bert Seidman, "Concepts of Balance Between Social Security (OASDI) and Private Pension Benefits," in Dan M. McGill, ed., *Social Security and Private Pension Plans: Competitive or Complementary?* (Homewood, Ill., Richard D. Irwin, Inc., 1977), p. 86.

New Spanish legislation marks turning point in labor relations

BENJAMIN MARTIN

Organized labor in Spain partakes of the highly political character that distinguishes trade unionism in the Latin countries of Western Europe. But the Spanish political climate in recent years has taken on inordinate dimensions; the initial years of the democratic transition have been a time of acute rivalries as contending political forces fiercely compete for power and electoral influence. The unexpectedly large support received by the Socialists in the June 1977 parliamentary election prompted the center-right government of Prime Minister Adolfo Suarez to enter a tacit collaboration with the Communists, for the purpose of containing the Socialist resurgence, a development that inevitably influenced the formulation of government labor policies.

The Suarez government has regarded the unions almost exclusively in political terms because the two leading labor confederations are controlled by Socialists and Communists. In its estimation, therefore, other than for purposes of political manipulation, there was little incentive to promote basic reforms in labor legislation. There was, on the other hand, good reason to maintain the unions in limbo, in a weakened state to aid the ruling Union of the Democratic Center Party (UCD) in its effort to establish a third major labor center that would serve as the government's labor adjunct.

Nor were the actions of the Socialist and Communist Parties conducive to effective trade union development. Engrossed in a crucial contest for political advantage, their respective trade union arms were constrained to concern themselves at least as much, if not more with political mobilization and tactics than with essential trade union tasks. In such an environment, institutional needs and the credibility of the unions necessarily suffered.

Turning point

The outcome of the March 1, 1979, parliamentary election marked a perceptible change. The election results reflected a decisive turnback of a Socialist challenge to the continued incumbency of the Suarez government, and a strengthened parliamentary standing for the victorious UCD. Accrued political strength and the reasonable assurance of remaining in power until 1983 persuaded the government in recent months to abandon its alliance with the Communist Party (PCE). Moreover, since the Socialist Workers Party (PSOE) no longer represents a threat to tenure, to a greater extent than before, the country's principal parties have found it mutually beneficial to establish working compromises on pending legislation. An example is the new Statute of the Workers, passed by the Congress of Deputies on December 20, 1979.

Most likely it was employer influence that was instrumental in the government's decision to embark on a new approach both to industrial relations and to the Communists. The Spanish Confederation of Employer Organizations (CEOE), which serves as the principal spokesman for employer interests, is endeavoring to reduce the highly interventionist government role inherited from the Franco regime, and to carve out for itself a larger role in the setting of economic and labor policies.

In July 1979, before the inauguration of parliamentary discussions on the proposed labor statute, the CEOE and the General Union of Workers (UGT) (which is allied with the Socialist Party) entered into a pact that set forth their joint support for a number of proposed provisions of the labor code. This unprecedented development set the stage for the subsequent unveiling of the new policy.

The pact marked a major departure not only for the future configuration of labor-management relations but also as a portent of the change in attitude toward the Communists. The principal thrust of PCE strategy is designed to increase the party's own acceptability. The Workers Commissions, as a consequence, have insisted that the setting of national economic and labor policies should be taken up in formal discussions among government, employers, unions, and the political parties. The UGT argued that such matters require labor-management consultations to lend them a more functional character, and to establish the practice of high-level labor-management consultations. When the CEOE sided

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with UGT on the issue, the Workers Commissions withdrew from the talks.

The UGT also emerged the gainer in a dispute with the Workers Commissions over the roles to be accorded respectively to the unions and the factory works councils. The Workers Commissions have consistently sought to confer wide ranging powers on the works councils, including the right to negotiate on wage and other economic issues, in order to exploit both its appreciable superiority in experienced cadres and UGT's deficiency in this area. The UGT, on the other hand, has argued in favor of a larger role for the unions at the plant level and has proposed a delineation of functions similar to what prevails in most West European countries: that works councils be empowered to represent workers with respect to most nonwage matters, while unions bargain for wages, hours, and related issues. Both the pact with CEOE and the provisions of the new statute favor the UGT approach.

Concern about Communism

An underlying factor in this rapprochement has been mounting concern in employer and center-right political circles that the tacit alliance between the Suarez government and the Communists, if it were to continue, might eventually lead to Communist labor hegemony, especially since the government's effort to create its own trade union arm has ended in total failure. In the moderates' and rightists' view, therefore, a new policy was required, one that would reduce the PCE's disproportionate influence in the country's political life. As a result, the CEOE-UGT pact, the adoption of a labor statute that incorporated the UGT-CEOE proposals, and the government's change of attitude toward the Communists all heralded an important shift in labor policy and in the country's political alignments.

Such a shift required the government to improve relations with the PSOE and UGT. The latter, who regard the PCE and Workers Commissions more as rivals than as appropriate collaborators, view the government's current attempt to politically isolate its erstwhile allies as excessive and potentially counter-productive, but are, nevertheless, disposed to enter working agreements with the Suarez government on specific issues. The Communist Party and the leadership of the Workers Commissions understandably have denounced the new statute as retrograde and prejudicial to the workers' interests. While the new law may be somewhat partial to employer interests it is, nonetheless, constructive in a number of important aspects. It holds up fairly well when compared with similar legislation in other West European countries. Further, despite the acute political controversy accompanying the passage of the Statute of the Workers, the logjam preventing the establishment of a coherent post-Franco labor relations structure has been breached at long last.

Viewed in broader context, the democratic evolution process now seems to have attained sufficient stability to render possible the inauguration of a similar evolution in labor-management relations as well. The establishment of "rules of the game" signifies that a gradual institutionalization of the collective bargaining process and role definitions of the protagonists can now proceed along structured lines. For the unions that have fallen on hard times, a strengthening of their role in the new collective bargaining system and in the formulation of national economic policies holds the promise of eventually providing them with an institutional capacity. This has thus far eluded them, as has the gradual emergence of a specific trade union voice in the country's economic and social life. Such an evolution, should it come to pass, could serve to liberate the unions from their presently excessive dependence on the political parties. Throughout the initial years of Spain's democratic transition the trade union-party nexus has tended to function as a largely unilateral transmission belt rather than as a mutually beneficial channel between allied, but not always congruent, interests. □

Family Budgets

Rise in autumn 1979 family budgets marked by transportation and taxes

Reflecting large increases in transportation and medical costs, and personal income taxes, the three hypothetical budgets for an urban family of four in autumn 1979 averaged $12,585 a year at the lower level, $20,517 at the intermediate level, and $30,317 at the higher level.[1] (See table 1.) From autumn 1978 to autumn 1979, the lower budget rose 9.0 percent, the intermediate, 10.2 percent, and the higher, 10.6 percent. (See table 2.)

Consumption costs. Consumption costs rose by approximately 9 percent in the lower budget and 10 percent in the intermediate and higher budgets between autumn 1978 and autumn 1979. The largest increases in consumption costs for all three budgets were in transportation and medical care, and in homeowner costs for the intermediate and higher budgets (See table 3.)

The large increases in food costs in the previous year, approximately 12 percent for the lower level and 13 percent for the intermediate and higher level budgets, were replaced by lesser increases of 9.4 percent for the lower and intermediate budgets and 9.5 percent for the higher budget.

Tax changes. The budgets include Federal, State, and local tax payments. Changes in Federal Laws provided for increased deduction for personal exemptions, higher standard deductions for the assumed family type in the budgets, and a decrease in tax rates. These deductions were offset by higher tax rates corresponding to higher incomes. The net result was that total personal income taxes increased approximately 10 percent at the lower level and 11 percent at the intermediate and higher levels. This contrasts to the 1977–78 income tax changes where taxes at the lower level rose 30 percent, and at the intermediate and higher level, 17 and 15 percent.

Table 1. Annual budgets for a 4-person urban family, at 3 levels of living, autumn 1979

Component	Level		
	Lower	Intermediate	High
Total budget	$12,585	$20,517	$30,317
Total family consumption	10,234	15,353	21,069
Food	3,911	5,044	6,360
Housing	2,409	4,594	6,971
Transportation	1,004	1,851	2,411
Clothing	866	1,235	1,804
Personal care	323	433	613
Medical care	1,171	1,176	1,227
Other family consumption	550	1,021	1,684
Other items	538	877	1,478
Social security and disability	781	1,256	1,413
Personal income taxes	1,032	3,031	6,357

NOTE: Because of rounding, sums of individual items may not equal totals.

Table 2. Change in 4-person family budgets, autumn 1978 to autumn 1979

[In percent]

Component	Level		
	Lower	Intermediate	Higher
Total consumption less shelter	9.1	9.3	9.2
Total consumption	9.0	9.7	9.6
Food	9.4	9.4	9.5
Housing	7.9	9.9	9.9
Shelter[1]	8.2	10.8	10.9
Renter costs	8.2	8.1	7.9
Homeowner costs[2]	. . .	11.3	11.3
Housefurnishings and operations	7.0	6.8	6.9
Transportation	17.3	17.7	18.0
Clothing	2.2	2.2	2.0
Personal care	7.3	7.4	7.5
Medical care	10.0	9.9	9.9
Other family consumption	6.8	6.8	6.7
Other items	7.4	8.3	8.3
Social security	8.6	17.1	29.5
Personal income taxes	10.4	10.7	10.8
Total budget	9.0	10.2	10.6

[1] Includes only rental housing in the lower budget.

[2] On the assumption that the home was purchased 6 years ago, these costs reflect changes in purchase prices and mortgage interest rates from 1972 to 1973; and changes in property taxes, insurance, fuel and utilities, and repairs and maintenance from 1978 to 1979.

Housing and utilities. Housing consists of rental units only in the lower budget, and increased by 7.9 percent between autumn 1978 and autumn 1979. In the intermediate and higher budgets, housing includes both rentals and homeownership, and increased by 9.9 percent, largely because of increases in mortgage interest during 1972–73, and substantial increases in fuel and utility costs. Increases in housing costs had a greater impact on the intermediate and higher budgets than on the lower budgets, not only because of large rises in homeowner costs but also because housing accounts for a larger share of the consumption dollar at those levels.

The social security tax rate rose from 6.05 in 1978 to 6.13 percent in 1979, and the maximum income on which it is deducted increased from $17,700 to $22,900. The family budgets represent the costs of three hypo-

Table 3. Indexes of comparative costs based on an intermediate budget for a 4-person family,[1] autumn 1979*

[U.S. Urban average cost = 100]

Area	Total budget	Cost of family consumption												Personal income taxes
		Total consumption	Food		Housing			Transportation[7]		Clothing	Personal care	Medical care[8]	Other family consumption[9]	
			Total	Food at home	Total[4]	Renter[5]	Homeowner[6]	Total	Automobile owners					
Urban United States	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Metropolitan areas[2]	102	102	101	101	102	104	104	101	102	101	101	103	103	104
*Nonmetropolitan areas[3]	91	92	94	97	89	83	84	97	93	97	94	88	85	82
Northeast:														
Boston, Mass.	119	115	106	108	135	114	151	116	133	111	99	93	110	142
Buffalo, N.Y.	106	103	102	104	105	99	107	109	103	123	92	82	100	121
New York-Northeastern, N. J.	116	111	111	109	127	111	140	92	105	93	103	103	110	147
Philadelphia, Pa.-N.J.	104	102	112	109	100	87	106	96	109	73	92	103	105	119
Pittsburgh, Pa.	97	97	104	104	88	86	86	101	100	95	98	89	100	98
*Nonmetropolitan areas[3]	101	101	100	103	107	88	115	105	99	101	87	90	84	103
North Central:														
Chicago, Ill.-Northwestern Ind.	100	102	101	102	101	107	101	104	119	93	98	107	109	93
Cincinnati, Ohio-Ky.-Ind.	99	99	102	103	93	82	96	100	95	116	93	95	100	96
Cleveland, Ohio	102	103	100	98	102	86	108	101	100	107	126	101	107	96
Detroit, Mich.	101	101	99	99	103	95	109	97	96	97	104	109	100	105
Kansas City, Mo.-Kans.	96	97	97	98	86	88	82	107	101	108	119	97	101	89
Milwaukee, Wis.	104	102	97	96	107	100	112	102	97	113	107	96	103	114
Minneapolis-St. Paul, Minn.	104	99	101	100	97	103	96	99	94	101	109	88	109	132
St. Louis, Mo.-Ill.	97	98	105	106	90	84	86	107	106	96	96	89	102	92
*Nonmetropolitan areas[3]	92	93	94	97	91	96	86	96	91	106	99	84	87	86
South:														
Atlanta, Ga.	92	93	96	95	82	77	77	99	94	109	103	91	98	82
Baltimore, Md.	99	97	96	94	96	112	86	96	95	98	97	102	100	110
Dallas, Tex.	89	94	94	91	85	96	80	101	96	93	104	106	99	63
Houston, Tex.	93	97	98	95	86	85	82	100	95	108	111	117	96	68
Washington, D.C.-Md.-Va.	108	105	103	103	110	113	110	99	98	91	110	107	112	129
*Nonmetropolitan areas[3]	85	88	92	95	81	70	71	95	90	89	93	88	85	68
West:														
Denver, Colo.	100	100	96	97	96	87	93	104	99	132	91	92	102	99
Los Angeles-Long Beach, Calif.	97	98	97	94	92	119	85	105	104	96	97	127	92	87
San Diego, Calif.	98	99	95	91	97	107	97	103	97	98	99	124	100	89
San Francisco-Oakland, Calif.	105	105	102	101	103	148	93	108	107	107	119	118	99	103
Seattle-Everett, Wash.	101	105	100	97	106	135	99	103	98	114	118	110	105	80
Honolulu	126	117	126	131	122	142	119	104	99	104	114	107	113	176
*Nonmetropolitan areas[3]	94	94	94	97	90	104	82	96	92	109	97	93	85	96
Anchorage, Alaska	136	134	123	127	155	197	140	126	120	113	140	161	102	157

[1] The family consists of an employed husband, age 38, a wife not employed outside the home, an 8-year-old girl, and a 13-year-old boy.

[2] As defined in 1960–61. For a detailed description of these and previous geographical boundaries, see the 1967 edition of *Standard Metropolitan Statistical Areas*, prepared by the Office of Management and Budget.

[3] Places with population of 2,500 to 50,000.

[4] Housing includes shelter, housefurnishings, and household operations.

[5] Renter costs include average cotract rent plus the cost of required amounts of heating fuel, gas, electricity, water, specified equipment, and insurance on household contents.

[6] Homeowner costs include interest and principal payments plus taxes; insurance on house and contents; water, refuse disposal, heating fuel, gas, electricity, and specified equipment; and home repairs and maintenance costs.

[7] The average costs of automobile owners and nonowners in the intermediate budget were weighted by the following proportions of families: Boston, New York, Chicago, and Philadelphia, 80 percent for owners, 20 percent for nonowners; Baltimore, Cleveland, Detroit, Los Angeles, Pittsburgh, San Francisco, St. Louis, and Washington, D.C., with populations of 1.4 million or more in 1960, 95 percent for automobile owners and 5 percent for nonowners; all other areas, 100 percent for automobile owners.

[8] In total medical care, the average costs of medical insurance were weighted by the following proportions: 30 percent for families paying full cost of insurance, 26 percent for families paying half cost; 44 percent for families covered by noncontributory insurance plans (paid by employer).

[9] Other family consumption includes average costs for reading, recreation, tobacco products, alcoholic beverages, education, and miscellaneous expenditures.

*Some areas previously shown are no longer available.

thetical lists of goods and services that were specified in the mid–1960's to portray three relative standards of living described as lower, intermediate, and higher. These budgets are for a precisely defined urban family of four: a 38 year-old husband employed full time, his non-working wife, a boy of 13, and a girl of 8. The family has, for each budget level, average inventories of clothing, housefurnishings, major durables, and other articles. The budgets pertain only to an urban family with the specified characteristics; no budgets are available for rural families. The budgets are not intended to represent a minimum level of adequate income or a subsistence level of living, nor do they indicate how families do or should spend their money.

Users should note that the procedures used in updating the budgets to 1979 differ from procedures used in 1978. As a result of the revision of the CPI program in January 1978, individual area price changes from autumn 1978 to autumn 1979 were available for only 25 of the44 family budget areas. The urban U.S. average includes estimates for these areas, however, using price data for the appropriate region and population size classes which are available from the CPI. Nonmetropolitan areas, which have always been shown as a separate class, have been similarly updated.

Complete data on the three family budgets can be obtained from the Bureau of Labor Statistics or any of its regional offices. ☐

Research Summaries

The workweek in 1979: fewer but longer workdays

JANICE NEIPERT HEDGES

The 4-day 40-hour workweek is the best known, but perhaps not the most significant, illustration of a trend toward fewer but longer workdays for full-time workers. Schedules that exceed the 40-hour standard are increasingly compressed into 5 days in order to provide a 2-day weekend.

The number of wage and salary workers who usually work 5.5 or 6 days a week declined by more than one-half million in the 6 years ended May 1979.[1] (See table 1.) This drop occurred despite a gain of about 1 million in the group of workers who are most likely to work more than 5 days, namely, those who work 41 hours or more per week. The explanation lies in the growing practice of squeezing the workweek into 5 days or less even if this requires workdays of 9 or 10 hours or even more.

The compression of weekly hours into fewer days is evident below and above the 40-hour standard workweek. Among employees who usually work 35 to 39 hours, the proportion working 4.5 days or less increased from 5 to 7 percent from 1973 to 1979. Among those who usually work 41 to 48 hours, three-fifths were on 5-day schedules in 1979—up from less than one-half 6 years earlier. The trend away from 5.5 and 6-day weeks was evident even for those who work 49 hours or more a week. (See table 2.)

The push toward fewer but longer days is seen most clearly in the data for workweeks of a specific number of hours, rather than those which are expressed in intervals of hours, as the latter may mask movement within the interval (for example, relatively fewer workers at or near the upper margin). Thus, among employees who reported working 44 hours, the proportion working more than a 5-day schedule declined from one-half to one-third from 1973 to 1979. Among those working 48 hours a week, the proportion working more than 5 days declined from one-fourth to one-fifth.

The modest reductions in the weekly hours of wage and salary employees in this 6-year period (reflected in a decline from 42.5 to 42.3 in the average usual hours of full-time employees) fell far short of organized labor's

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Table 1. Nonfarm wage and salary workers who usually work full time, by usual number of days worked per week, May 1973 to 1979

Year	Total	4.5 days or less				5 days	5.5 days or more			
		Total	3 days	4 days	4.5 days		Total	5.5 days	6 days	7 days
	Number of workers (in thousands)									
1973	58,923	990	145	575	271	47,754	10,179	2,768	6,231	1,180
1974	59,442	1,108	190	653	265	48,891	9,443	2,559	5,751	1,133
1975	57,787	1,247	186	771	290	48,382	8,158	2,272	4,799	1,087
1976	59,700	1,271	215	744	312	49,768	8,662	2,307	5,240	1,115
1977	61,891	1,399	245	853	301	51,206	9,286	2,298	5,744	1,244
1978	63,943	1,400	207	893	300	53,014	9,529	2,475	5,802	1,252
1979	67,712	1,493	232	925	336	56,522	9,697	2,381	6,026	1,290
	Percent distribution									
1973	100.0	1.7	0.2	1.0	0.5	81.0	17.3	4.7	10.6	2.0
1974	100.0	1.9	.3	1.1	.4	82.2	15.9	4.3	9.7	1.9
1975	100.0	2.2	.3	1.3	.5	83.7	14.1	3.9	8.3	1.9
1976	100.0	2.1	.4	1.2	.5	83.4	14.5	3.9	8.8	1.9
1977	100.0	2.3	.4	1.4	.5	82.7	15.0	3.7	9.3	2.0
1978	100.0	2.2	.3	1.4	.5	82.9	14.9	3.9	9.1	2.0
1979	100.0	2.2	.3	1.4	.5	83.5	14.3	3.5	8.9	1.9

NOTE: Because of rounding, sums of individual items may not equal totals. Data prior to 1976 exclude private household workers.

often stated objective of a 4-day, 32-hour week. They did, however, facilitate the compression. A 5-day schedule is more feasible with a 45-hour week, for example, than with a 50-hour week. Nonetheless, in 1979, the number of workers who regularly worked 10 hours a day for 5 days was several times the number who worked 10 hours daily for 4 days (2.3 million versus .5 million.)

In the early 1970's, the 4-day, 40-hour workweek had been heralded as the successor to the standard 5-day week. At the close of the decade, however, 64 percent of all wage and salary workers, or 1 percentage point more than in 1973, were on 5-day, 40-hour schedules. Growth in the number of 4-day employees since 1977 had no more than kept pace with the overall growth in wage and salary employment. Work schedules which gave employees some choice in the timing of their work (for example, flexitime) seemed to be taking hold but had not resulted in any significant change in the number of workdays in the week.[2]

Compressed 4-day workweeks had come to be considered largely as special schedules. They were being used, for example, to provide larger police forces during high crime periods and to increase the utilization of

Table 2. Nonfarm wage and salary workers by usual weekly hours and days in the workweek, May 1973, 1976, and 1979

[In percent]

Usual time worked	1973	1976	1979
Average usual hours	42.5	42.1	42.3
Percent usually working			
35 - 39 hours in			
4.5 days or less	5.0	7.0	7.0
5 days	88.0	86.0	87.0
5.5 days or more	7.0	7.0	6.0
40 hours in			
4.5 days or less	1.0	1.0	2.0
5 days	96.0	96.0	95.0
5.5 days or more	3.0	3.0	3.0
41 - 48 hours in			
4.5 days or less	2.0	2.0	2.0
5 days	46.0	51.0	57.0
5.5 days or more	52.0	47.0	41.0
49 - 59 hours in			
4.5 days or less	2.0	2.0	2.0
5 days	45.0	49.0	50.0
5.5 days or more	54.0	49.0	48.0
60 hours or more in			
4.5 days or less	3.0	4.0	3.0
5 days	19.0	22.0	23.0
5.5 days or more	79.0	75.0	74.0

NOTE: Because of rounding, sums of individual items may not equal totals. Data prior to 1978 exclude private household workers.

Table 3. Nonfarm wage and salary workers who usually work full time, by usual number of days worked per week, and industry and occupational group, May 1979

Industry and occupation	Total (in thousands)	Percent distribution					
		4.5 days or less	4 days	5 days	5.5 days	6 days	7 days
Total	67,712	2.2	1.4	83.5	3.5	8.9	1.9
Industry							
Goods-producing[1]	25,274	2.0	1.4	85.1	3.4	8.2	1.3
Mining	793	1.8	.8	72.7	2.3	14.5	8.7
Construction	4,456	3.0	2.4	85.9	2.9	7.3	.9
Manufacturing	19,711	1.7	1.2	85.8	3.4	7.9	1.1
Service-producing	42,438	2.3	1.4	82.5	3.6	9.3	2.3
Transportation and public utilities	5,188	1.8	1.4	86.1	2.1	6.8	3.1
Wholesale and retail trade	11,348	2.0	1.4	71.5	6.8	17.6	2.1
Finance, insurance, and real estate	4,236	1.4	.5	84.5	4.3	7.6	2.2
Services	17,120	2.3	1.4	86.1	2.5	6.4	2.6
Public Administration	4,545	4.6	1.9	90.4	.7	3.7	.6
Federal except postal	1,480	1.0	.1	96.2	.7	2.0	.1
Postal	613	(2)	(2)	91.6	.8	7.6	(2)
State	807	1.3	1.1	95.6	.5	1.5	1.1
Local	1,645	11.2	4.6	82.2	.8	4.8	1.0
Occupation							
White-collar workers	35,371	1.5	.8	84.5	4.1	8.0	1.9
Professional and technical	11,655	1.7	1.1	87.8	2.7	5.5	2.2
Managers and administrators	7,898	.8	.6	71.6	8.0	16.1	3.5
Sales workers	3,333	1.8	.9	70.7	8.4	16.1	3.1
Clerical workers	12,484	1.6	.8	93.2	1.8	3.2	.3
Blue-collar workers	25,761	2.3	1.6	83.2	3.3	9.5	1.7
Craftworkers	10,489	1.7	1.3	82.7	4.0	10.1	1.5
Operatives, except transport	9,232	2.2	1.4	85.4	2.4	8.4	1.6
Transport equipment operatives	2,818	3.9	2.7	76.1	3.6	13.3	3.1
Laborers	3,222	3.0	2.2	84.7	3.1	7.7	1.5
Service workers	6,580	5.8	3.2	79.2	1.3	11.1	2.5

[1] Total includes nonfarm workers in agricultural industries, not shown separately.

[2] Not available.

NOTE: Because of rounding, sums of individual items may not equal totals.

capital equipment by scheduling more work outside the traditional daytime shifts. In continuous operations, rotating, 12-hour shifts that combined workweeks of 4 days with 3-day workweeks were being introduced to provide employees with more days off (and more free weekends) than under traditional scheduling.[3] Some viewed the 4-day workweek primarily as an energy conservation device in the event of a national emergency.[4]

The greater prevalence of workweeks of any given number of days in some industries than in others indicates special requirements in those industries as well as legal restrictions and custom. Five-day schedules were very widespread in Federal public administration in 1979 where employees were covered by requirements of the Federal Pay Act for premium pay after 8 hours work a day.[5] (See table 3.) Schedules of fewer than 5 days occurred most often in local government, largely because of the use of such schedules for police and firefighters. Full-time workweeks of 5.5 and 6 days were more common in trade than elsewhere, in part, because stores generally operate more days than offices or factories. In the service-producing sector as a whole, both longer and shorter workweeks were a little more prevalent than in the goods-producing group.

Wide differences also are observed by occupation. Clerical occupations had by far the highest proportion of 5-day workers, while workweeks of 5.5 and 6 days were most common for sales employees and managers and administrators. Service workers, 6 percent of whom were on schedules of 4.5 days or less, were more likely than other groups to work full time in fewer than 5 days. Among transportation equipment operators (a group that includes truck drivers), both the proportion working 4 days and the proportion working 6 days were higher than the overall average.

Overall, the proportion of full-time wage and salary workers who usually work 5 days or less, rose by 3 percentage points, to almost 84 percent, in the 6 years ended May 1979. ☐

———*FOOTNOTES*———

[1] Findings in this report are based on information collected once a year since 1973 through a May supplement to the monthly Current Population Survey, which is conducted for the Bureau of Labor Statistics by the Bureau of the Census. The information is provided by a question, "How many days a week does . . . . usually work at this job?," cross-classified with questions on the monthly schedules. The data refer to the number of days per week that are usually worked by nonfarm wage and salary employees who work full time (35 hours or more) on their sole or primary job.

[2] Flexitime in its simplest form has no impact on the number of days worked; employees can vary the hour at which they begin and end work, but are required to put in a full day every day. However, under more advanced forms of flexitime, workers can work longer days occasionally to shorten their workweek by a half day, or even more.

[3] Herbert R. Northrup, James T. Wilson, and Karen M. Rose, "The Twelve-Hour Shift in the Petroleum and Chemical Industries," *Industrial and Labor Relations Review*, April 1979, pp. 312–26.

[4] "Concepts for an Energy Conservation Contingency Plan: Compressed Work Week." Draft, Jack Faucett Assoc., Inc. under contract to U.S. Department of Energy, 1979.

[5] The Federal Employees Flexible & Compressed Work Schedules Act of 1978 (Public Law 95–390) has temporarily suspended these provisions for agencies or work units participating in approved experiments with work schedules.

Most workers find jobs through word of mouth

MARY CORCORAN, LINDA DATCHER,
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A majority of workers heard about their current jobs through friends and relatives, according to a recent nationally representative sample of adult workers, and more than one-third of all workers had help in getting their jobs. Black men were as likely as white men to have heard about or obtained their current jobs informally. Informal channels were used more among young workers, less educated workers, and blue-collar workers.

These data are from the 11th wave of the Panel Study of Income Dynamics, an ongoing, longitudinal study of more than 5,000 American families which was begun in 1968.[1] The sample for this study is restricted to male household heads, female household heads, and wives, all of whom were under age 45 in 1978 and worked at least 250 hours in 1977. There were 3,759 observations; 1,499 white men, 667 black men, 988 white women, and 605 black women. When weighted, these data represent the population of young working adults living in their own households. All heads of households responded for themselves; for married couples, husbands reported for their wives.

Three distinct aspects of informal job search were investigated: "search at the extensive margin," "search at the intensive margin," and "influence patterns." Search at the extensive margin involves workers obtaining wage offers from additional employers; search at the intensive margin involves obtaining additional information about job offers already in hand.[2] Responses to the first question, "How did you first hear about a job with your

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present employer—was it through a friend, a relative, a want ad, an employment agency, or what?" provide some information about search at the extensive margin. Responses to the second question, "Before you got your first job with your present employer, did you know anyone who worked there?" provide a dichotomous measure of information at the intensive margin. Personal contacts who are already working for a potential employer may provide jobseekers with useful information about working conditions, fringe benefits, and advancement opportunities. Responses to the third set of questions, "Do you think there was anyone who may have helped you get the job?" and "How did they help?" provide measures of influence, that is, whether the workers received any help at all from personal contacts in getting their current jobs.

How workers hear about their jobs

Friends, relatives, and personal contacts were a major source of information and help to workers seeking jobs. About half of all workers heard about their current job through a friend or relative and about half knew someone who worked for their current employer before they began work. Reports of influence, while less common, were still numerous. About 40 percent of the men and one-third of the women reported that someone helped them get their current job.

In contrast to some previous findings,[3] we found that black men were more likely than white men to have heard about a job from a friend. In addition, they were more likely to have known someone who worked there and to be helped by someone in getting the job. But looking at the kind of help received, white men were somewhat more likely to report having received direct help than were black men.

Women were considerably less likely than men to have used informal information and influence channels in obtaining their current jobs. Recall, however, that husbands reported on their wives' use of such channels. Such a difference would be expected if husbands systematically underestimated the extent to which their wives had access to friendship networks to learn about and get jobs. When women's use of informal information and influence channels was compared by marital status, we found that white female heads of households and white wives were equally likely to have used such channels. Black female heads, on the other hand, consistently reported more use of such channels than did black wives. This information could be accurate rather than the result of husbands' misreporting because the pressure to get high wage jobs is stronger for female heads of households. However, black female heads reported considerably less use of such channels than did black men and slightly less than did white men.

Users of contacts

Table 1 examines use of informal information and influence networks by education and occupation. Construction of the first two variables, "Heard about current job from a friend or relative," and "Knew someone on current job," is self-explanatory. The third, "Received help on current job" is formed from affirmative responses to the first question regarding influence.

Regardless of race-sex group, workers with college

Table 1. Proportion of workers receiving information about and help in obtaining current job, by occupation and education

[In percent]

Occupation and education	Heard about current job from a friend or relative				Knew someone on current job				Received help in getting job			
	White men	White women	Black men	Black women	White men	White women	Black men	Black women	White men	White women	Black men	Black women
Occupation:												
Professional	31.9	36.5	49.1	41.4	43.4	40.2	53.7	44.8	32.5	26.5	30.6	33.0
Managerial	48.1	41.0	[1]41.7	[1]18.2	52.8	37.0	[1]79.5	[1]21.6	43.9	33.0	[1]35.8	[1]18.2
Clerical and sales	51.6	47.1	61.6	34.5	53.7	45.1	69.8	37.8	40.1	35.8	40.2	33.2
Foremen and craftsmen	58.1	([2])	61.7	[1]70.4	63.6	([2])	69.4	[1]80.0	41.6	([2])	44.7	[1]64.2
Military, police, fire	46.1	([2])	37.1	([2])	48.9	([2])	34.5	([2])	24.0	([2])	47.4	([2])
Transport operatives	69.8	[1]35.9	69.6	([2])	64.3	[1]53.6	67.7	([2])	53.8	[1]24.5	34.7	([2])
Other operatives	61.2	63.6	60.3	52.2	64.3	71.6	74.6	72.8	41.6	23.1	42.4	21.5
Laborers, household	74.6	([2])	52.9	[1]78.1	67.0	([2])	61.2	[1]27.3	51.1	([2])	38.6	[1]76.6
Other service	42.5	53.6	59.9	45.8	60.4	47.7	66.1	55.8	34.6	32.3	60.7	38.1
Other	[1]54.5	45.5	([2])	[1]35.5	[1]45.5	48.3	([2])	[1]87.1	[1]46.9	27.8	([2])	[1]58.1
Education:												
8 grades or fewer	69.3	53.4	60.4	26.6	77.5	66.2	76.1	68.5	48.7	27.4	53.1	56.5
9-11	59.5	61.0	64.9	41.1	60.7	57.7	74.2	68.5	40.0	29.4	45.3	28.3
12	64.2	51.0	55.6	45.7	66.2	53.0	73.7	46.3	46.3	31.8	50.0	29.9
12 and above	51.8	42.4	49.2	44.2	56.5	42.6	56.8	33.3	40.9	34.7	47.0	40.8
13-15	53.4	45.2	68.8	49.0	58.1	41.0	60.8	49.6	41.7	32.1	28.1	41.6
B.A.	38.5	37.1	38.3	24.7	40.6	43.4	54.6	41.0	33.9	31.4	31.6	27.2
Advanced degree	22.8	50.2	([2])	([2])	43.6	31.9	([2])	([2])	27.1	23.1	([2])	([2])

[1] Result based on 10-25 observations.

[2] Fewer than 10 observations.

and advanced degrees and professional workers were considerably less likely than the average worker to report having used informal information and influence channels in obtaining their current jobs. While more than half of all white men reported having heard about their current job from a friend, only 32 percent of white male professionals, only 39 percent of white men with B.A. degrees and only 23 percent of white men with advanced degrees reported that they heard about their current job from a friend. Forty percent of all white men reported that someone helped them get their present job, but only one-third of the white men with professional jobs, college degrees, or advanced degrees reported such help. White men in blue-collar occupations were more likely than other white men to hear about their job from a friend, to know someone on the job, and to be helped by someone. Perhaps, informal information and influence networks substitute for the more formal credentials used by well-educated and professional workers.

The three information and influence measures were regressed on schooling, job tenure, and on age when the job was taken. For white men, education and the age when they took the job were negatively associated with all three information and influence measures and significantly so in all but one instance. That is, the younger and less educated a white man was when he obtained a job, the more likely it was that he heard about that job from friends or relatives, that he knew someone who worked there, that someone helped him get the job, or that he both knew someone and received help getting the job.

Part of the negative associations with workers' education and age may be an occupational effect. That is, well-educated and older workers may be more likely to seek work in occupations which emphasize formal credentials and past experience or training. Results when occupation is controlled suggest that this may be true for schooling, but not for the age when the job was taken. When occupation is controlled, the magnitude of the negative association between schooling and the information and influence measures dropped sharply for white men. But controls for occupation had no effect on the negative association between the ages when people took their current job and influence and information measures.

For the other groups, the amount of schooling and the age when workers took their jobs were not consistently associated with the measures of informal information and influence. For black men, schooling was negatively and significantly associated with knowing someone and having received help, but these associations dropped sharply and became insignificant once occupation was controlled. □

FOOTNOTES

[1] The Panel Study of Income Dynamics is conducted under the direction of Greg J. Duncan and James N. Morgan at the Survey Research Center at the University of Michigan, Ann Arbor. This survey is described in *A Panel Study of Income Dynamics: Study Design Procedures and Available Data,* Volumes I–XI (Institute for Social Research, University of Michigan, Ann Arbor, Mich.). A more complete description of the procedures is in Mary Corcoran, Linda Datcher, and Greg J. Duncan, "Information and Influence Networks in Labor Markets" in Greg J. Duncan and James N. Morgan, eds., *Five Thousand American Families— Patterns of Economic Progress,* Volume VIII, (Ann Arbor, Mich., Institute for Social Research, 1980).

[2] See Albert Rees, "Information Networks in Labor Markets," *American Economic Review,* May 1966, pp. 559–66.

[3] See David W. Stevens, "A Reexamination of What is Known About Job Seeking Behavior in the United States," *Labor Market Intermediaries,* Special Report 22 (Washington, National Commission for Manpower Policy, 1978), pp. 55–104.

Conflicts among work, leisure, and family roles

GRAHAM L. STAINES AND PAMELA O'CONNOR

Workers in the 1977 Quality of Employment Survey were asked, "How much do your job and your free time activities interfere with each other?"[1] A third of the 1,515 workers reported that conflict between work and free time activities occurred "a lot" or "somewhat."

When asked "In what ways do they interfere with each other?" these workers most frequently mentioned excessive amounts of work which prevented them from spending enough time in other activities. The second most common complaint involved work schedules that interfered with leisure. "Other" time conflicts ranked third and reports that work makes the worker too tired or too irritated to engage in leisure activities were fourth.

Demographic subgroups of workers reported different types of conflict between work and leisure. Men, who on average work more hours than women, were significantly more likely than women to report excessive amounts of work. Older workers (45 years and over) were significantly less likely than younger workers to report excessive amounts of work, scheduling conflicts, or spillover from work of fatigue and irritation. Married workers were more likely than unmarried workers to report excessive amounts of work, but were less likely to report scheduling conflicts. Parental responsibility was positively and significantly associated with reports of

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excessive amounts of work, but not with reports of the other types of interference. Workers with a high school diploma cited spillover of fatigue and irritation more frequently than did workers in other educational categories, but education was not related to the other types of interference. Workers in managerial and administrative occupations were the group most likely to complain of excessive work, whereas service workers were the group most inclined to mention scheduling conflicts.

Factors associated with conflict

Conflict between work and leisure clearly appears related to the demographic characteristics of the worker and to various dimensions of work, leisure, and family roles.[2] Table 1 summarizes the findings for the degree of conflict associated with demographic factors. The "mean" in the table is the average value of response to the question: "How much do your job and your free time activities interfere with each other?" Degrees of interference were scored from 1 to 4 points, with "not at all" equaling 1 point and "a lot" equaling 4 points.

Working men reported significantly more conflict between work and leisure than did working women, as did younger workers (under age 45), compared with older workers. The degree of interference was not related to marital status but was positively and significantly related to level of parental responsibilities: parents of children under age 6 were more likely to report conflict, followed by parents of school-age children, and then workers with no children at home. Moreover, workers with a college degree or above reported significantly more conflict than did those with less education. Among the major occupational groups, workers in managerial and administrative occupations registered the highest level of conflict.

Table 1. Reported conflict between work and leisure, by selected demographic characteristics

Characteristic	Mean[1]
Sex:	
Men	[2]2.26
Women	[2]2.10
Age:	
Under 30 years	[2]2.29
30-44 years	[2]2.29
45 years and older	[2]2.02
Marital status:	
Married	[3]2.23
Not married	[3]2.13
Parental status:	
No children	[2]2.13
Youngest child 6-17 years	[2]2.22
Youngest child under 6 years	[2]2.34
Education:	
Less than high school diploma	[2]2.06
High school diploma	[2]2.21
Some college	[2]2.20
College degree or more	[2]2.38
Occupation:	
Professional and technical	[2]2.21
Managerial and administrative	[2]2.41
Sales and clerical	[2]2.02
Crafts	[2]2.15
Operatives	[2]2.39
Service	[2]2.07

[1] The mean is the average value of response to the question: "How much do your job and your free time activities interfere with each other?" Degrees of interference were scored from 1 to 4 points, with "not at all" equaling 1 and "a lot" equaling 4. Levels of significance indicate the presence of significant differences among subgroup means (based on analysis of variance).

[2] Significant at .01.

[3] Not significant.

A number of work-related items were significantly related to work-leisure conflict. (See table 2.) As expected, amount of time spent on the job was positively and significantly related to interference. Another significant factor was shift assignment: workers on afternoon or night shifts reported the highest levels of interference; those on day shifts reported the lowest level; and those on rotating shifts or other irregular patterns registered scores in between.

The significance that workers assign to their work role was assessed by asking the following two questions: "How often do you think about your job when you're busy doing something else? Often, sometimes, rarely, never" (role perseveration); and "How much do you agree or disagree that the most important things that happen to you involve your job? Strongly agree, agree, disagree, strongly disagree" (role importance). Role perseveration was significantly and positively related to interference, but role importance was not. Interference produced a significantly negative relationship with satisfaction with work.[3]

Several leisure-related items also are related significantly to reported conflict between work and leisure. (See table 3.) Although an index of frequency of leisure activities[4] was not related to degree of conflict, an index of variety of leisure activities was positively and significantly related to interference. In other words, it is not so much the total amount of leisure activity as the number of different types of leisure activities that appears to predict interference. When specific leisure activities were considered separately, two contrasting patterns were evidenced. Frequency of participation in those activities that required leaving the house and going to a scheduled event (for example, a concert, play, movie, or party) was significantly associated with high levels of work-leisure conflict. Participation in informal activities that take place at or near home (for example, working on hobbies at home or working around the house) tended to be negatively related to conflict, especially among those who at least sometimes engage in the activity; in the case of watching television, there was a significantly negative relationship (that is, more viewing was associated with lower conflict). Thus, individuals can reduce high levels of work-leisure conflict by opting for informal and easily organized leisure activities, especially television viewing. Furthermore, time spent on leisure during a workday was significantly negatively related to work-leisure interference, although leisure time on a day off was not.[5] In addition, the significance of leisure (role perseveration, role importance) was positively and significantly associated with work-leisure conflict, whereas satisfaction with leisure produced a significantly negative association.[6]

Certain dimensions of family roles were also related to degree of work-leisure conflict. Interference increased significantly for one measure of the significance of family life (role importance), but not with the other (role perseveration), and interference produced a significantly negative relationship to satisfaction with both family life and marriage.[7]

In sum, reports of work-leisure conflict tend to be positively associated with involvement in all major roles of life (work, leisure, family), regardless of whether involvement is measured in behavioral (variety of activities, time allocated) or attitudinal (significance assigned to role) terms. Exception: conflict is negatively related to time spent on leisure during a workday. In addition, such conflict is consistently associated with low satisfaction with each of the major roles of life.

Inferred conflict

An alternative measure of conflict between work and leisure involves bivariate relationships between the amount of time spent at work and the amount of time spent on leisure activities. Generally, time spent in these activities should be negatively related (that is, the more time spent in one role, the less time available for other roles). This "inferred conflict" approach assumes that the stronger the negative bivariate relationship (or the weaker the positive relationship), the greater the level of conflict.

Actually, reported conflict and inferred conflict differ in a number of methodological respects. Reported conflict represents a subjective approach to measurement, inferred conflict a more objective approach; reported conflict incorporates all types of conflict between work and leisure, inferred conflict taps only the conflict concerning amount of time; reported conflict is measured at the level of the individual worker, inferred conflict is measured at an aggregate level; and, while reported conflict is measured for only two pairs of roles (work and leisure, work and family), inferred conflict may be assessed for any and all role pairings.

Data on reported and inferred conflict are best compared in terms of demographic differences regarding time. Reported conflict between work and leisure (and, likewise, between work and family life) was greater for men than for women on the issue of excessive time spent at work. Similarly, for work and leisure and also for work and two family roles (childcare and home chores), inferred conflict (as indicated by the strength of negative relationships among amounts of time spent in various roles) was greater for men than for women.[8] This difference can be explained by the fact that men work longer hours than women and the amount of time they spend at work generates more conflict between work and other roles.

Table 2. Reported conflict between work and leisure, by selected work-related items

Item	Mean [1]
Time on the job: [2]	
6.9 hours or less	[3]2.05
7.0–7.9 hours	[3]2.13
8.0 hours	[3]2.12
8.1–9.9 hours	[3]2.25
10 hours or more	[3]2.47
Shift: [4]	
Day	[3]2.12
Afternoon	[3]2.57
Night	[3]2.51
Rotating	[3]2.20
Other	[3]2.31
Role perseveration:	
Never	[3]2.04
Rarely	[3]2.21
Sometimes	[3]2.14
Often	[3]2.36
Role importance:	
Disagree	[5]2.17
Agree	[5]2.23
Strongly agree	[5]2.30
Satisfaction with work:	
Not at all or not too	[3]2.62
Somewhat	[3]2.30
Very	[3]2.02

[1] See table 1, footnote 1.

[2] Time spent working on a workday was assessed using the question "During the average week, how many hours do you work, not counting the time you take off for meals?" For each worker, the number of hours worked per week was then divided by the number of days worked to yield an average number of hours worked per day.

[3] Significant at .01.

[4] Day or regular shift starts between 4 a.m. and 12 noon, afternoon shift starts between 12 noon and 8 p.m., and night shift starts between 8 p.m. and 4 a.m.

[5] Not significant.

By the same token, because women spend more time than men in family roles, inferred conflict between leisure and family roles and also among family roles should be greater for women than for men. For the most part, it was. (See table 4.) The bivariate association between leisure time and time spent in childcare was significantly positive for men both on workdays and on days off, but was significantly negative for women on workdays and not significant on days off. For men, the relationship between the time spent on leisure and home chores was significantly positive for workdays and not significant for days off; yet for women it was not significant for workdays and significantly negative for days off. On days off, time spent in two family roles, childcare and home chores, was significantly positively related among men, but not significantly related among women. On workdays, however, a contrary pattern appeared: time allocated to these two family roles was positively and significantly related, but more so for women than for men.

To summarize, when workers have to devote substantial time to a demanding social role (for example, work, childcare, or home chores), conflicts arise concerning the magnitude of time allotments. In the case of work, the issue of excessive time applies more to men than to women, based on data from both the reported and inferred approaches to measuring conflict. In the case of family roles, the pattern is reversed; with one exception, the data on inferred conflict indicate that women experience greater time conflict among leisure and family roles than do men.

These data on inferred conflict among leisure and family roles call for additional interpretation. The concept of partial overlap of activities offers the best explanation of positive relationships among time spent in these roles: when an appreciable number of activities qualify as belonging equally to two different roles, a positive association may emerge between the amounts of time allocated to the two roles.

Table 3. Reported conflict between work and leisure, by selected leisure-related activities

Activity	Mean[1]
Leisure activities:[2]	
Frequency index	
1.1 – 3.5 (low)	[3]2.15
3.6 – 4.0	[3]2.18
4.1 – 4.4	[3]2.18
4.5 – 4.8	[3]2.30
4.9 – 6.1 (high)	[3]2.21
Variety index	
1 – 8 (low)	[4]2.10
9	[4]2.30
10	[4]2.24
11 (high)	[4]2.34
Time spent on leisure activities:	
On workday	
Less than 1 hour	[4]2.46
1 – 1.9 hours	[4]2.29
2 hours	[4]2.14
2.1 – 3 hours	[4]2.08
More than 3 hours	[4]2.09
On days off	
2 hours or less	[3]2.15
2.1 – 3.9 hours	[3]2.16
4 – 5.0 hours	[3]2.16
5.1 – 7.9 hours	[3]2.25
8 hours or more	[3]2.29
Role perseveration:[5]	
Never	[4]1.84
Rarely	[4]2.01
Sometimes	[4]2.24
Often	[4]2.63
Role importance:[6]	
Disagree	[4]2.14
Agree	[4]2.32
Strongly agree	[4]2.35
Satisfaction with leisure:	
Not at all or not too	[4]2.78
Somewhat	[4]2.22
Very	[4]1.91

[1] See table 1, footnote 1.

[2] See text footnote 4.

[3] Not significant.

[4] Significant at .01.

[5] "How often do you think about your free time activities when you are busy doing other things?"

[6] "How strongly do you agree or disagree that the most important things that happen to you involve your free time activities?"

Table 4. Bivariate relationships among time spent in work, leisure, and family roles on workdays and days off, by sex

Activity	Mean time in leisure role[1]		Mean time in family role[1]			
			With children[2]		On home chores	
	Men	Women	Men	Women	Men	Women
WORKDAYS						
Time at work:						
6.9 hours or less	[3]2.85	[4]2.21	[3]2.11	[5]3.93	[3]1.48	[4]3.27
7 to 7.9 hours	[3]2.49	[4]2.17	[3]2.30	[5]3.37	[3]1.44	[4]2.74
8 hours	[3]2.47	[4]1.98	[3]2.02	[5]3.48	[3]1.29	[4]2.82
8.1 to 9.9 hours	[3]2.16	[4]2.00	[3]1.71	[5]3.38	[3]1.15	[4]2.65
10 hours or more	[3]1.67	[4]1.48	[3]1.49	[5]2.72	[3]0.90	[4]2.36
Time in family role:						
With children[2]						
Less than 1 hour	[3]1.67	[4]2.59	...	...	[4]0.85	[3]2.75
1 hour	[3]1.73	[4]1.74	...	...	[4]1.05	[3]2.53
1.1 to 2 hours	[3]2.02	[4]1.54	...	...	[4]1.23	[3]3.27
2.1 to 4 hours	[3]2.29	[4]1.48	...	...	[4]1.31	[3]3.36
4.1 hours or more	[3]2.75	[4]1.88	...	...	[4]1.61	[3]4.32
On home chores						
Less than ½ hour	[3]2.08	[5]2.33	...	...	...	...
½ to 1 hour	[3]2.12	[5]2.30	...	...	...	...
1.1 to 2 hours	[3]2.29	[5]2.14	...	...	...	...
2.1 to 3.5 hours	[3]2.49	[5]1.88	...	...	...	...
3.6 hours or more	[3]3.10	[5]1.85	...	...	...	...
DAYS OFF						
Time in family role:						
With children[2]						
2 hours or less	[3]4.40	[5]3.65	...	...	[3]3.30	[5]5.55
2.1 to 4 hours	[3]4.77	[5]2.91	...	...	[3]3.88	[5]6.62
4.1 to 6 hours	[3]4.77	[5]2.97	...	...	[3]4.06	[5]7.06
6.1 to 9 hours	[3]5.50	[5]3.42	...	...	[3]4.83	[5]6.87
9.1 hours or more	[3]6.14	[5]3.94	...	...	[3]4.72	[5]6.77
On home chores						
Less than 1.6 hours	[5]5.95	[3]5.98	...	...	...	...
1.6 to 3.4 hours	[5]5.47	[3]5.27	...	...	...	...
3.5 to 4.5 hours	[5]4.92	[3]4.54	...	...	...	...
4.6 to 7.5 hours	[5]5.69	[3]3.78	...	...	...	...
7.6 hours or more	[5]5.85	[3]3.78	...	...	...	...

[1] The mean is the average value of response to these questions: "On the average, on days when you're working, about how much time do you spend on your free time activities? . . . And about how much time on days when you're not working?" "On average, on days when you're working, about how much time do you spend (taking care of or) doing things with your children? . . . And how much time on days when you're not working?" "On the average, on days when you're working, about how much time do you spend on home chores — things like cooking, cleaning, repairs, shopping, yardwork and keeping track of money and bills? . . . And how much time on days when you're not working?"

[2] Includes only parents with children under age 18.

[3] Significant at .01.

[4] Significant at .05.

[5] Not significant.

The notion of partial overlap also applies to the differences in inferred role conflicts among men and women; in particular, to the fact that the bivariate associations among time spent in leisure and family roles tend to be positive for men and negative for women. Among men, there would appear to be some overlap of leisure and childcare activities, likewise between leisure activities and home chores and, by implication, between childcare and home chores. Generally, leisure is thought of as more enjoyable than either childcare responsibilities or home chores. Thus, the postulated overlap of activities among men raises the possibility that the leisure of men (but not women) may include childcare responsibilities and home chores. Because working men reported significantly greater satisfaction with their leisure and with their family life than did working women, it is likely that the childcare activities and home chores of working men are sufficiently enjoyable to be considered leisure. In the case of childcare, for example, many men presumably allow their wives to assume most of the demanding and least enjoyable responsibilities, so that the time they spend with their children is consequently viewed as recreational. There is also the further possibility that fathers, at most, are expected to help with the children, whereas mothers typically have the much more demanding assignment of taking responsibility for them.[9]

The one finding based on inferred conflict that remains to be explained concerns the relationship between the two family roles (childcare and home chores) on workdays. As noted, women registered a stronger positive association between time allocated to these two roles on workdays than did men. The inference that women experience less conflict between childcare and home chores on workdays should be resisted, because the associations for both sexes are appreciably positive. Far more plausible is the contention that in their typical rush for time on workdays, mothers who work outside the home perform these two activities simultaneously, while fathers engage in only one activity at a time.[10] Thus, because mothers perform their childcare responsibilities and home chores in parallel fashion during the limited amount of time they have available on workdays, their time allocations emerge as more strongly and positively associated than do those of fathers.

WHEN THE ISSUE is amount of time, data based on measures of both reported conflict and inferred conflict indicate that interference between work and leisure and between work and family roles is greater among men than women. Yet, additional data on inferred conflict suggest that conflicts between leisure and family roles and between the two family roles studied (childcare and home chores) tend to be greater for women than men. □

FOOTNOTES

[1] Details of the survey's sample, measures, and response distributions appear in Robert P. Quinn and Graham L. Staines, *The 1977 Quality of Employment Survey* (Ann Arbor, Mich., Survey Research Center, 1979). For a general discussion of the survey's results, see Graham L. Staines and Robert P. Quinn, "American workers evaluate the quality of their jobs," *Monthly Labor Review*, January 1979, pp. 3–12.

[2] For a detailed discussion of work-family conflict, see Joseph H. Pleck, Graham L. Staines, and Linda Lang, "Conflicts between work and family life," *Monthly Labor Review*, March 1980, pp. 29–32.

[3] Satisfaction was determined in terms of the question: "All in all, how satisfied would you say you are with your job? Very satisfied, somewhat satisfied, not too satisfied, or not at all satisfied."

[4] Respondents were asked about the frequency of their participation in specific leisure activities: "How often do you . . . (1) watch television, (2) read newspapers, magazines, or books, (3) visit with family, friends, or neighbors, either at each other's homes or by telephone, (4) play in athletic games or do other active things like go bike riding or swimming, (5) work on hobbies at home, (6) work around the house or yard for pleasure, (7) eat out at restaurants, (8) go to museums, concerts, plays, or lectures, (9) go to the movies, (10) go to parties, nightclubs, or dancing places, (11) go to church or synagogue?" The responses ranged from "nearly every day" to "never." From these measures, we derived an index of frequency of leisure activities which is the average of the scores for all leisure categories for which the worker reported frequency of participation, with each category scored from zero ("never") to seven ("nearly every day") and an index of variety of leisure activities which is the number of different types of leisure in which the worker engages at least several times a year (the worker received one point for each type of leisure for which his or her response was something other than "never" or "once a year or less").

[5] Amount of time spent on leisure was measured by asking, "On the average, on days when you're working, about how much time do you spend on your free time activities? . . . And about how much time on days when you're not working?"

[6] The questions used to assess the significance of leisure activities (role perseveration and role importance) and the measure of satisfaction with leisure activities were the same as those for significance of work, except that the phrase "your job" was replaced with "your free time activities."

[7] The questions used to measure significance of family life correspond closely to those used for work and leisure. For role importance, the phrase "your husband/wife and your children" replaced the phrases "your job" and "your free time activities." In the case of role perseveration, this substitution of phrases is repeated and, in addition, the response categories are slightly modified to take into account a more negatively skewed response distribution: "How often do you think about your husband/wife and your children when you're busy doing other things? Always, often, sometimes, rarely." For similar reasons, the questions measuring satisfaction with family life and with marriage likewise required modifications: "All in all, how satisfied would you say you are with your family life?" and "All in all, how satisfied would you say you are with your marriage? Extremely satisfied, very satisfied, somewhat satisfied, not too satisfied."

[8] The measures of time spent in these two family roles resemble the earlier measures on time spent on leisure: "On average, on days when you're working, about how much time do you spend (taking care of or) doing things with your children? . . . And how much time on days when you're not working?" "On the average, on days when you're working, about how much time do you spend on home chores—things like cooking, cleaning, repairs, shopping, yardwork, and keeping track of money and bills? . . . And how much time on days when you're not working?"

[9] Similarly, an intensive investigation of 14 families in which both husband and wife worked suggested that although husbands share certain childcare duties with their wives, the responsibility for seeing that such tasks get done ultimately falls on the wives in most cases. See Laura Lein, *Work and Family Life* (Cambridge, Mass., Center for the Study of Public Policy, 1974), pp. 45–46.

[10] Lein comments specifically on this sex difference in the simultaneity of activities: "Unlike mothers who are trying to do other chores while watching their children, fathers' hours of child care are more often devoted to child care exclusively." (See *Work and Family Life*, p. 109.)

Foreign Labor Developments

American wood products workers study European job safety systems

MATT WITT

A delegation from the International Woodworkers of America and the American Labor Education Center has completed a month-long tour to study occupational safety and health practices in Sweden, West Germany, and Austria.[1] Group members, including local union safety committee representatives, union safety staff, and government officials from Washington State and British Columbia, visited 20 sawmills, papermills, hardboard plants, and logging operations in the three countries. They met with local union and management officials at each site and spoke to officials of unions, companies, and government agencies.

The Swedish method

The Swedish system is the most comprehensive. Its centerpiece is a national Work Environment Fund, created in 1972 and financed by a 0.1 percent payroll tax on all employers. Its board includes equal representatives of labor and management, plus a chairperson who is a retired union president. The fund primarily finances research and training. Its annual budget for work environment research is approximately $22 million, with topics including control of noise, toxic substances and stress, ergonomics, and health effects of various work schedules.

Proposals are presented to the fund by researchers in universities and private firms, then reviewed by committees of employers and union representatives in each industry. Under a special current project, the fund is spending more than $1 million to train union staff members to both evaluate research proposals and generate more of their own.

In the wood products industry, one environmental research group has been working in 15 sawmills, a similar group has concentrated on factories, such as furniture and prefab housing plants, and another has worked in forestry under an additional $1 million fund grant. These groups include engineers, doctors, professors, psychologists, and representatives of the unions, employers, and equipment manufacturers. Their achievements are explained to the unions' regional safety representatives, at the fund's expense, who pass the results on to local union stewards.

The International Woodworkers of America delegation observed many operations which, aided by research findings, are now meeting Sweden's standard for average daily noise exposure of 85 decibels. (The U.S. standard is 90 decibels.) In sawmills visited by the delegation, airborne dust levels were reduced below 1 milligram per cubic meter through use of enclosures for saws and local ventilation. Pentachlorophenols, widely used as wood preservatives in the United States, have been removed from Swedish mills because of concern about their effect on workers' reproductive systems. Chain saw-related hand and wrist injuries in the logging industry were reduced by 90 percent between 1967 and 1976, chiefly due to innovative designs for hand guards. Following the introduction of chain brakes, foot and leg injuries were reduced by more than 50 percent in one year.

Since 1974, the fund has paid for the training of about 250,000 local union safety stewards and supervisors (from a work force of 4.1 million). Individual employers pay the lost-time wages (nearly $30 million per year) for those in training.

The 40-hour basic courses cover such topics as workplace planning, noise, ventilation, toxic substances, illumination, ergonomics, and psychosocial factors such as job satisfaction. Training is conducted by the unions in "study circles" rather than in the formal classroom style used in the United States. Trained study circle leaders, who generally are workers rather than safety technicians, guide the discussions. Written materials and film strips explain basic principles, which are then applied by the students during special workplace inspections. A study circle graduate goes back to work with lists of conditions which must be corrected.

Committees created

Under a combination of national laws and contracts, there must be enough elected safety stewards at every workplace with 5 employees or more to cover each work area on each shift. Each workplace with 50 em-

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ployees or more must have a labor-management safety committee with more than half of its members elected by the union. In smaller workplaces, a committee must be created if the workers feel it necessary; otherwise, a representative from the appropriate union region performs the committee functions. The committees (or the regional representatives) have the right to:

- Veto any plans for new machines, materials, or work processes for health and safety reasons.
- Decide how to spend the company health and safety budget which is usually negotiated through local bargaining.
- Approve the selection and direct the work of the company doctor, nurse, safety engineer, or industrial hygienist.
- Review all corporate medical records, monitoring results, and other information on hazards.
- Shut down dangerous operations until hazards can be corrected.
- Decide how much time (all company paid) they need to do their safety committee work.

The role of the Swedish government is primarily to set health and safety standards and to make inspections when safety committees are unable to resolve problems or do not have the necessary technical expertise. The National Board of Occupational Safety and Health, the Swedish counterpart to the U.S. Occupational Safety and Health Administration (OSHA), has one inspector for every 400 workplaces (compared to OSHA's one for more than 3,000). Swedish inspectors can levy fines and have health and safety changes made, at the employer's expense, if the company has failed to comply with a previous directive.

In West Germany and Austria, the delegation observed a health and safety system based on the "works council"—committees which represent workers on all types of grievances. These committees do not have any independent powers like those in Sweden, and are not necessarily an arm of the local union. German and Austrian workers cannot be required to join their union (and in many industries a majority does not), yet the works council is elected by *all* employees at each operation. Training for works council members is conducted in classroom format, dealing mainly with economic issues rather than health and safety.

In both West Germany and Austria, most responsibility for standard setting, inspections, training, and workers' compensation is borne by insurance institutes in each industry. The institutes are run jointly by management and labor and financed by premiums based on industry and company safety records. Those in the wood products industry do not conduct or sponsor any significant amount of health and safety research, leaving that to employers and equipment manufacturers.

After returning home, the delegation persuaded its international union convention to authorize an experimental project in which the union will attempt to set up Swedish-style research committees. The union is conducting a health and safety survey of its members who use chain saws, and will then ask logging companies, saw manufacturers, and government officials to help improve saw design. The union is also asking the Consumer Product Safety Commission to consider the views of professional chain saw users before approving new safety standards. Union officials say they hope to gradually adapt other aspects of the Swedish system, such as company-paid research funds and paid training for safety committee members, through future regional and local contract negotiations. ☐

—— FOOTNOTE ——

[1] The trip was sponsored by the German Marshall Fund of the United States.

Educational leave in Canada: a look at individual programs

ISAIAH A. LITVAK AND CHRISTOPHER J. MAULE

Canadian interest in educational leave has increased in recent years. This can be partially attributed to Canada's membership in the Organization for Economic Cooperation and Development (OECD) and the International Labor Organization (ILO), which have sponsored conferences and studies on the subject of educational leave.[1] One of the results of this interest and participation was the establishment of a Federal Government "Industrial Inquiry Commission" in 1978.[2]

The identification and evaluation of the issues involved in educational leave are still in a fairly primitive state, and to shed some light on the subject, particularly from the standpoint of policy implications, we examined the leave policies and practices of 13 employers,[3] including Canadian and foreign-owned firms. The sample is biased toward organizations with some known commitment to education but still reflects differences in size, nationality of ownership, industry representation, technology, and organizational mission.

Five of the organizations are in the public sector and employ from 500 to 80,000 unionized workers. The remaining eight organizations are manufacturing and ser-

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vice firms in the private sector, employing from 65 to 20,000 persons. Five of the companies are essentially nonunionized.

Case method used

We used the case method to collect data in 1978, structuring our interviews along the lines of a recent OECD study and modified to reflect Canadian circumstances.[4]

We found it difficult to obtain information of a consistent nature within and between the organizations. Only one of the private organizations had stated educational leave policies; the policies of the rest were ad hoc or negotiable. There was an absence of good documentation on the extent, nature, and costs of the educational leave and little effort to evaluate its impact.

Interviews were conducted with managers, employees, union representatives, educational officials, consultants, government officials, and professionals in an attempt to become familiar with the details of the policies and practices of each organization.

We defined educational leave to be leave taken in excess of 3 months, which is spent during regular working hours for full-time studies, directly or indirectly related to employment.[5]

All five public sector organizations have educational leave programs, four of which are formally structured. In all instances, the form of financing ranges from full to partial to none. While at first glance the educational leave programs appear to be well established, they are infrequently used except by the Federal Government. Leave recipients are primarily managers or technocrats, or those being groomed for these positions. With one exception, the recipients attend institutions of higher learning. Information on leave provisions is readily available and communicated within 4 of the 5 public sector organizations.

The situation is dramatically different in the private sector. Four of the companies provide no opportunity for educational leave, while it is only negotiable in the remaining four. The few participants to date have been largely managerial and salaried employees. Information about leave opportunities is quite selective, and tends to be communicated to the more ambitious management employees. In the case of the small firms, none of which is foreign-owned, educational leave is not available.

Employers' perspective

We will discuss public and private sector employers separately because they tend to have different attitudes.

Public sector employers tended to favor the introduction of educational leave because of the size of their organizations, and because employees were not likely to leave the organization, although they might transfer from one department to another. Secondly, because public sector organizations are not evaluated in terms of profit performance, it is easier to administer a policy which is difficult to evaluate and which would be questioned much more closely in a profit-oriented organization. Thirdly, public sector organizations feel that educational leave provides some skills they could not otherwise acquire. Educational leave is here viewed as a technique for manpower planning.

In contrast to these supportive factors, the system of educational leave has been abused by using it to sideline personnel or to provide a stepping stone to early retirement. Also, in a time of fiscal restraint, educational leave is a policy that is an early victim of cost cutting, and a no-growth or slow-growth public sector employment situation means there is less pressure to acquire personnel, however well qualified.

Private sector employers are in general lukewarm to the idea of educational leave, but large companies could be persuaded of its merits if it was a way of holding on to their best employees, or providing skills which could not be otherwise purchased. Small and medium-sized firms, however, fear the individual could easily be hired away.

Private sector organizations argue against educational leave on the grounds that it would not enhance their profitability, that they can buy the skills which they require, and also cite problems of replacing employees, who are away for lengthy periods, as well as problems of re-entry into the organization at an appropriate level. Those firms which are willing to consider educational leave tend only to do so if it is leave without pay. Accountancy is an example of a profession whose members require neither pay while on educational leave nor job security if leave is taken, because they become an even more marketable item.

Employees' viewpoint

The employee position on educational leave was articulated by union locals, union headquarters, and organizations such as the Canadian Labor Congress. In general, the union locals had less interest in promoting educational leave than did the other union components, because of a perceived difference of interest. The federation's position was more attuned to and knowledgable of the position put forward by the ILO, as well as the educational leave situation in some European countries. Union headquarters were also familiar with the general issues that have been debated, but their interest was largely ideological, and they argued for leave for union educational purposes. Lip service might be paid to leave for social purposes, but unions were more concerned with promoting understanding of their union among the existing members. In industries such as printing, technological change is already resulting in the alteration of union membership, and educational leave could be seen by a union as a further disturbing factor.

At the local level, which is where the cases concentrated, educational leave received little consideration for a number of reasons. In a period of prosperity, educational leave is viewed by union locals as one of a number of fringe benefits that are negotiable. In times of recession, educational leave was of very low priority or was not even considered. The concern of locals tends to be concentrated on provisions for training and retraining in the face of recession and technological change. Educational leave is not considered an issue if the union member does not have a job, so locals concentrate on immediate employment, hourly rates, and training so that the member remains employed. In this regard, both the firm and the local are in agreement in stressing the need for training facilities and programs.

The professions (doctors, nurses, accountants) appear as a special group because of the type of service that they sell, and because they involve an element of self-regulation. While the professions tend to restrict entry through certification requirements, which often involve extensive education in colleges and universities, their concern with certifying existing practitioners falls off once the individual has qualified for the profession. All three professions included in the case studies made statements about the type of study which an individual should undertake to ensure career development, and maintain the necessary professional qualifications. However, little attempt is made to enforce provisions for continuing education.

The case studies revealed that there were different attitudes toward educational leave by the three professions. The accountants received leave without pay; the doctors who were attached to a university received a sabbatical leave with partial pay, and those employed by the hospital could negotiate a similar arrangement; the nurses seldom received leave with pay, but did have access to external funding sources. The association of nurses took the view that it was the individual's responsibility to remain qualified. In sum, the attitude of professionals to educational leave would tend to vary among professions according to the role of the association, the contractual conditions of work, and the form in which payment is received.

Government's position

As a policymaker, the Federal Government has an extensive manpower policy program which is oriented toward training the currently unemployed, or those threatened with unemployment. This policy tends to be focused on job-specific training to expand employment and as such coincides with the attitudes of private firms and union locals.

A lesser concern to date with educational leave has probably been because of the extensive government financing of colleges and universities, which has resulted in a higher proportion of the work force in Canada attending such institutions than has been the case in European countries. As a pace setter, governments have introduced affirmative action, both in terms of their own and other organizations' hiring procedures. However, to date, affirmative action has been enforced through moral suasion and guidelines, rather than through enforceable rules. □

FOOTNOTES

[1] *Developments in Paid Educational Leave of Absence* (Paris, Organization for Economic Cooperation and Development, 1976); *Alternation Between Work and Education* (Paris, Organization for Economic Cooperation and Development, 1978); "Paid Educational Leave," Report IV, 59th ILO Conference (Geneva, International Labor Organization, June 1974).

[2] This commission was established "pursuant to section 198 of The Canada Labour Code." House of Commons, Ottawa, May 31, 1978.

[3] I. A. Litvak and C. J. Maule, *Educational Leave Policies and Practices of Select Organizations in Canada*, background paper prepared for the Commission of Inquiry on Educational Leave and Productivity, (Ottawa, Labour Canada, March 1979).

[4] *Alternation Between Work and Education* (Paris, Organization for Economic Cooperation and Development, 1978).

[5] Educational leave excludes courses of less than 3 months (or one semester) duration, evening courses, university cooperative plans, and training and apprenticeship plans.

Significant Decisions In Labor Cases

To the victor, what spoils?

In a recent 6 to 3 decision, the Supreme Court curbed the patronage practices of local governments by ruling that the First and Fourteenth Amendments prohibit the dismissal of patronage appointees solely on the basis of their political beliefs, unless the hiring authority can prove party affiliation a necessary condition for the effective execution of the appointee's office. (*Branti v. Finkel.*[1]) This decision further expanded the principles set forth in *Elrod v. Burns*[2] by divorcing questions of party affiliation from the confidentiality or policymaking status of a public office.

Two assistant public defenders for Rockland County, N.Y., appointed under the 1972–76 Republican administration, sought to prevent their dismissal by the newly selected Democratic public defender, Peter Branti. Asserting that the announced dismissals stemmed solely from the attorneys' Republican affiliation rather than unsatisfactory job performance, a Federal district court, upheld by the Second Circuit, enjoined Branti from firing the pair.

Branti provided the Court with an interesting opportunity to further delineate and clarify the constitutional status of political patronage. In *Elrod,* the Court held unconstitutional a requirement that certain patronage employees change party allegiance as a condition of continued employment. The *Branti* case took the dilemma a step further. Have an employee's rights been violated if he has not been coerced into switching parties, but has been discharged simply because he lacks the sponsorship of the party in power? Still another issue was raised: even if party sponsorship is an unconstitutional condition of employment for *Elrod*-type employees (whose duties were primarily clerical and janitorial), is party affiliation an acceptable condition for a position that may involve policy decisions such as assistant public defender?

In a majority decision written by Justice John Paul Stevens, the Court ruled that the attempted Branti dismissals, even though they did not involve explicit coercion nevertheless would infringe on the employees' First Amendment rights. Expanding on *Elrod,* Stevens wrote, "If the First Amendment protects a public employee from discharge base on what he has said, it must also protect him from discharge based on what he believes . . . his beliefs cannot be the sole basis for depriving him of continued public employment." Stevens dismissed the assertion that an employee's rights are violated only if he is forced to change his party affiliation, arguing "such an interpretation would surely emasculate the principles set forth in *Elrod* . . . it would not eliminate the coercion of belief that necessarily flows from the knowledge that one must have a sponsor in the dominant party in order to retain one's job." Stevens concluded, " . . . there is no requirement that dismissed employees prove that they, or other employees have been coerced into changing either actually or ostensibly, their party allegiance" for them to gain reinstatement; it suffices to prove that such dismissals derived solely from party affiliation.

Less straightforward was the Court's reasoning regarding the constitutionality of requirements of party sponsorship for positions deemed policymaking or confidential. The Court conceded that party affiliation may be an acceptable, even necessary condition for some types of government employment, but countered that it is not relevant to every policymaking or confidential post. "In sum, the ultimate inquiry is not whether the label 'policymaker' or 'confidential' fits a particular position; rather the question is whether a hiring authority can demonstrate that party affiliation is an appropriate requirement for the effective performance of the public office involved." Moving from the broader issue to the circumstances of the case, the Court reasoned the position of public defender cannot properly be conditioned on party affiliation, because the policymaking functions of the position relate to the problems of individual clients rather than partisan political interests. In upholding the Second Circuit, the majority concluded any effort to link office tenure to party affiliation would undermine the integrity of the assistant public defender.

The imprecision of the Court's new standard creates potential ambiguity in many public employment decisions. The Court did not indicate the criteria to be used for determining which positions may remain under patronage, nor how a hiring authority could demonstrate the need for a requirement of party affiliation. Particu-

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"Significant Decisions in Labor Cases" is written by Gregory J. Mounts of the *Monthly Labor Review* staff. Kate Farrell of the University of Notre Dame, an intern with the *Review,* wrote the summary of *Branti v. Finkel.*

larly noteworthy are the implications for the selection practices of government authorities. Quoting the opinion of the Second Circuit,[3] the Court stated "it is difficult to formulate any justification for tying either the selection or retention of an assistant public defender to his party affiliation." This line of reasoning suggests that considerations of party affiliation may be unconstitutional in the selection, as well as the retention, of certain government employees. Such a holding would raise interesting questions in the law enforcement field where, as Justice Lewis Powell noted in his dissenting opinion, party affiliation frequently plays an important role in the selection of prosecutors at all levels. Although the Court specifically excluded prosecutors from its *Branti* deliberations, Powell asserted that questions would arise as to how, under the Court's standard, a prosecutor's duties are any more related to "partisan" interests than those of an assistant public defender. Consequently, *Branti*, and any subsequent rulings that may arise from it, could have a significant impact on existing law enforcement machinery.

Powell's dissent, in which Justices William Rehnquist and Potter Stewart (in part) concurred, characterized the majority decision as an "exercise in judicial lawmaking" which brings under judicial scrutiny government hiring practices more properly left to legislative and executive discretion. Powell faulted the majority for its "broad, new standard" of determining the scope of patronage, implying it would lead to confusion and uncertainty. He also criticized the Court's interpretation of the First Amendment, claiming the constitutionality of patronage hirings and firings depends upon the governmental interests served by patronage. Equally, concluded Powell, the Court's decision denigrates the strength and accountability of the political parties and impairs the right of the local voters to structure their government.

Missouri compromised on sex standard

Missouri's workers' compensation law requires widowers seeking death benefits based on their wives' former earnings to prove that they were dependent on those earnings; widows seeking death benefits do not have to prove dependency. An 8-to-1 majority of the U.S. Supreme Court recently struck down this unequal treatment as unconstitutional sex discrimination, extending to State benefit laws the equal protection analysis used to void similar sex-based provisions for the distribution of Federal social security benefits. (*Wengler v. Druggists Mutual Ins. Co.*[4])

The earlier Supreme Court cases that foreshadowed the demise of the Missouri provision involved equal protection challenges to a pair of Social Security Act provisions. Both provisions assumed that men were the primary wage earners and their spouses, regardless of employment status, were dependent on them. As a result, survivors' benefits available to widows were either unavailable to similarly situated widowers[5] or conditioned on a showing of dependency.[6] In both cases, the Court ruled that the law deprived working women the protection for their families which men receive as a result of their employment, in violation of equal protection component of the Fifth Amendment. Justice John Paul Stevens wrote that such sex-based benefit provisions discriminate only against men who survive their employed wives. The Court acknowledged that both forms of discrimination resulted from the Missouri workers' compensation law.

The State had the burden of justifying the law's gender-based discrimination by showing that it served important governmental objectives and that the means employed were related to the achievement of those objectives. As the Federal Government had done under similar circumstances, the State failed. Missouri's claim of administrative convenience as justification for its 1925 legislative formula (presuming dependency for widows and not for widowers) was insufficient to meet the "heightened scrutiny" standard the Court applied under the equal protection clause of the Fourteenth Amendment to the Constitution. One factor influencing the Court's decision, wrote Justice Byron White for the majority, was that the State had failed to present any evidence as to what additional costs the State or Missouri employers may incur if men and women were treated equally under the law.

Despite its power to prescribe a remedy for the constitutional defect in the Missouri law, the Court left this task for the Missouri judiciary. The question of whether to extend the presumption of dependence to widowers or to eliminate it for widows (and investigate each claim) involves potentially great economic burdens for the State. White concluded "Because State legislation is at issue, and because a remedial outcome consonant with the State legislature's overall purpose is preferable, we believe that State judges are better positioned to choose an appropriate method of remedying the constitutional violation."

Title VII overrides class standards

In 1972, Congress amended Title VII of the 1964 Civil Rights Act to permit the Equal Employment Opportunity Commission to file civil suits on behalf of alleged victims of discrimination. Individuals who were represented by the commission retained their right to file private suits under certain circumstances. To represent a "class" of affected persons in such a private civil suit, certain Federal procedural requirements must be satisfied: the class must be sufficiently numerous and all members must share important interests. The procedural rule acts to limit the number of private class actions brought in Federal court. But did Congress intend for EEOC suits also to be constrained by such a rule? Two appeals courts split on this question, but the Supreme Court recently agreed with the Ninth Circuit that this rule does not apply to EEOC suits filed on behalf of a class. A 5-to-4 majority ruled that the 1972 amendments to Title VII plainly authorized such EEOC suits, making the application of standard procedural rules inappropriate. (*General Telephone Co.*[7])

EEOC brought suit against the General Telephone Co. of the Northwest, Inc. and International Brotherhood of Electrical Workers, Local 89 based on employee allegations that both had engaged in unlawful sex discrimination in the form of restrictions on maternity leave, access to craft jobs, and promotion to managerial positions. The agency sought injunctive relief and backpay for the women involved. The company, but not the union, sought to block EEOC's ability to sue on behalf of all allegedly affected women, claiming that the agency had not established a legitimate class action based on the requirements of Rule 23 of the Federal Rules of Civil Procedure. Despite the Fifth Circuit's contrary view, a Federal Magistrate, district court, and appeals court each reasoned that EEOC was not constrained by standard procedural restrictions on class actions.

General Telephone sought application of Rule 23 because one feature of that procedural provision is that a judgment in subsequent class action suits is binding upon all certified members of the class. This provision clearly prevents individual class members who may be unsatisfied with a judgment from seeking an additional award. No similar limitation exists for alleged discrimination victims under Title VII, and the company feared additional or supplemental claims.

Although it recognized that these are legitimate concerns, the Supreme Court refused to contradict what it found to be clear statutory expression providing EEOC the right to enforce Title VII. Writing for the Court, Justice Byron White found that the purpose of the 1972 amendments was to "implement the public interest" as well as to secure more effective enforcement of Title VII. EEOC's pre-1972 role was limited to "informal methods of conference, conciliation, and persuasion." According to White, EEOC's new authority was intended to supplement, not replace, private action. This suggests that EEOC's enforcement suits should not be considered representative actions subject to Rule 23, he wrote.

White went on to note the range of differences between Title VII's enforcement requirements and those permissible under Rule 23. The procedural rule imposes prerequisites of numerosity, commonality, typicality, and adequacy of representation. As pointed out by White, Title VII covers all employers and unions with at least 15 members; this would fall short of the number that has been required for class action suits in many cases.

Appeals courts have ruled that the EEOC is not limited to the charges brought by the workers represented in its suits; the typicality requirement of Rule 23, however, limits charges to those fairly encompassed by the named plaintiffs. Finally, Rule 23's adequate representation standard often prevents class certification when a conflict of interest occurs between the named plaintiff and the putative class. As White noted, a conflict between employees and applicants, as members of a single class, may easily occur over benefits or seniority in employment discrimination litigation.

Although permitting the EEOC to bring virtually unrestricted class actions in Federal courts, the Supreme Court issued some advice to the Federal judiciary in an attempt to overcome the equity concerns raised by General Telephone. White wrote that Federal courts should play an active role in deciding whether to permit workers covered by an EEOC suit (or award) to file private suits. Specifically, he wrote that courts should act to prevent an undue hardship for the defendant employer or union (for example, in the form of double recovery by an individual). Where EEOC has prevailed in its action, White advised, "the court may reasonably require any individual who claims under its judgment to relinquish his right to bring a separate private action." He also suggested that a similar requirement could be part of an EEOC-negotiated settlement (consent award). ☐

FOOTNOTES

[1] *Branti v. Finkel,* 48 U.S.L.W. 4331 (U.S., Mar. 31, 1980).

[2] *Elrod v. Burns,* 427 U.S. 347 (1976), held that the newly elected Democratic sheriff of Cook County, Ill. had violated the rights of four noncivil service employees by firing them for refusing membership in the Democratic Party; see *Monthly Labor Review,* October 1976, pp. 46–47.

[3] 457 F. Supp.; at 1293, n. 13.

[4] *Wengler v. Druggists Mutual Ins. Co.,* 48 U.S.L.W. 4459 (U.S., Apr. 22, 1980).

[5] *Weinberger v. Wisenfield,* 420 U.S. 636 (1975), striking down a provision that granted survivors' benefits based on the earnings of a deceased husband and father covered by the Act both to his widow and to the couple's minor children in her care, but that granted benefits based on the earnings of a covered deceased wife and mother only to the minor children and not to the widower.

[6] *Califano v. Goldfarb,* 430 U.S. 199 (1977), striking down a provision providing survivors' benefits to a widow regardless of dependency, but providing the same benefits to a widower only if he had been receiving at least half of his support from his deceased wife; see *Monthly Labor Review,* May 1977, pp. 51–52.

[7] *General Telephone Co. of the Northwest, Inc. v. EEOC,* 48 U.S.L.W. 4513 (U.S., May 12, 1980).

Major Agreements Expiring Next Month

This list of collective bargaining agreements expiring in September is based on contracts on file in the Bureau's Office of Wages and Industrial Relations. The list includes agreements covering 1,000 workers or more.

Employer and location	Industry	Union[1]	Number of workers
Anchor Hocking Corp. (Lancaster, Ohio)	Stone, clay, and glass products	Glass Workers	3,500
Appleton Electric Co. (Chicago, Ill.)	Electrical products	Electrical Workers (IBEW)	1,200
Atlantic Steel Co. (Atlanta, Ga.)	Primary metals	Steelworkers	1,100
Brockway Glass Co., Inc. (Clarksburg, West Va.)	Stone, clay, and glass products	Glass Workers	1,000
Champion International Corp., Champion Papers Division (Hamilton, Ohio)	Paper	Paperworkers	1,600
Clark Equipment Co. (Lima, Ohio)	Machinery	Auto Workers (Ind.)	1,300
Clothing Manufacturers Association of the United States of America (Interstate)	Apparel	Clothing and Textile Workers	80,000
Daitch Crystal Dairies, Inc. (New York, N.Y.)	Retail trade	Food and Commercial Workers	1,150
Delaval Turbine, Inc. (Trenton, N.J.)	Machinery	Steelworkers	1,200
Dresser Industries, Inc. (Orleans, N.Y.)	Machinery	Steelworkers	1,600
Envirodyne Co., Wisconsin Steel Division (Chicago, Ill.)	Primary metals	Progressive Steel Workers Union (Ind.)	3,350
Federal Paper Board Co. (Columbus, Ohio)	Stone, clay, and glass products	Glass Workers	1,500
Federal Paper Board Co. Inc. (Riegelwood, N.C.)	Paper	Paperworkers	1,200
Food Fair Stores, Inc. (Interstate)	Retail trade	Food and Commercial Workers	1,850
General American Transportation Corp. (Interstate)	Transportation equipment	Steelworkers	2,100
Giant Food, Inc. (Interstate)	Retail trade	Food and Commercial Workers	1,000
Great Atlantic and Pacific Tea Co., Inc., 2 Agreements (Interstate)	Retail trade	Food and Commercial Workers	3,050
Great Lakes Dredge & Dock Cos. (Interstate)[2]	Construction	Operating Engineers (IUOE)	2,200
Hercules, Inc. (Radford, Va.)	Chemicals	Oil, Chemical and Atomic Workers	1,700
Interco, Inc. (Arkansas)	Leather	Shoe Workers	3,950
Kohler Co. (Kohler, Wisc.)	Fabricated metal products	Auto Workers	3,600
Laclede Steel Co. (Alton, Ill.)	Primary metals	Steelworkers	2,500
League of New York Theatres, Inc. (Interstate)	Amusements	Actors	3,300
Lufkin Industries, Inc. (Lufkin, Tex.)	Machinery	Boilermakers; Machinists and Molders	1,700
Massachusetts Leather Manufacturers Association (Massachusetts)	Leather	Leather Workers	1,450
Mens Clothing Industry (California)[2]	Apparel	Clothing and Textile Workers	2,000
Milk Dealers (Interstate)[2]	Food products	Firemen and Oilers; and Teamsters (Ind.)	2,500
Montgomery Ward & Co., Inc., Catalog House (Chicago, Ill.)	Retail trade	Teamsters (Ind.)	1,100
National Steel Corp., Granite City Steel Division (Illinois)	Primary metals	Chemical Workers	1,000
New Orleans Steamship Association, 2 Agreements (Interstate)	Water transportation	Longshoremen's Association	7,000
National Industries, Inc., Doehler-Jarvis Division (Interstate)	Primary metals	Auto Workers (Ind.)	2,600
North Central Airlines, Clerical (Interstate)[3]	Air transportation	Air Line Pilots	1,700
New York Druggists Association (New Jersey and New York)	Retail trade	Food and Commercial Workers	2,500
Owens-Illinois, Inc. (Wisconsin)	Stone, clay, and glass products	Flint Glass Workers	1,150
Penn-Dixie Industries, Inc., Penn-Dixie Steel Corp. (Wisconsin)	Primary metals	Steelworkers	1,450
Retail Meat Cutters, 2 Agreements (Illinois)[2]	Retail trade	Food and Commercial Workers	5,400
Rheem Manufacturing Co. (Arkansas)	Transportation equipment	Steelworkers	1,600
Rockwell Internationl Corp. (Interstate)	Transportation equipment	Steelworkers	1,450
Savannah Maritime Association (Savannah, Ga.)	Water transportation	Longshoremen's Association	1,100

See footnotes at end of table.

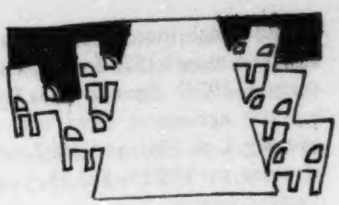
Continued—Major Agreements Expiring Next Month

Employer and location	Industry	Union[1]	Number of workers
Security Agencies, Uptown Agreement (San Francisco, Calif.)[2]	Services	International Union of Security Officers (Ind.)	3,300
Sharon Steel Corp., Steel Brainard-Dearborn Division (Interstate)	Primary metals	Steelworkers	3,400
Star-Kist Foods, Inc. (California)	Food products	Seafarers	2,400
Steamship Trade Association of Baltimore, Inc. (Baltimore, Md.)	Water transportation	Longshoremen's Association	5,000
Waldbaum, Inc. (New York, N.Y.)	Retail trade	Retail, Wholesale, and Department Store	4,500
Washington, D.C. Food Employers Labor Relations Association, 2 Agreements (Maryland, D.C., and Virginia)	Retail trade	Food and Commercial Workers	16,000
Wean United, Inc. (Interstate)	Machinery	Steelworkers	1,500
West Gulf Maritime Association, Inc. (Louisiana and Texas)	Water transportation	Longshoremen's Association	15,000
Western States Field Construction Agreement (Interstate)[2]	Construction	Boilermakers	3,250
Whirlpool Corp., Ft. Smith Division (Ft. Smith, Ark.)	Electrical products	Allied Industrial Workers	4,000
Zenith Radio Corp. (Springfield, Mo.)	Electrical products	Electrical Workers (IBEW)	1,650
	Government activity	Employee organization[1]	
Florida: Dade County Metropolitan General Classified Employees	Multidepartment	American Federation of State, County and Municipal Employees	10,000
Dade County Police Department	Public safety	Dade County Police Benevolent Association	2,200
Jacksonville Municipal Employees	Multidepartment	American Federation of State, County and Munipical Employees	3,000

[1] Affliated with AFL–CIO except where noted as independent (Ind.).
[2] Industry area (group of companies signing same contract).
[1] Information is from newspaper reports.

Erratum

The May issue of the *Monthly Labor Review*, page 33, contains the statement, "The CPI home-purchase index is compiled from data on home sales which involve mortgages insured by the Federal Housing Administration or the Veterans Administration." This statement is partially incorrect. House price data from FHA-insured mortgages are included in the CPI home-purchase index; however, comparable data from VA-guaranteed mortgages are not used for the CPI home-purchase index. The only data from VA-guaranteed mortgages used in the CPI are interest rate information, which is combined with comparable interest rates data from FHA-and conventionally insured mortgages in the computation of the mortgage interest cost component of the CPI.



Developments in Industrial Relations

Three aluminum companies settle

Contracts negotiated by the Steelworkers and the Aluminum Workers unions with three major aluminum companies were generally viewed as being more costly than the Steelworkers' April settlement with major basic steel producers. The aluminum settlements involved 30,000 employees of the Aluminum Company of America, Kaiser Aluminum and Chemical Co., and Reynolds Metals Co. and 19,000 Alcoa and Reynolds employees represented by the Aluminum Workers. Steelworkers' President Lloyd McBride said that the new aluminum contracts will narrow the gap between average hourly earnings in the two industries. McBride said that after the final pay adjustment in the aluminum contracts, which expire on May 31, 1983, pay rates will range from $12.73 to more than $16 an hour and average about $14.10. These estimates were based on the union's assumption that the Consumer Price Index, which triggers wage escalator adjustments for the workers, will rise at an annual rate of 11 percent.

The Council on Wage and Price Stability, which based its escalator calculations on the 7.5-percent CPI increase assumption specified in the administration's voluntary anti-inflation program, approved the aluminum accords. An official said the aluminum agreements provided for increases in compensation near the mid-point of the permitted 7.5- to 9.5-percent annual rate of increase.

The major differences between the settlements in the two industries centered on the wage escalator clause. In aluminum, workers received a 31-cent quarterly escalator adjustment on June 2, 1980, and, beginning with the third contract year, the formula will be revised to provide 1 cent an hour adjustments for each 0.26 point movement in the Consumer Price Index for Urban Wage Earners and Clerical Workers (1967=100). In steel, the Steelworkers gave up a 33-cent escalator adjustment scheduled for March 1980 to help defray the cost of pension improvements for current retirees and the union agreed to continue for the full contract term the 1 cent for 0.3 point formula that will also continue to apply during the first two years of the aluminum accords. (See *Monthly Labor Review*, June 1980, pp. 55–56 for terms of the steel settlement.) An unusual feature of the new escalator formula in aluminum is that the resulting increase in money will be paid in two forms—all of the increase that would have been generated by continuation of the 1 cent for each 0.3-point increase in CPI formula will be paid in the form of flat general increases to all employees and any additional amount will be used to increase the increment between job grades. The Steelworkers said that the purpose was to minimize the compression of pay rates that would otherwise occur if the entire amount of each escalator adjustment was paid in the form of a general increase.

The aluminum contracts provided for "set" general wage increases of 25 cents an hour on June 2, 1980, 20 cents on June 1, 1981, and 15 cents on June 7, 1982, matching those in steel. However, the increases in increments between job grades differed. The increment increases also differed among the aluminum companies, as part of a plan to attain near uniformity of pay rate structures among the three companies. The plan also provided for special pay adjustments for some employees of each companies to attain uniformity within that company.

The Steelworkers union, which had agreed to lesser settlement terms to avert the closing of some steel fabricating plants, also agreed to lesser terms for five "noncompetitive" aluminum plants. At these plants, employees will receive annual escalator adjustments, each limited to 35 cents an hour; a 10-cent general wage increase in each year (plus increment increases), and 50 percent of the improvements in pensions and sickness and accident benefits. All other terms match those for the other plants. The five are Alcoa's Richmond, Ind., plant and its Mantahola Power and Light Co. in Franklin, N.C.; Kaiser's Dolton, Ill., and Toledo, Ohio, plants; and Reynolds' Torrance, Calif., plant.

For present retirees, the pension rate was increased to $12.50 a month for each year of credited service for those who retired prior to June 1, 1971; to $13.25 for those who retired between June 1, 1971 and January 31, 1974; to $15.10–$19.50 (varying according to pre-retirement job grade) for those who retired between February 1, 1974 and May 31, 1977; and to $15.75–$20.25 for those who retired between June 1, 1977 and May 31, 1980. The new rates will be attained in two equal steps, with each increase not to exceed a total of $125 a

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"Developments in Industrial Relations" is prepared by George Ruben and other members of the staff of the Division of Trends in Employee Compensation, Bureau of Labor Statistics, and is largely based on information from secondary sources.

month. Each increase is also subject to a minimum of $12.50 a month ($25 for those who retired prior to February 1, 1974). Pension rates for employees retiring during the agreement term will be increased by $2 on January 1 of 1981 and 1982, which will raise the range of rates to $18.25–$22.25 a month for each year of credited service.

Under a new paid personal leave plan, employees will receive six casual days off during the contract term. To partly offset the cost increase, United Nation's Day was dropped as a paid holiday in each year.

The maximum limit on Supplemental Unemployment Benefits for employees with less than 10 years service was increased by $25 a week in each year, bringing it to $260. There is no limit for longer-service employees. The maximum level of the fund was increased to 23 cents (from 18) per hour worked in the preceding 12 months and the employer's contribution rate was increased to 14.5 cents per hour worked until maximum funding is attained and to 5 cents until 125 percent of maximum funding is reached. Under the prior contracts, the rates were 12.5 and 2 cents.

Other improvements included $25,000 life insurance coverage (formerly $10,000); $235 to $303 a week sickness and accident benefits (formerly $168 to $230); 365 days convalescent nursing home coverage; 100 visits a year by nurses and technicians, plus coverage of appliances and supplies, for persons confined to their own homes; $100,000 major medical coverage (formerly $50,000); and increased vision and dental care benefits.

In the noneconomic area, the parties agreed to establish a joint committee to develop methods for solving local problems of mutual concern, mentioning the formation of plant level bodies as a possible approach.

Bargaining was continuing with other aluminum companies for 14,000 workers represented by the unions.

Lumber workers' contract sets industry pattern

More than 35,000 loggers, sawmill, and plywood plant workers in the Pacific Northwest were covered by a settlement between 10 major forest products companies and the Woodworkers union and the Lumber, Production and Industrial Workers union, a division of the Carpenters union. The companies compose the Western States Wood Products Employers Association, which was formed prior to the start of the talks; previously, negotiations with the unions were conducted on a company-by-company basis. The 3-year accord was expected to set a pattern for 30,000 employees of member companies of the Timber Operators Council (another large employer association) and hundreds of independent companies.

Settlement terms included an 80-cent-an-hour wage increase on June 1, 1980, 75 cents on June 1, 1981, and 70 cents on June 1, 1982. Employees paid on a piecework basis receive equivalent increases. (According to a union official, pay averaged between $8.30 and $8.50 an hour under the prior contracts.) A pool equal to $491.70 an hour was established for special pay adjustments to skilled workers, with the allocation of the money to be determined by a union-management committee. Shift differentials were increased by a total of 9 cents an hour over the term and the "woods travel time" differential was increased by 10 cents per qualifying hour.

Other provisions included an additional paid holiday, beginning June 1, 1982; a 20-cent-an-hour increase in the employer payment to the health and welfare fund over the term; and a $2.50 increase in the normal pension rate, bringing it to $19.50 a month for each year of credited service. Employees affected by a permanent plant shutdown who are eligible for early retirement (10 years of service and age 55) were given the option of deferring the benefit payments until age 62 and avoiding the actuarial reduction that would otherwise apply. At the time of the settlement, about 20,000 forest products workers were unemployed in the region because of production cutbacks attributed to a reduction in building construction.

The companies that settled for operations in Alaska, Washington, Oregon, California, Idaho, and Montana are Boise-Cascade Corp., Champion International Co., Crown Zellerbach Corp., Georgia Pacific Corp., ITT Rayonier Inc., International Paper Co., Louisiana Pacific Corp., Publishers Paper Co., Simpson Timber Co., and Weyerhaeuser Co.

Furniture workers settle, end strike

The United Furniture Workers settled with the Memphis (Tenn.) Furniture Manufacturing Co. on a 2-year contract that ended a 10-week strike and was expected to set a pattern for two furniture manufacturers the union had recently organized in the area. Three other newly-organized companies had already settled. Union president Carl Scarbrough said that the Memphis Furniture agreement provided for the retention of existing insurance and union security provision and the extension of the grievance procedure to cover piecework disputes, which he described as victories for his organization.

Hourly wages, which reportedly averaged $3.50 to $4 prior to the settlement, will be increased by 45 cents for skilled workers and 40 cents for other workers in two steps during each year of the contract. Other provisions for the 1,200 workers included a 10th annual paid holiday beginning in the second year; a Christmas bonus; additional holiday and vacation pay for incentive workers; paid funeral leave; and time and one-half pay after

8 hours a day, rather than 40 hours a week.

Flight attendants get double time for holiday work

A 2-year agreement for 9,000 flight attendants was signed by United Airlines and the Association of Flight Attendants. It provided for general wage increases of 13 percent on April 2, 1980 (employees with at least 14 years of service will get an additional 1.7 percent), and 10 percent a year later. The escalator clause provided for cost-of-living adjustments in October of 1980 and 1981 of 30 cents a month for each 0.3-point rise in the BLS-CPI-W (1967=100) with a maximum of $15 a month for each adjustment.

As before, employees will not be paid for holidays not worked, but for the first time, they will be paid double time for working on any of the 10 designated holidays. Vacations were liberalized by providing 30 days of time off after 11 years of service (formerly 12 years) and after 10 years beginning in the second contract year and by providing 37 days after 19 years of service (formerly 20 years) and after 17 years starting in the second year. Senior pay and buffet pay were increased to $2 to $2.50 (from $1.75 to $2.25) and $1 to $1.25 (from 75 cents to $1), depending on the type of aircraft. The major medical expense maximum was increased to $400,000 (from $250,000) and life insurance was doubled to $200,000. Employees' past contributions to the pension fund were refunded, and the normal retirement age was raised to age 65, from age 60.

Insurance Workers, Steelworkers end merger talks

The Insurance Workers ended a year of merger negotiations with the Steelworkers when the union's General Executive Board ruled that the two unions could not reach agreement on a dues structure. The Steelworkers had insisted that the Insurance Workers approach be similar to theirs, which calls for members to pay monthly dues equal to two hours' pay. Insurance Workers President Joseph Pollack said that his unions' members, who currently pay a flat $9.50 a month, would not accept that approach because they are paid on a commission basis and their earnings vary considerably from year to year. Both unions offered compromise proposals, without success.

After the amicable termination of talks, Pollack said that his 20,000-member organization would continue to seek a merger but to assure "maximum organizing and bargaining strength," any proposed partner must have at least a million members.

Panels on economic policy established

The Carter Administration and the AFL-CIO agreed to set up two joint panels on economic policy, one to draw up short-range antirecession plans and the other to suggest a long-range plan for the "re-industrialization" of America.

The meetings that led to the agreement were conducted in compliance with the September 1979 "national accord" between the Administration and organized labor.

The new antirecession panel was expected to prepare specific proposals for alleviating conditions for the unemployed, the poor, the elderly, and others particularly hard hit by the current economic slowdown. In the past few months, AFL-CIO President Lane Kirkland had become increasingly critical of Administration efforts in this area, contending that the poor and the needy were bearing the brunt of anti-inflation measures in violation of the principles of the national accord.

The other panel will examine and suggest remedies for long-term problems in certain industries, such as import competition and obsolete plants and equipment. An Administration official said that eventually industry officials and representatives of unions outside the AFL-CIO will be added to this panel.

Three studies on pensions

A number of recent developments reflects the Nation's concern over the adequacy of workers retirement income. At the Federal Government level, a presidential panel on pensions issued an interim report suggesting that private employers be required to provide a minimum level of protection for their retirees and the Department of Labor proposed a change in its regulations concerning the types of ventures in which plan trustees are permitted to invest. Elsewhere, the AFL-CIO issued a report encouraging unions to press for a larger role in deciding how plan assets should be invested.

The 10-member President's Commission on Pension Policy noted in its report that some companies have voluntarily increased pensions for their retirees to at least partly offset the rise in living costs. While agreeing that such adjustments should be "encouraged," the commission stopped short of recommending that they be mandated, saying that "the greatest emphasis should be placed on expanding pension coverage rather than providing full inflation protection to some (retirees) at this time."

The commission suggested that the definition of retirement may need to be changed. It affirmed the right of every American to normal retirement at a stipulated age, but encouraged work opportunities for older workers. Explaining that people should expect retirement to constitute a constant proportion of their adult lives, the commission suggested that the normal retirement age be raised at some time in the future for people born after 1945.

The final report, expected in February 1981, may differ from the interim findings because of questions raised by some of the commission's members and the outcome of staff studies on certain issues. Members from organized labor, business, banking, State legislatures, and academia were represented on the commission.

In its study, the Department of Labor estimated that the value of private pension plans in the United States will reach $3,000 billion in 1995, compared with $211 billion in 1975 and more than $300 billion in 1980. Much of this growth will result from inflation—in terms of constant 1975 dollars, the value of pension assets will total only about $900 billion in 1995. Nevertheless, the growth will have "an incredible impact" on investment markets, increasing the already complex problems of regulating pension funds, according to Ian D. Lanoff, administrator of pension and welfare benefit programs. Therefore, new decisions will have to be made on who will control the funds and how best to use them, including consideration of the social usefulness of pension investments.

The proposed new regulation announced by the Labor Department will make it easier for private employee-benefit plans to invest in venture-capital firms, which are usually partnerships that invest in fledgling companies, giving them financial help and management advice. The new regulation will become official after a 60-day period, subject to possible changes based on comments the Department receives from interested parties.

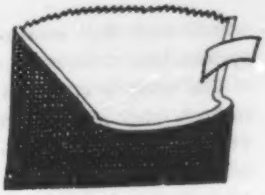
Last year, the Labor Department had proposed to treat benefit plan investments in venture capital firms as "plan assets," which would have meant that trustees would be liable for the venture capital firms' activities, including their unprofitable investments. This drew critical responses from venture capital firms, which claimed that the regulation would dry up their chief source of capital. The new regulation will treat investments in venture-capital firms in the same manner as investments in ordinary operating companies. However, venture-capital firms will still have to meet some special requirements—they will only be permitted to invest in companies in which they have a management role and they will have to provide pension fund trustees with annual audited financial statements.

In its benefit plan study, the AFL–CIO's Industrial Union Department found that workers' pension funds are sometimes being used to create overseas jobs and to finance nonunion companies. Jacob Sheinkman, secretary-treasurer of the Clothing and Textile Workers and head of the seven-member study committee, said, "Labor loses twice from current pension fund management. In the short run, benefits may be threatened by inadequate rate of return and in the long run, our own money works to take away our jobs and diminish our overall economic well being."

According to project director Richard Prosten, the average pension fund had a 4.3-percent a year rate of return over the last 10 years, compared with 5.9 percent for Standard and Poor's index of 500 stocks and, "in many instances, participants would have been better off if their funds had been invested in passbook savings accounts, rather than in equity stock."

The committee urged unions to seek joint administration of benefit funds through the collective bargaining process or through a commitment from the employer that the union may participate in important decisions affecting the funding, including selection of trustees and investment managers. If these efforts prove unsuccessful, the final step would be to press for legislation guaranteeing workers a voice in fund operations.

The report was based on an examination of the investment practices of 10 "representative large industrial companies" and 192 collectively bargained or public sector benefit plans. The committee obtained 545 plans and analyzed 35 investment portfolios. ☐



Book Reviews

Divergent views on bargaining

Collective Bargaining: New Dimensions in Labor Relations. Edited by Franklin J. Havelick. Boulder, Colo., Westview Press, 1979. 183 pp. $20.

Long ago, I read an article describing personality types which create problems in collective bargaining. Now we have a book, edited by Franklin J. Havelick, in which are collected the views of labor relations leaders who help rather than hinder the resolution of labor problems by collective bargaining innovations.

The book stems from 2 years of discussions at the Institute of Collective Bargaining and Group Relations of New York City, a program supported by the Ford Foundation and sponsored by the New York State School of Industrial and Labor Relations, Cornell University. It is divided into 10 chapters with the authors of each chapter discussing collective bargaining as it is related to particular issues: economics, politics, international trade, productivity, inflation, employment policy, and the quality of working life.

Havelick's thesis is that social, political, and economic pressures affect the collective bargaining process resulting in a new and constantly changing system of collective bargaining. The book is an examination of this system, one whose working varies with the different experts depending on their experiences and their positions in the labor-management community.

Havelick presents the views of Wayne L. Horvitz (Federal Mediation and Conciliation Service) contrasted with the views of William W. Winpisinger (International Association of Machinists); Theodore W. Kheel (Institute of Collective Bargaining) and Glenn E. Watts (Communication Workers of America); Benjamin F. Bailar (former U.S. Postmaster General) and Albert Shanker (American Federation of Teachers); Sol C. Chaikin (International Ladies' Garment Workers' Union) and Malcolm L. Denise (former vice president for Labor Relations, Ford Motor Co.); and Ernest G. Green (Assistant U.S. Secretary of Labor) and Jerome M. Rosow (Work in America Institute). In these discussions, the authors explain how collective bargaining is helping solve the problems they face and what they expect of it in the future.

These experts are paired to provide contrasting views on particular issues. For example, Chaikin and Denise tell how circumstances have shaped their ideas about collective bargaining. Each sees it differently, of course, since one represents employees of thousands of small labor-intensive employers who compete with employers of cheap labor in Mexico, Hong Kong, Taiwan, South Korea, and Thailand. The other speaks for a major firm which operates plants in countries throughout the world as well as in the United States.

It is instructive, for example, to see how sharply divergent labor leaders can be in their attitudes toward the role of the Federal Government regarding inflation. According to Watts:

> If the government is to play a constructive economic role, it must pursue a demonstrably sound Keynesian program of tax reductions, economic subsidies, and deficit spending to achieve economic growth. . . . Labor will also seek public benefits that substitute for wage increases and can have significant anti-inflationary effects. . . . A growing emphasis on political remedies to economic problems is one of the larger, long-term effects of inflation on labor relations.

He also proposes increased Federal expenditures on housing and health care.

Shanker, however, notes that, although teachers will be encouraged to "assert themselves politically," they "are increasingly conscious that collective bargaining gains can be lost by national politics that effect aid to education and other aid to the States, by inflationary policies that cheapen wage increases, and by health policies that limit disposable income."

Those who find new insights in this book may want to read *Work in America: The Decade Ahead*, edited by Clark Kerr and Jerome M. Rosow (1979). It has other prominent labor relations leaders look at similar issues in an approach somewhat broader in scope. However, neither of these books deals with collective bargaining techniques as does Reed C. Richardson in his excellent *Collective Bargaining by Objectives: A Positive Approach* (1977).

Readers will ask themselves how the experts assembled by Havelick can differ so radically on how they are affected by inflation, foreign competition, and other issues. Havelick supplies the answers by having them describe their problems, experiences, and collective bargaining solutions. This should give pause to those who urge ready-made, definite, unambiguous solutions to work problems without considering those factors which call for a variety of experimental, creative approaches.

The book is clearly written and should prove useful to both labor relations students and policymakers in the world of work.

—IRVING PASTER
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Perils of overseas investment

Foreign Investment and the Management of Political Risk. By Dan Haendel. Boulder, Colo., Westview Press, 1979. 206 pp. $18.50.

In the conduct of international business, one must expect to encounter a political milieu very different from one's domestic political environment. In the best of circumstances, this fact can cause the international investor some uncertainty, and in the extremely unstable political conditions that prevail in some regions, the risk of sustaining substantial loss on an investment as a result of political change can be significant. Dan Haendel has approached this important and very complex issue in this admittedly "modest attempt to contribute to the formulation of better corporate and public policy." Unfortunately, he is only modestly successful in achieving this limited goal.

A major factor in the failure of *Foreign Investment and the Management of Political Risk* to develop its full potential is the author's apparent indecision as to who his audience should be. From the academics' viewpoint, this work could only be regarded as a somewhat overlong survey of literature, with scant original material, interpretation, or analytic synthesis. If Haendel was attempting to reach the technical specialist in country risk analysis, he has provided no depth of technical detail in his summaries of method, even though he does cover a fairly wide range of earlier work of his own and of other authors. If he intended an audience of upper-level executives, private or public, his book does not provide a really effective guide to a decisionmaker's interpretation of technical analyses of political risk. It did not seem that the author was actually unaware of these concerns, he simply did not focus his attention on any one of them and, as a result, did not adequately address anyone's needs.

On a more specific level, I would like to take issue with Haendel's "Political System Stability Index" (PSSI). The PSSI is an extension of earlier work by Haendel and two coauthors, and is one of the few places where the reviewer can directly criticize a substantive contribution of the author's. When reduced to the shorthand of mathematical notation, the PSSI takes the form:

$$PS_j = \sum_{1}^{n} a_i Z_{ij}$$

where PS_j is the PSSI value for country j, Z_{ij} is the Z-score $((X_{ij} - \overline{X}_i)/s_i)$ of the ith indicator for country j, and a_i is the weight assigned to the ith indicator.

Despite the author's insistence that this index is based on "hard" quantitative data rather than "soft" measures of opinion, it is obvious that the index is quite dependent on the weighting structure; and the weighting structure in this case has been arbitrarily and somewhat carelessly imposed using extremely tenuous theoretical justifications. For instance, energy consumption per capita, which is assumed to be a proxy for economic development, which is itself assumed to have a positive relationship with political stability, is given 5 times the weight of such direct measures of political unrest as riots and government crises, and over 3 times the weight of such indicators as assassinations and coups d'état. As justification for a conclusion of this counterintuitive, the reader might reasonably expect more than the skimpy theoretical framework and nearly nonexistent empirical validations presented in this volume.

Even with its flaws, this volume contains the seeds of a good deal of future work. The importance of such a research program in this field is underscored by a *Wall Street Journal* (Feb. 20, 1980, p. 25) quotation of the executive vice president of the Chase Manhattan Bank saying that, as a whole, the banking industry has been doing a "pretty miserable job of predicting political risk." In a similar vein, Edward Frydl, writing in the Federal Reserve Bank of New York's *Quarterly Review* (Winter 1979–80, pp. 11–20), has identified miscalculation of political risk as one potential destabilizer of the Eurocurrency markets, and, through those markets, the international monetary system. If Haendel chooses to write off this book as a preliminary exercise, he should be expected to contribute much more to this vital field.

—RICHARD M. DEVENS, JR.
Office of Current Employment Analysis
Bureau of Labor Statistics

Growth industry for neutrals

Government Labor Relations: Trends and Information for the Future, Vol. I, 1975–1978. Edited by Hugh D. Jascourt. Oak Park, Ill., Moore Publishing Co., Inc., 1979. 399 pp. $12.

In recent years, interested persons have raised questions concerning the future of collective bargaining in the United States. Some have asked: "Is collective bargaining dead?" They point to figures published by the Bureau of Labor Statistics which clearly indicate that overall labor-union growth has declined in the private sector, and that union membership as a proportion of labor force and/or nonagricultural employment has dropped significantly over the years.

The only major area where growth in union membership has occurred is in the public sector—Federal, State, and local governments. In fact, growth in these areas is the reason that organized labor has been able to maintain a steady rate in overall membership. It is useful to keep in mind that approximately 1 of 6 U.S. workers is employed by government, with about 1 of 5 public workers employed by State and local governments.

Many writers point to President Kennedy's Executive Order 10988, issued in 1962, as the stimulus for public-sector unionism. While several States and cities had already ventured into collective bargaining with representatives of their employees, Executive Order 10988 served to generate increased union activity in the Federal Government and among the States and communities.

What has emerged is a hodge-podge of laws, regulations, administrative procedures, and attitudes which have given public-sector unionism an aura of instability, experimentation, volatility, and immaturity.

Many books and articles have been written about specific laws, illegal job actions, administrative deficiencies, and so forth, in the public sector. There are also dozens of courses and seminars held each year for practitioners, administrators, neutrals, or anyone else interested in public-sector unionism. The problem is often one of what to read or which seminars or conferences to attend. In fact, however, it is difficult to find in one place, one book, or one meeting, enough about the field as a whole to serve the needs of those involved in public-sector labor relations.

This book provides a blend of legal, conceptual, and operational material that offers the reader a solid foundation concerning the history and current state of the art in public-sector labor relations. It is organized into three parts, as follows:

Part I provides an evolutionary picture of State and local level labor relations by setting out briefly the major issues and legal decisions that have shaped the collective bargaining systems. It discusses questions of coverage, unit determination, recognition, elections, union security, scope of bargaining, grievance procedures, other dispute resolution procedures, impasse resolution, problems of strikes, and other important areas that have made public-sector collective bargaining so dynamic and complicated.

Part II provides coverage of some of the more significant legal decisions in the public-sector area, such as the National League of Cities v. Usery constitutional issue. Other landmark cases pertaining to authority of courts, units, arbitration, fiscal crises, strikes and strikers, union security, duty of fair representation, and so forth, provide a well-rounded legal framework for the reader.

Part III is a series of articles by individuals knowledgeable about public-sector labor-management relations. It covers various viewpoints and perspectives, such as political, economic, labor, management, and the public.

One article, "Training Programs for Neutrals" is long overdue. This reviewer has often been asked by students to suggest ways to become a neutral in the field of collective bargaining. The article describes a variety of training programs that have been tried or which are still underway. It is hard to know, however, which programs are really open to all interested parties and which have provided bona fide opportunities, particularly for young people interested in the field. Experience has shown that parties to a dispute want knowledgeable, experienced neutrals handling their cases. Young people need to get experience, but how does one get this experience? Internships and working with known, competent neutrals are suggested ways. Much more needs to be written about this area.

This is a book well worth acquiring as a ready reference source, or as auxiliary text for a course in public-sector collective bargaining.

—BEN BURDETSKY
Professor of Personnel and Labor Relations
George Washington University

Managers as entrepreneurs

Managing Change: Today's Challenge to Management. By John E. Flaherty. New York, Nellen Publishing Co., 1979. 171 pp., bibliography. $9.95.

This book, by John E. Flaherty, encompasses subject matter that is broader than either its title or chapter titles would lead one to suspect. Five of the six chapter headings include the word entrepreneur. The book discusses private sector management and entrepreneur as used here means the preferred qualities of any manager. Hence, the book is broad-based; it is unblushingly a Peter Drucker-style book. Indeed, Flaherty gives Drucker credit for being both his inspiration and a source of encouragement.

The strength of this volume is its freshness of perspective, the author's ability to embrace a vast amount of managerial data (financial, anecdotal, and so forth), and to use it Drucker-like to illustrate a point. Although Flaherty has a broad knowledge of successful and unsuccessful corporate managerial and marketing strategies, he does not come up to the richness, the vision, and the readability of a Drucker.

Some sections of the book are insightful and exciting, other sections seem trivial, and in some instances are highly questionable. Because such a broad range of facts, tactics, firms, and stories are covered, it is not surprising that the book is uneven. It would take a superman to master this material; in fact, Flaherty has not done badly. Perhaps he deserves credit for even trying.

The first half of the book is a loosely-knit collection of suggestions, examples, and broad analyses. The author urges the firm to be opportunity-oriented rather than problem-focused; it should be ready to drop a failing product. Although Flaherty urges abandonment of an obsolete product or plant, he urges caution in one area: ". . . products should be treated ruthlessly; but, with people, loyalty and conscience should be factored into the decision."

Flaherty shows how the firm can be more efficient by concentrating on its "knowledge excellence," and not trying to produce and market a broad range of unrelated products. He cites firms such as Sears, Roebuck and Co., Pepsi Cola, Music Corp. of America, K-Mart, and Anheuser-Busch, which did so successfully, and W. T. Grant, which failed in this.

The latter half of the book is broader in scope. The author presents an excellent list of questions for managing capital resources, a strong criticism of the theories of contemporary managerial psychologists, useful hints for the manager on the use of time, and good suggestions on making performance appraisal more positive.

Flaherty correctly describes new business as flexible, willing to assume risks, and innovative. He also notes that a majority of the larger firms are unwilling to take risks, and, therefore, are not creative.

Flaherty's background in management was obtained through consulting and teaching; his lack of education in business disciplines is demonstrated in his treatment of various items. For example, the book is about entrepreneurship among managers. The basic motive of entrepreneurs is achievement. Flaherty evaluates many psychologists who treat motivation, but fails to include David McClelland, who has done so much on the need to achieve.

Flaherty calls the idea of profit "deceptively easy . . . In an engineering and physical science sense it is the ratio between inputs on efforts and outputs or results . . . " This reviewer has never heard profit described as a ratio and does not understand it. Flaherty fails to provide any additional explanation. Because Flaherty is a historian, one would have hoped to enjoy more historical and humanistic examples beyond the occasional reference to Pascal or St. Augustine.

It is distracting that Flaherty consistently notes the university affiliation of Harvard academics, and not others. The editor and publisher should have caught the serious mix-up of text on pp. 99–100.

There is some excellent material in this book. Although it is uneven, it deserves our attention.

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Covering the safety and health spectrum

Protecting People at Work: A Reader in Occupational Safety and Health. Edited by Judson MacLaury. Washington, U.S. Department of Labor, 1980. 361 pp. Stock No. 029-015-00055-4. $6.50, paper, Superintendent of Documents, Washington 20402.

The Occupational Safety and Health Act requires an annual report to Congress on the status of worker on-the-job safety and health. It is part of the law frequently ignored, and always postponed. Now comes an official U.S. Labor Department book—honoring Frances Perkins—which makes up for those lapses.

The numerous authors of this book, edited by Judson MacLaury, include many of the new breed of environmental specialists who have come to the forefront during the Ray Marshall and Eula Bingham era at the U.S. Occupational Safety and Health Administration.

Their viewpoints and plain talk make for smooth and informative reading. For too long a time, occupational safety and health literature has been burdened with a remoteness which has driven the trade away. This book was meant to be read, not stacked away for reference. Workers who read this book and heed the information presented could possibly live longer and fuller lives.

Government publications often run a long timespan between the author's typewriter and final print. There are gaps in the book which suffer from time problems. For example, the excellent new series of Occupational Safety and Health booklets would have made a useful appendix (at least a few gutsy excerpts are worth adding). And, Bingham's columns, which scored so well in many labor papers, ought to have found a place in this book.

A reading list of some of the best news articles and books which have proliferated in recent years—and were a feature of OSHA's media seminar in Chicago in 1979—would have been a welcome addition.

Still, it is hard for me to quarrel with the actual contents. The book has a good range of material and the writers know their subject matter. They write felicitously and are not long-winded.

There is hardly a nook in the nearly endless topic of health and safety which is not treated—chemicals, noise, dust, reproductive hazards, and the human body. Each is given a good introduction. And there is more—

the regulatory controversy, OSHA and its mission, comparative foreign experiences, and the economics of health and safety. Plenty to ponder here.

Yet, the Nation today is full of eager OSHA students —workers, unions, organizations, trade associations, members of Congress, think-tanks on all sides of the spectrum—who hunger for more information on the often baffling OSHA universe. If there is any flaw in this welcome book, and it is very minor, it is that readers who search for reference sources may not always know where to look. May this, then, be the first of a new series of updates as the OSHA mission is increasingly fulfilled.

—Franklin Wallick
Editor
UAW Washington Report

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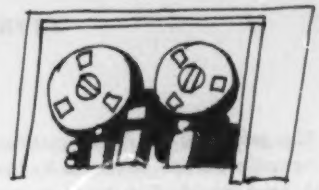

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NOTES ON CURRENT LABOR STATISTICS

This section of the *Review* presents the principal statistical series collected and calculated by the Bureau of Labor Statistics. A brief introduction to each group of tables provides definitions, notes on the data, sources, and other material usually found in footnotes.

Readers who need additional information are invited to consult the BLS regional offices listed on the inside front cover of this issue of the *Review*. Some general notes applicable to several series are given below.

Seasonal adjustment. Certain monthly and quarterly data are adjusted to eliminate the effect of such factors as climatic conditions, industry production schedules, opening and closing of schools, holiday buying periods, and vacation practices, which might otherwise mask short-term movements of the statistical series. Tables containing these data are identified as "seasonally adjusted." Seasonal effects are estimated on the basis of past experience. When new seasonal factors are computed each year, revisions may affect seasonally adjusted data for several preceding years. For a technical discussion of the method used to make seasonal adjustments, see "Appendix A. The BLS Seasonal Factor Method," *BLS Handbook of Methods for Surveys and Studies*, Bulletin 1910 (Bureau of Labor Statistics, 1976), pp. 272–78, and *X-11 Variant of the Census Method II Seasonal Adjustment Program*, Technical Paper No. 15 (Bureau of the Census, 1967). Seasonally adjusted labor force data in tables 2–7 were last revised in the February 1980 issue of the *Review* to reflect the preceding year's experience. Beginning in January 1980, the BLS introduced two major modifications in the seasonal adjustment methodology for labor force data. First, the data are being seasonally adjusted with a new procedure called X-11/ARIMA, which was developed at Statistics Canada as an extension of the standard X-11 method. A detailed description of the procedure appears in *The X-11 ARIMA Seasonal Adjustment Method* by Estela Bee Dagum (Statistics Canada Catalogue No. 12-564E, September 1979).

The second change is that seasonal factors are now being calculated for use during the first 6 months of the year, rather than for the entire year, and then are calculated at mid-year for the July-December period. Revisions of historical data continue to be made only at the end of each calendar year. Annual revision of the seasonally adjusted payroll data in tables 11, 13, 16, and 18 begins with the August 1980 issue using the X-11 ARIMA seasonal adjustment methodology. New seasonal factors for productivity data in tables 33 and 34 are usually introduced in the September issue. Seasonally adjusted indexes and percent changes from month to month and from quarter to quarter are published for numerous Consumer and Producer Price Index series. However, seasonally adjusted indexes are not published for the U.S. average All Items CPI. Only seasonally adjusted percent changes are available for this series.

Adjustments for price changes. Some data are adjusted to eliminate the effect of changes in price. These adjustments are made by dividing current dollar values by the Consumer Price Index or the appropriate component of the index, then multiplying by 100. For example, given a current hourly wage rate of $3 and a current price index number of 150, where 1967 = 100, the hourly rate expressed in 1967 dollars is $2 ($3/150 × 100 = $2). The resulting values are described as "real," "constant," or "1967" dollars.

Availability of information. Data that supplement the tables in this section are published by the Bureau of Labor Statistics in a variety of sources. Press releases provide the latest statistical information published by the Bureau; the major recurring releases are published according to the schedule given below. The *Handbook of Labor Statistics 1978*, Bulletin 2000, provides more detailed data and greater historical coverage for most of the statistical series presented in the *Monthly Labor Review*. More information from the household and establishment surveys is provided in *Employment and Earnings*, a monthly publication of the Bureau, and in two comprehensive data books issued annually—*Employment and Earnings, United States* and *Employment and Earnings, States and Areas*. More detailed information on wages and other aspects of collective bargaining appears in the monthly periodical, *Current Wage Developments*. More detailed price information is published each month in the periodicals, the *CPI Detailed Report* and *Producer Prices and Price Indexes*.

Symbols

p = preliminary. To improve the timeliness of some series, preliminary figures are issued based on representative but incomplete returns.
r = revised. Generally this revision reflects the availability of later data but may also reflect other adjustments.
n.e.c. = not elsewhere classified.

Schedule of release dates for major BLS statistical series

Title and frequency (monthly except where indicated)	Release date	Period covered	Release date	Period covered	MLR table number
Employment situation	August 1	July	September 5	August	1–11
Producer Price Index	August 15	July	September 5	August	26–30
Consumer Price Index	August 22	July	September 23	August	22–25
Real earnings	August 22	July	September 23	August	14–20
Productivity and costs (quarterly):					
Nonfinancial corporations	August 27	2nd quarter	....	....	31–34
Work stoppages	August 28	July	September 29	August	37
Labor turnover in manufacturing	August 29	July	September 30	August	12–13

EMPLOYMENT DATA FROM THE HOUSEHOLD SURVEY

EMPLOYMENT DATA in this section are obtained from the Current Population Survey, a program of personal interviews conducted monthly by the Bureau of the Census for the Bureau of Labor Statistics. The sample consists of about 65,000 households beginning in January 1980, selected to represent the U.S. population 16 years of age and older. Households are interviewed on a rotating basis, so that three-fourths of the sample is the same for any 2 consecutive months.

Definitions

Employed persons are (1) those who worked for pay any time during the week which includes the 12th day of the month or who worked unpaid for 15 hours or more in a family-operated enterprise and (2) those who were temporarily absent from their regular jobs because of illness, vacation, industrial dispute, or similar reasons. A person working at more than one job is counted only in the job at which he or she worked the greatest number of hours.

Unemployed persons are those who did not work during the survey week, but were available for work except for temporary illness and had looked for jobs within the preceding 4 weeks. Persons who did not look for work because they were on layoff or waiting to start new jobs within the next 30 days are also counted among the unemployed. The **unemployment rate** represents the number unemployed as a percent of the civilian labor force.

The **civilian labor force** consists of all employed or unemployed persons in the civilian noninstitutional population; the **total labor force** includes military personnel. Persons **not in the labor force** are those not classified as employed or unemployed; this group includes persons retired, those engaged in their own housework, those not working while attending school, those unable to work because of longterm illness, those discouraged from seeking work because of personal or job market factors, and those who are voluntarily idle. The **noninstitutional population** comprises all persons 16 years of age and older who are not inmates of penal or mental institutions, sanitariums, or homes for the aged, infirm, or needy.

Full-time workers are those employed at least 35 hours a week; **part-time workers** are those who work fewer hours. Workers on part-time schedules for economic reasons (such as slack work, terminating or starting a job during the week, material shortages, or inability to find full-time work) are among those counted as being on full-time status, under the assumption that they would be working full time if conditions permitted. The survey classifies unemployed persons in full-time or part-time status by their reported preferences for full-time or part-time work.

Notes on the data

From time to time, and especially after a decennial census, adjustments are made in the Current Population Survey figures to correct for estimating errors during the preceding years. These adjustments affect the comparability of historical data presented in table 1. A description of these adjustments and their effect on the various data series appear in the Explanatory Notes of *Employment and Earnings*.

Data in tables 2–7 are seasonally adjusted, based on the seasonal experience through December 1979.

1. Employment status of the noninstitutional population, 16 years and over, selected years, 1950–79

[Numbers in thousands]

Year	Total noninstitutional population	Total labor force		Civilian labor force						Not in labor force
		Number	Percent of population	Total	Employed			Unemployed		
					Total	Agriculture	Nonagricultural industries	Number	Percent of labor force	
1950	106,645	63,858	59.9	62,208	58,918	7,160	51,758	3,288	5.3	42,787
1955	112,732	68,072	60.4	65,023	62,170	6,450	55,722	2,852	4.4	44,660
1960	119,759	72,142	60.2	69,628	65,778	5,458	60,318	3,852	5.5	47,617
1964	127,224	75,830	59.6	73,091	69,305	4,523	64,782	3,786	5.2	51,394
1965	129,236	77,178	59.7	74,455	71,088	4,361	66,726	3,366	4.5	52,058
1966	131,180	78,893	60.1	75,770	72,895	3,979	68,915	2,875	3.8	52,288
1967	133,319	80,793	60.6	77,347	74,372	3,844	70,527	2,975	3.8	52,527
1968	135,562	82,272	60.7	78,737	75,920	3,817	72,103	2,817	3.6	53,291
1969	137,841	84,240	61.1	80,734	77,902	3,606	74,296	2,832	3.5	53,602
1970	140,182	85,903	61.3	82,715	78,627	3,462	75,165	4,088	4.9	54,280
1971	142,596	86,929	61.0	84,113	79,120	3,387	75,732	4,993	5.9	55,666
1972	145,775	88,991	61.0	86,542	81,702	3,472	78,230	4,840	5.6	56,785
1973	148,263	91,040	61.4	88,714	84,409	3,452	80,957	4,304	4.9	57,222
1974	150,827	93,240	61.8	91,011	85,935	3,492	82,443	5,076	5.6	57,587
1975	153,449	94,793	61.8	92,613	84,783	3,380	81,403	7,830	8.5	58,655
1976	156,048	96,917	62.1	94,773	87,485	3,297	84,188	7,288	7.7	59,130
1977	158,559	99,534	62.8	97,401	90,546	3,244	87,302	6,855	7.0	59,025
1978	161,058	102,537	63.7	100,420	94,373	3,342	91,031	6,047	6.0	58,521
1979	163,620	104,996	64.2	102,908	96,945	3,297	93,648	5,963	5.8	58,623

2. Employment status by sex, age, and race, seasonally adjusted

[Numbers in thousands]

Employment status	Annual Average		1979								1980				
	1978	1979	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May
TOTAL															
Total noninstitutional population[1]	161,058	163,620	163,260	163,469	163,685	163,881	164,106	164,468	164,682	164,898	165,101	165,298	165,506	165,693	166,105
Total labor force	102,537	104,996	104,476	104,552	105,475	105,218	105,586	105,688	105,744	106,088	106,310	106,346	106,184	106,511	106,634
Civilian noninstitutional population[1]	158,941	161,532	161,182	161,393	161,604	161,801	162,013	162,375	162,589	162,809	163,020	163,211	163,416	163,601	164,013
Civilian labor force	100,420	102,908	102,398	102,476	103,093	103,128	103,494	103,595	103,652	103,999	104,229	104,260	104,094	104,419	104,542
Employed	94,373	96,945	96,495	96,652	97,184	97,004	97,504	97,474	97,608	97,912	97,804	97,953	97,656	97,154	96,537
Agriculture	3,342	3,297	3,246	3,243	3,267	3,315	3,364	3,294	3,385	3,359	3,270	3,326	3,358	3,242	3,191
Nonagricultural industries	91,031	93,648	93,249	93,409	93,917	93,689	94,140	94,180	94,223	94,553	94,534	94,626	94,298	93,912	93,346
Unemployed	6,047	5,963	5,903	5,824	5,909	6,124	5,990	6,121	6,044	6,087	6,425	6,307	6,438	7,265	8,006
Unemployment rate	6.0	5.8	5.8	5.7	5.7	5.9	5.8	5.9	5.8	5.9	6.2	6.0	6.2	7.0	7.7
Not in labor force	58,521	58,623	58,784	58,917	58,511	58,673	58,519	58,780	58,937	58,810	58,791	58,951	59,322	59,182	59,471
Men, 20 years and over															
Civilian noninstitutional population[1]	67,006	68,293	68,123	68,227	68,319	68,417	68,522	68,697	68,804	68,940	69,047	69,140	69,238	69,329	69,532
Civilian labor force	53,464	54,486	54,288	54,370	54,579	54,597	54,735	54,760	54,709	54,781	54,855	55,038	54,996	55,114	55,220
Employed	51,212	52,264	52,158	52,201	52,325	52,311	52,453	52,443	52,374	52,478	52,279	52,531	52,300	51,868	51,510
Agriculture	2,361	2,350	2,301	2,305	2,327	2,375	2,377	2,371	2,438	2,427	2,387	2,435	2,394	2,320	2,270
Nonagricultural industries	48,852	49,913	49,857	49,896	49,998	49,936	50,076	50,072	49,936	50,051	49,892	50,096	49,906	49,548	49,240
Unemployed	2,252	2,223	2,130	2,169	2,254	2,286	2,282	2,317	2,335	2,303	2,577	2,507	2,696	3,246	3,710
Unemployment rate	4.2	4.1	3.9	4.0	4.1	4.2	4.2	4.2	4.3	4.2	4.7	4.6	4.9	5.9	6.7
Not in labor force	13,541	13,807	13,835	13,857	13,740	13,820	13,787	13,937	14,095	14,159	14,192	14,102	14,242	14,215	14,312
Women, 20 years and over															
Civilian noninstitutional population[1]	75,489	76,860	76,670	76,784	76,897	77,006	77,124	77,308	77,426	77,542	77,656	77,766	77,876	77,981	78,211
Civilian labor force	37,416	38,910	38,619	38,653	39,033	39,304	39,239	39,362	39,445	39,659	39,878	39,857	39,751	40,137	40,125
Employed	35,180	36,698	36,411	36,457	36,873	37,000	37,075	37,112	37,248	37,402	37,574	37,604	37,496	37,602	37,530
Agriculture	586	591	577	583	585	600	628	572	612	582	540	567	582	552	541
Nonagricultural industries	34,593	36,107	35,834	35,874	36,288	36,400	36,447	36,540	36,636	36,820	37,034	37,037	36,914	37,051	36,989
Unemployed	2,236	2,213	2,208	2,196	2,160	2,304	2,164	2,250	2,197	2,257	2,304	2,254	2,255	2,534	2,596
Unemployment rate	6.0	5.7	5.7	5.7	5.5	5.9	5.5	5.7	5.6	5.7	5.8	5.7	5.7	6.3	6.5
Not in labor force	38,073	37,949	38,051	38,131	37,864	37,702	37,885	37,946	37,981	37,883	37,778	37,909	38,125	37,844	38,086
Both sexes, 16 - 19 years															
Civilian noninstitutional population[1]	16,447	16,379	16,380	16,381	16,387	16,377	16,367	16,370	16,360	16,326	16,317	16,305	16,302	16,291	16,271
Civilian labor force	9,540	9,512	9,491	9,453	9,481	9,227	9,520	9,473	9,498	9,559	9,497	9,365	9,346	9,168	9,197
Employed	7,981	7,984	7,926	7,994	7,986	7,693	7,976	7,919	7,986	8,032	7,952	7,818	7,859	7,683	7,497
Agriculture	395	356	368	355	355	340	359	351	335	350	344	325	381	370	380
Nonagricultural industries	7,586	7,628	7,558	7,639	7,631	7,353	7,617	7,568	7,651	7,682	7,608	7,493	7,478	7,313	7,117
Unemployed	1,559	1,528	1,565	1,459	1,495	1,534	1,544	1,554	1,512	1,527	1,545	1,547	1,487	1,485	1,700
Unemployment rate	16.3	16.1	16.5	15.4	15.8	16.6	16.2	16.4	15.9	16.0	16.3	16.5	15.9	16.2	18.5
Not in labor force	6,907	6,867	6,889	6,928	6,906	7,150	6,847	6,897	6,862	6,767	6,820	6,940	6,956	7,123	7,074
White															
Civilian noninstitutional population[1]	139,580	141,614	141,331	141,492	141,661	141,822	141,981	142,296	142,461	142,645	142,806	142,951	143,115	143,254	143,565
Civilian labor force	88,456	90,602	90,120	90,215	90,659	90,759	91,082	91,147	91,242	91,579	91,852	91,977	91,821	92,083	92,096
Employed	83,836	86,025	85,632	85,775	86,120	85,976	86,425	86,454	86,571	86,894	86,895	87,081	86,822	86,385	85,792
Unemployed	4,620	4,577	4,488	4,440	4,539	4,783	4,657	4,693	4,671	4,685	4,957	4,896	4,999	5,698	6,303
Unemployment rate	5.2	5.1	5.0	4.9	5.0	5.3	5.1	5.1	5.1	5.1	5.4	5.3	5.4	6.2	6.8
Not in labor force	51,124	51,011	51,313	51,213	51,107	51,161	50,900	51,149	51,219	51,066	50,954	50,975	51,294	51,171	51,469
Black and other															
Civilian noninstitutional population[1]	19,361	19,918	19,850	19,901	19,943	19,979	20,032	20,079	20,128	20,163	20,214	20,261	20,301	20,346	20,448
Civilian labor force	11,964	12,306	12,219	12,260	12,386	12,343	12,404	12,512	12,391	12,432	12,453	12,362	12,266	12,319	12,446
Employed	10,537	10,920	10,816	10,887	11,023	10,982	11,063	11,076	11,044	11,024	10,979	10,937	10,823	10,771	10,751
Unemployed	1,427	1,386	1,403	1,373	1,363	1,361	1,341	1,436	1,347	1,408	1,474	1,424	1,443	1,548	1,695
Unemployment rate	11.9	11.3	11.5	11.2	11.0	11.0	10.8	11.5	10.9	11.3	11.8	11.5	11.8	12.6	13.6
Not in labor force	7,397	7,612	7,674	7,629	7,579	7,639	7,264	7,567	7,737	7,731	7,761	7,899	8,035	8,027	8,002

[1] As in table 1, population figures are not seasonally adjusted.

NOTE: The monthly data in this table have been revised to reflect seasonal experience through 1979.

3. Selected employment indicators, seasonally adjusted

[In thousands]

Selected categories	Annual average		1979								1980				
	1978	1979	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May
CHARACTERISTIC															
Total employed, 16 years and over	94,373	96,945	96,495	96,652	97,184	97,004	97,504	97,474	97,608	97,912	97,804	97,953	97,656	97,154	96,537
Men	55,491	56,499	56,372	56,477	56,570	56,408	56,714	56,629	56,580	56,734	56,486	56,732	56,601	55,998	55,457
Women	38,882	40,446	40,123	40,175	40,614	40,596	40,790	40,845	41,028	41,178	41,318	41,221	41,051	41,156	41,079
Married men, spouse present	38,688	39,090	39,045	39,079	39,176	39,180	39,198	39,124	38,845	38,924	38,749	38,955	38,745	38,342	38,193
Married women, spouse present	21,881	22,724	22,547	22,664	22,908	22,869	22,937	22,919	22,940	23,027	23,111	23,178	23,202	23,080	23,144
OCCUPATION															
White-collar workers	47,205	49,342	49,136	49,192	49,536	49,663	49,816	49,738	49,912	49,911	50,313	50,448	50,302	50,405	50,861
Professional and technical	14,245	15,050	15,100	15,010	15,057	15,068	15,141	15,057	15,131	15,272	15,337	15,444	15,397	15,542	15,712
Managers and administrators, except farm	10,105	10,516	10,427	10,534	10,612	10,698	10,659	10,639	10,617	10,535	10,608	10,971	10,755	10,745	10,911
Salesworkers	5,951	6,163	6,101	6,103	6,163	6,145	6,181	6,261	6,362	6,346	6,452	6,185	6,113	5,998	5,981
Clerical workers	16,904	17,613	17,508	17,545	17,704	17,752	17,835	17,781	17,802	17,758	17,915	17,848	18,037	18,120	18,256
Blue-collar workers	31,531	32,066	31,904	31,992	32,051	31,849	32,209	32,205	32,110	32,302	31,882	31,754	31,670	31,127	30,243
Craft and kindred workers	12,386	12,880	12,820	12,944	12,876	12,761	12,993	13,001	12,925	13,041	12,814	12,728	12,767	12,773	12,301
Operatives, except transport	10,875	10,909	10,755	10,804	10,884	10,909	10,964	10,967	10,963	11,042	10,678	10,661	10,579	10,408	10,131
Transport equipment operatives	3,541	3,612	3,644	3,605	3,627	3,604	3,617	3,593	3,628	3,635	3,616	3,571	3,556	3,483	3,395
Nonfarm laborers	4,729	4,665	4,685	4,639	4,664	4,575	4,635	4,644	4,594	4,584	4,774	4,795	4,767	4,463	4,416
Service workers	12,839	12,834	12,772	12,805	12,766	12,621	12,859	12,937	12,899	12,970	12,979	13,080	12,981	13,034	12,930
Farmworkers	2,798	2,703	2,628	2,679	2,678	2,707	2,722	2,695	2,718	2,694	2,660	2,704	2,733	2,658	2,606
MAJOR INDUSTRY AND CLASS OF WORKER															
Agriculture:															
Wage and salary workers	1,419	1,413	1,424	1,423	1,419	1,384	1,399	1,381	1,475	1,451	1,428	1,417	1,449	1,370	1,365
Self-employed workers	1,607	1,580	1,519	1,539	1,558	1,614	1,642	1,602	1,622	1,596	1,554	1,648	1,600	1,591	1,590
Unpaid family workers	316	304	283	291	291	310	325	313	310	310	293	283	300	281	269
Nonagricultural industries:															
Wage and salary workers	84,253	86,540	86,232	86,309	86,454	86,421	86,912	86,982	87,020	87,384	87,578	87,419	87,221	86,741	86,257
Government	15,289	15,369	15,616	15,318	15,393	15,279	15,407	15,423	15,358	15,397	15,414	15,540	15,622	15,668	15,891
Private industries	68,966	71,171	70,616	70,991	71,061	71,142	71,505	71,559	71,662	71,987	72,163	71,879	71,599	71,072	70,365
Private households	1,363	1,240	1,195	1,235	1,219	1,211	1,313	1,261	1,211	1,228	1,132	1,178	1,115	1,123	1,219
Other industries	67,603	69,931	69,421	69,756	69,842	69,931	70,192	70,298	70,451	70,759	71,031	70,702	70,484	69,949	69,147
Self-employed workers	6,305	6,652	6,608	6,629	6,752	6,689	6,731	6,812	6,781	6,737	6,752	6,809	6,825	6,813	6,866
Unpaid family workers	472	455	460	474	519	450	449	430	417	409	379	397	376	363	445
PERSONS AT WORK [1]															
Nonagricultural industries	85,693	88,133	87,785	87,749	88,769	88,855	88,723	88,638	88,617	89,180	89,454	88,985	88,585	87,660	87,910
Full-time schedules	70,543	72,647	72,496	72,243	72,915	73,063	73,159	73,204	72,997	73,137	73,223	73,110	72,749	71,807	71,206
Part time for economic reasons	3,216	3,281	3,283	3,284	3,274	3,288	3,167	3,315	3,392	3,519	3,513	3,406	3,418	3,816	3,999
Usually work full time	1,249	1,325	1,273	1,322	1,334	1,401	1,273	1,354	1,413	1,491	1,549	1,380	1,463	1,709	1,781
Usually work part time	1,967	1,956	2,010	1,962	1,940	1,887	1,894	1,961	1,979	2,028	1,964	2,026	1,955	2,107	2,217
Part time for noneconomic reasons	11,934	12,205	12,006	12,222	12,580	12,504	12,397	12,119	12,228	12,524	12,718	12,469	12,418	12,037	12,706

[1] Excludes persons "with a job but not at work" during the survey period for such reasons as vacation, illness, or industrial disputes.

NOTE: The monthly data in this table have been revised to reflect seasonal experience through 1979.

4. Selected unemployment indicators, seasonally adjusted

[Unemployment rates]

Selected categories	Annual average		1979								1980				
	1978	1979	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May
CHARACTERISTIC															
Total, 16 years and over	6.0	5.8	5.8	5.7	5.7	5.9	5.8	5.9	5.8	5.9	6.2	6.0	6.2	7.0	7.7
Men, 20 years and over	4.2	4.1	3.9	4.0	4.1	4.2	4.2	4.2	4.3	4.2	4.7	4.6	4.9	5.9	6.7
Women, 20 years and over	6.0	5.7	5.7	5.7	5.5	5.9	5.5	5.7	5.6	5.7	5.8	5.7	5.7	6.3	6.5
Both sexes, 16 - 19 years	16.3	16.1	16.5	15.4	15.8	16.6	16.2	16.4	15.9	16.0	16.3	16.5	15.9	16.2	18.5
White, total	5.2	5.1	5.0	4.9	5.0	5.3	5.1	5.1	5.1	5.1	5.4	5.3	5.4	6.2	6.8
Men, 20 years and over	3.7	3.6	3.4	3.5	3.6	3.7	3.7	3.7	3.7	3.7	4.1	4.0	4.4	5.3	6.0
Women, 20 years and over	5.2	5.0	5.0	4.9	4.8	5.2	4.8	5.0	4.9	5.0	5.1	5.2	4.9	5.5	5.8
Both sexes, 16 - 19 years	13.9	13.9	14.2	13.2	13.8	14.8	14.3	14.1	13.9	13.9	14.0	13.6	13.8	14.6	14.6
Black and other, total	11.9	11.3	11.5	11.2	11.0	11.0	10.8	11.5	10.9	11.3	11.8	11.5	11.8	12.6	13.6
Men, 20 years and over	8.6	8.4	8.4	8.1	8.4	8.1	8.0	8.6	8.4	8.6	9.6	9.2	9.3	10.9	12.6
Women, 20 years and over	10.6	10.1	10.0	10.4	10.0	10.3	9.8	10.2	9.5	10.0	10.0	9.0	10.5	11.4	10.9
Both sexes, 16 - 19 years	36.3	33.5	36.1	33.5	31.5	32.6	32.3	35.1	32.8	34.3	34.6	37.9	33.0	29.8	36.3
Married men, spouse present	2.8	2.7	2.5	2.7	2.8	2.9	2.9	2.9	2.9	2.8	3.4	3.1	3.4	4.1	4.9
Married women, spouse present	5.5	5.1	5.2	5.1	4.9	5.3	4.8	5.2	4.8	5.0	5.2	5.4	5.3	5.7	6.1
Women who head families	8.5	8.3	8.6	9.0	8.1	7.9	7.7	8.4	8.4	8.4	9.2	8.5	8.7	9.3	8.4
Full-time workers	5.5	5.3	5.2	5.2	5.3	5.4	5.3	5.4	5.4	5.4	5.7	5.6	5.8	6.6	7.4
Part-time workers	9.0	8.7	9.3	8.6	8.3	8.8	8.4	8.9	8.3	8.5	8.7	8.9	8.3	8.9	8.8
Unemployed 15 weeks and over	1.4	1.2	1.2	1.1	1.0	1.1	1.1	1.2	1.1	1.2	1.3	1.2	1.3	1.6	1.7
Labor force time lost[1]	6.5	6.3	6.3	6.3	6.4	6.4	6.2	6.4	6.4	6.4	6.7	6.6	6.8	7.5	8.3
OCCUPATION															
White-collar workers	3.5	3.3	3.2	3.4	3.3	3.5	3.3	3.4	3.2	3.3	3.4	3.4	3.3	3.7	3.7
Professional and technical	2.6	2.4	2.1	2.5	2.5	2.5	2.4	2.7	2.4	2.3	2.2	2.3	2.3	2.4	2.6
Managers and administrators, except farm	2.1	2.1	2.2	2.1	2.0	2.3	2.2	2.2	1.9	2.0	1.9	2.2	2.4	2.6	2.4
Salesworkers	4.1	3.9	4.0	4.4	3.5	4.0	3.8	3.8	3.7	3.8	4.4	4.5	4.0	4.7	4.4
Clerical workers	4.9	4.6	4.5	4.6	4.5	4.9	4.5	4.7	4.4	4.6	4.8	4.7	4.5	5.1	5.3
Blue-collar workers	6.9	6.9	6.8	6.6	6.8	7.3	7.1	7.2	7.5	7.2	8.0	7.7	8.0	9.7	11.5
Craft and kindred workers	4.6	4.5	4.2	4.3	4.4	4.7	4.3	4.6	4.9	4.4	4.9	4.8	5.4	6.7	8.0
Operatives, except transport	8.1	8.4	8.2	7.7	8.3	8.9	9.0	9.1	9.0	9.0	9.9	9.2	9.3	11.6	13.8
Transport equipment operatives	5.2	5.4	5.4	5.7	5.1	6.2	6.1	5.6	5.2	5.0	6.9	6.7	6.6	8.9	10.5
Nonfarm laborers	10.7	10.8	11.1	10.6	11.0	11.3	11.0	10.7	12.2	12.2	12.3	12.0	13.0	14.1	16.2
Service workers	7.4	7.1	7.2	7.2	7.1	7.1	6.7	6.8	6.6	6.6	6.9	6.9	7.1	8.0	8.1
Farmworkers	3.8	3.8	3.6	3.2	4.2	3.9	4.1	4.3	4.5	4.3	4.4	3.9	4.0	5.0	4.2
INDUSTRY															
Nonagricultural private wage and salary workers[2]	5.9	5.7	5.7	5.6	5.7	6.0	5.8	5.9	5.8	5.8	6.2	6.0	6.2	7.1	8.3
Construction	10.6	10.2	10.0	10.0	10.0	10.1	9.6	9.9	10.2	10.3	10.8	10.5	13.0	15.1	16.5
Manufacturing	5.5	5.5	5.4	5.4	5.7	5.9	6.0	6.0	5.9	5.9	6.7	6.4	6.5	7.9	9.9
Durable goods	4.9	5.0	4.4	4.9	5.4	5.4	5.3	5.5	5.6	5.5	6.7	6.3	6.4	8.3	11.2
Nondurable goods	6.3	6.4	6.9	6.3	6.2	6.8	7.1	6.8	6.3	6.4	6.8	6.7	6.7	7.4	8.0
Transportation and public utilities	3.7	3.7	3.6	3.1	3.8	3.7	4.0	3.8	4.2	4.1	4.4	4.4	3.8	4.6	5.2
Wholesale and retail trade	6.9	6.5	6.4	6.7	6.3	6.5	6.4	6.4	6.5	6.4	6.6	6.4	6.3	7.0	8.0
Finance and service industries	5.1	4.9	4.9	4.7	4.9	5.2	4.7	4.9	4.6	4.7	4.6	4.6	4.9	5.1	5.7
Government workers	3.9	3.7	3.6	3.6	3.6	3.7	3.3	4.0	3.6	3.6	3.8	4.0	4.2	4.4	3.5
Agricultural wage and salary workers	8.8	9.1	9.3	7.8	9.7	9.9	10.0	9.9	10.1	9.4	10.3	9.2	10.2	11.9	9.7

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[1] Aggregate hours lost by the unemployed and persons on part time for economic reasons as a percent of potentially available labor force hours.

[2] Includes mining, not shown separately.

NOTE: The monthly data in this table have been revised to reflect seasonal experience through 1979.

5. Unemployment rates, by sex and age, seasonally adjusted

Sex and age	Annual average		1979								1980				
	1978	1979	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May
Total, 16 years and over	6.0	5.8	5.8	5.7	5.7	5.9	5.8	5.9	5.8	5.9	6.2	6.0	6.2	7.0	7.7
16 to 19 years	16.3	16.1	16.5	15.4	15.8	16.6	16.2	16.4	15.9	16.0	16.3	16.5	15.9	16.2	18.5
16 to 17 years	19.3	18.1	18.9	17.5	17.3	18.5	16.9	18.4	17.3	18.0	19.0	18.7	17.4	18.7	19.8
18 to 19 years	14.2	14.6	15.0	14.4	14.5	15.4	15.6	15.0	14.7	14.5	14.0	15.1	14.7	14.4	18.0
20 to 24 years	9.5	9.0	8.9	8.9	9.1	9.3	9.2	9.6	8.8	9.8	10.1	9.5	9.7	11.4	12.4
25 years and over	4.0	3.9	3.9	3.9	3.9	4.0	3.9	4.0	4.0	3.8	4.2	4.1	4.4	5.0	5.5
25 to 54 years	4.2	4.1	4.0	4.1	4.0	4.2	4.1	4.2	4.3	4.1	4.4	4.5	4.7	5.4	6.0
55 years and over	3.2	3.0	3.1	2.9	3.2	3.1	2.9	3.0	2.7	2.7	3.5	2.8	2.8	3.4	3.4
Men, 16 years and over	5.2	5.1	5.0	4.9	5.1	5.2	5.2	5.2	5.2	5.2	5.7	5.5	5.7	6.7	7.8
16 to 19 years	15.7	15.8	16.1	14.5	15.4	16.3	16.1	15.7	15.8	15.6	16.2	15.6	14.8	16.1	19.5
16 to 17 years	19.2	17.9	18.9	16.8	16.1	18.0	16.7	17.1	17.8	17.9	19.0	18.0	15.9	18.3	21.8
18 to 19 years	13.2	14.2	14.0	14.0	14.8	15.1	15.3	14.4	14.0	13.6	13.9	14.1	14.0	14.2	10.3
20 to 24 years	9.1	8.6	8.2	8.3	8.8	8.8	8.8	9.5	8.4	9.4	10.4	9.9	10.4	12.3	13.8
25 years and over	3.3	3.3	3.1	3.2	3.3	3.4	3.3	3.4	3.5	3.2	3.7	3.6	3.9	4.7	5.5
25 to 54 years	3.4	3.4	3.2	3.2	3.4	3.5	3.6	3.5	3.8	3.4	3.8	3.8	4.2	5.0	5.8
55 years and over	3.1	2.9	2.8	3.1	3.3	3.1	2.8	2.8	2.6	2.6	3.5	2.6	2.7	3.4	3.8
Women, 16 years and over	7.2	6.8	6.9	6.8	6.6	7.0	6.6	6.9	6.6	6.8	6.8	6.8	6.8	7.3	7.5
16 to 19 years	17.0	16.4	16.9	16.5	16.2	17.0	16.4	17.2	16.1	16.4	16.3	17.6	17.3	16.3	17.3
16 to 17 years	19.5	18.3	18.8	18.3	18.6	19.0	17.2	19.8	16.7	18.0	19.1	19.5	19.2	19.1	17.6
18 to 19 years	15.3	15.0	16.0	14.9	14.2	15.7	15.9	15.6	15.5	15.5	14.2	16.2	15.6	14.6	16.6
20 to 24 years	10.1	9.6	9.7	9.7	9.4	9.8	9.6	9.7	9.3	10.2	9.8	9.1	9.0	10.2	10.8
25 years and over	5.1	4.8	4.9	4.8	4.7	4.9	4.6	4.9	4.7	4.7	4.9	4.9	5.0	5.5	5.6
25 to 54 years	5.4	5.2	5.2	5.2	5.0	5.3	5.0	5.2	5.0	5.1	5.2	5.4	5.5	6.0	6.1
55 years and over	3.3	3.2	3.6	2.8	3.1	3.2	2.9	3.4	2.9	2.9	3.4	3.0	2.9	3.4	2.8

6. Unemployed persons, by reason for unemployment, seasonally adjusted

[Numbers in thousands]

Reason for unemployment	1979								1980				
	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar	Apr.	May
NUMBER OF UNEMPLOYED													
Lost last job	2,356	2,449	2,526	2,680	2,632	2,731	2,729	2,728	2,988	2,907	3,047	3,611	4,625
On layoff	725	816	797	915	855	929	987	944	1,019	1,031	1,129	1,424	2,117
Other job losers	1,631	1,633	1,729	1,765	1,777	1,802	1,742	1,784	1,968	1,876	1,918	2,186	2,508
Left last job	940	857	846	875	825	835	845	800	779	813	788	726	898
Reentered labor force	1,767	1,753	1,762	1,788	1,760	1,762	1,698	1,771	1,797	1,784	1,803	1,967	1,822
Seeking first job	824	781	726	745	801	804	736	858	811	827	805	743	863
PERCENT DISTRIBUTION													
Total unemployed	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Job losers	40.0	41.9	43.1	44.0	43.7	44.5	45.4	44.3	46.9	45.9	47.3	49.8	56.3
On layoff	12.3	14.0	13.6	15.0	14.2	15.2	16.4	15.3	16.0	16.3	17.5	19.6	25.8
Other job losers	27.7	28.0	29.5	29.0	29.5	29.4	29.0	29.0	30.9	29.6	29.8	30.2	30.6
Job leavers	16.0	14.7	14.4	14.4	13.7	13.6	14.1	13.0	12.2	12.8	12.2	12.8	10.9
Reentrants	30.0	30.0	30.1	29.4	29.2	28.7	28.3	28.6	28.2	28.2	28.0	27.1	22.2
New entrants	14.0	13.4	12.4	12.2	13.3	13.1	12.3	13.9	12.7	13.1	12.5	10.3	10.5
UNEMPLOYED AS A PERCENT OF THE CIVILIAN LABOR FORCE													
Job losers	2.3	2.4	2.5	2.6	2.5	2.6	2.6	2.6	2.9	2.8	2.9	3.5	4.4
Job leavers	.9	.8	.8	.8	.8	.8	.8	.8	.7	.8	.8	.9	.9
Reentrants	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.7	1.7	1.7	1.7	1.9	1.7
New entrants	.8	.8	.7	.7	.8	.8	.7	.8	.8	.8	.8	.7	.8

7. Duration of unemployment, seasonally adjusted

[Numbers in thousands]

Weeks of unemployment	Annual average		1979								1980				
	1978	1979	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May
Less than 5 weeks	2,793	2,869	2,823	2,880	2,820	3,168	2,778	2,955	2,919	2,916	3,184	2,995	2,995	3,309	3,333
5 to 14 weeks	1,875	1,892	1,919	1,808	1,934	1,738	2,035	1,963	1,869	1,966	1,907	2,081	2,169	2,391	2,922
15 weeks and over	1,379	1,202	1,212	1,152	1,067	1,185	1,152	1,195	1,191	1,230	1,334	1,286	1,363	1,629	1,766
15 to 26 weeks	746	684	705	656	615	658	644	678	660	711	795	790	776	953	1,027
27 weeks and over	633	518	507	496	452	527	508	517	531	519	539	496	587	676	739
Average (mean) duration, in weeks	11.9	10.8	10.9	10.5	10.1	10.7	10.7	10.5	10.6	10.5	10.5	10.7	11.0	11.3	11.7

NOTE: The monthly data in these tables have been revised to reflect seasonal experience through 1979.

EMPLOYMENT, HOURS, AND EARNINGS DATA FROM ESTABLISHMENT SURVEYS

EMPLOYMENT, HOURS, AND EARNINGS DATA in this section are compiled from payroll records reported monthly on a voluntary basis to the Bureau of Labor Statistics and its cooperating State agencies by 166,000 establishments representing all industries except agriculture. In most industries, the sampling probabilities are based on the size of the establishment; most large establishments are therefore in the sample. (An establishment is not necessarily a firm; it may be a branch plant, for example, or warehouse.) Self-employed persons and others not on a regular civilian payroll are outside the scope of the survey because they are excluded from establishment records. This largely accounts for the difference in employment figures between the household and establishment surveys.

LABOR TURNOVER DATA in this section are compiled from personnel records reported monthly on a voluntary basis to the Bureau of Labor Statistics and its cooperating State agencies. A sample of 40,000 establishments represents all industries in the manufacturing and mining sectors of the economy.

Definitions

Employed persons are all persons who received pay (including holiday and sick pay) for any part of the payroll period including the 12th of the month. Persons holding more than one job (about 5 percent of all persons in the labor force) are counted in each establishment which reports them.

Production workers in manufacturing include blue-collar worker supervisors and all nonsupervisory workers closely associated with production operations. Those workers mentioned in tables 14–20 include production workers in manufacturing and mining; construction workers in construction; and nonsupervisory workers in transportation and public utilities, in wholesale and retail trade, in finance, insurance, and real estate, and in services industries. These groups account for about four-fifths of the total employment on private nonagricultural payrolls.

Earnings are the payments production or nonsupervisory workers receive during the survey period, including premium pay for overtime or late-shift work but excluding irregular bonuses and other special payments. **Real earnings** are earnings adjusted to eliminate the effects of price change. The **Hourly Earnings Index** is calculated from average hourly earnings data adjusted to exclude the effects of two types of changes that are unrelated to underlying wage-rate developments: fluctuations in overtime premiums in manufacturing (the only sector for which overtime data are available) and the effects of changes and seasonal factors in the proportion of workers in high-wage and low-wage industries. **Spendable earnings** are earnings from which estimated social security and Federal income taxes have been deducted. The Bureau of Labor Statistics computes spendable earnings from gross weekly earnings for only two illustrative cases: (1) a worker with no dependents and (2) a married worker with three dependents.

Hours represent the average weekly hours of production or nonsupervisory workers for which pay was received and are different from standard or scheduled hours. **Overtime hours** represent the portion of gross average weekly hours which were in excess of regular hours and for which overtime premiums were paid.

Labor turnover is the movement of all wage and salary workers from one employment status to another. **Accession rates** indicate the average number of persons added to a payroll in a given period per 100 employees; **separation rates** indicate the average number dropped from a payroll per 100 employees. Although month-to-month changes in employment can be calculated from the labor turnover data, the results are not comparable with employment data from the employment and payroll survey. The labor turnover survey measures changes during the calendar month while the employment and payroll survey measures changes from midmonth to midmonth.

Notes on the data

Establishment data collected by the Bureau of Labor Statistics are periodically adjusted to comprehensive counts of employment (called "benchmarks"). The latest complete adjustment was made with the release of June 1980 data, published in the August 1980 issue of the *Review*. Consequently, data published in the *Review* prior to that issue are not necessarily comparable to current data. Complete comparable historical unadjusted and seasonally adjusted data are published in a Supplement to Employment and Earnings (unadjusted data from April 1977 through March 1980 and seasonally adjusted data from January 1974 through March 1980) and in *Employment and Earnings, United States, 1909–78*, BLS Bulletin 1312–11 (for prior periods).

Data on recalls were shown for the first time in tables 12 and 13 in the January 1978 issue of the *Review*. For a detailed discussion of the recalls series, along with historical data, see "New Series on Recalls from the Labor Turnover Survey," *Employment and Earnings*, December 1977, pp. 10–19.

A comprehensive discussion of the differences between household and establishment data on employment appears in Gloria P. Green, "Comparing employment estimates from household and payroll surveys," *Monthly Labor Review*, December 1969, pp. 9–20. See also *BLS Handbook of Methods for Surveys and Studies*, Bulletin 1910 (Bureau of Labor Statistics, 1976).

The formulas used to construct the spendable average weekly earnings series reflect the latest provisions of the Federal income tax and social security tax laws. For the spendable average weekly earnings formulas for the years 1978–80, see *Employment and Earnings*, March 1980, pp. 10–11. Real earnings data are adjusted using the Consumer Price Index for Urban Wage Earners and Clerical Workers (CPI-W).

8. Employment by industry, 1950–79

[Nonagricultural payroll data, in thousands]

Year	Total	Mining	Construction	Manufacturing	Transportation and public utilities	Wholesale and retail trade	Wholesale trade	Retail trade	Finance, insurance, and real estate	Services	Government		
											Total	Federal	State and local
1950	45,197	901	2,364	15,241	4,034	9,386	2,635	6,751	1,888	5,357	6,026	1,928	4,098
1951	47,819	929	2,637	16,393	4,226	9,742	2,727	7,015	1,956	5,547	6,389	2,302	4,087
1952	48,793	898	2,668	16,632	4,248	10,004	2,812	7,192	2,035	5,699	6,609	2,420	4,188
1953	50,202	866	2,659	17,549	4,290	10,247	2,854	7,393	2,111	5,835	6,645	2,305	4,340
1954	48,990	791	2,646	16,314	4,084	10,235	2,867	7,368	2,200	5,969	6,751	2,188	4,563
1955	50,641	792	2,839	16,882	4,141	10,535	2,926	7,610	2,298	6,240	6,914	2,187	4,727
1956	52,369	822	3,039	17,243	4,244	10,858	3,018	7,840	2,389	6,497	7,278	2,209	5,069
1957	52,853	828	2,962	17,174	4,241	10,886	3,028	7,858	2,438	6,708	7,616	2,217	5,399
1958	51,324	751	2,817	15,945	3,976	10,750	2,980	7,770	2,481	6,765	7,839	2,191	5,648
1959[1]	53,268	732	3,004	16,675	4,011	11,127	3,082	8,045	2,549	7,087	8,083	2,233	5,850
1960	54,189	712	2,926	16,796	4,004	11,391	3,143	8,248	2,629	7,378	8,353	2,270	6,083
1961	53,999	672	2,859	16,326	3,903	11,337	3,133	8,204	2,688	7,620	8,594	2,279	6,315
1962	55,549	650	2,948	16,853	3,906	11,566	3,198	8,368	2,754	7,982	8,890	2,340	6,550
1963	56,653	635	3,010	16,995	3,903	11,778	3,248	8,530	2,830	8,277	9,225	2,358	6,868
1964	58,283	634	3,097	17,274	3,951	12,160	3,337	8,823	2,911	8,660	9,596	2,348	7,248
1965	60,765	632	3,232	18,062	4,036	12,716	3,466	9,250	2,977	9,036	10,074	2,378	7,696
1966	63,901	627	3,317	19,214	4,158	13,245	3,597	9,648	3,058	9,498	10,784	2,564	8,220
1967	65,803	613	3,248	19,447	4,268	13,606	3,689	9,917	3,185	10,045	11,391	2,719	8,672
1968	67,897	606	3,350	19,781	4,318	14,099	3,779	10,320	3,337	10,567	11,839	2,737	9,102
1969	70,384	619	3,575	20,167	4,442	14,705	3,907	10,798	3,512	11,169	12,195	2,758	9,437
1970	70,880	623	3,588	19,367	4,515	15,040	3,993	11,047	3,645	11,548	12,554	2,731	9,823
1971	71,214	609	3,704	18,623	4,476	15,352	4,001	11,351	3,772	11,797	12,881	2,696	10,185
1972	73,675	628	3,889	19,151	4,541	15,949	4,113	11,836	3,908	12,276	13,334	2,684	10,649
1973	76,790	642	4,097	20,154	4,656	16,607	4,277	12,329	4,046	12,857	13,732	2,663	11,068
1974	78,265	697	4,020	20,077	4,725	16,987	4,433	12,554	4,148	13,441	14,170	2,724	11,446
1975	76,945	752	3,525	18,323	4,542	17,060	4,415	12,645	4,165	13,892	14,686	2,748	11,937
1976	79,382	779	3,576	18,997	4,582	17,755	4,546	13,209	4,271	14,551	14,871	2,733	12,138
1977	[1]82,471	813	3,851	19,682	4,713	18,516	4,708	13,808	4,467	15,303	[1]15,127	2,727	[1]12,399
1978[1]	86,697	851	4,229	20,505	4,923	19,542	4,969	14,573	4,724	16,252	15,672	2,753	12,919
1979[1]	89,886	960	4,483	21,062	5,141	20,269	5,204	15,066	4,974	17,078	15,920	2,773	13,147

[1] Data include Alaska and Hawaii beginning in 1959.

9. Employment by State

[Nonagricultural payroll data, in thousands]

State	May 1979	Apr. 1980	May 1980 p	State	May 1979	Apr. 1980	May 1980 p
Alabama	1,362.1	1,365.2	1,360.2	Montana	285.2	280.6	286.5
Alaska	169.3	165.0	....	Nebraska	632.7	628.6	636.4
Arizona	971.0	1,008.3	1,003.1	Nevada	380.5	397.1	398.6
Arkansas	755.9	754.5	750.4	New Hampshire	377.8	373.8	
California	9,623.9	9,804.2	9,803.8	New Jersey	3,031.8	3,029.1	3,047.5
Colorado	1,207.7	1,251.0	1,252.1	New Mexico	462.6	473.5	477.7
Connecticut	1,403.4	1,411.1	1,415.0	New York	7,196.3	7,096.5	7,198.6
Delaware	258.4	254.6	259.5	North Carolina	2,370.8	2,426.1	2,420.8
District of Columbia	615.7	618.6	620.6	North Dakota	244.4	246.0	250.7
Florida	3,350.2	3,538.0	3,518.1	Ohio	4,523.4	4,445.4	4,429.9
Georgia	2,116.1	2,137.0	2,130.3	Oklahoma	1,085.2	1,128.6	1,133.4
Hawaii	392.3	410.5	408.7	Oregon	1,048.9	1,041.4	1,032.6
Idaho	338.7	325.9		Pennsylvania	4,863.0	4,816.6	4,830.5
Illinois[1]	4,871.0	4,798.1	4,812.2	Rhode Island	399.8	393.9	392.3
Indiana	2,273.5	2,219.2	2,232.7	South Carolina	1,182.2	1,202.0	1,200.1
Iowa	1,142.7	1,129.2	1,125.3	South Dakota	242.7	238.4	243.3
Kansas	955.1	954.1	955.3	Tennessee	1,787.3	1,787.1	1,789.7
Kentucky	1,260.0	1,223.7	1,229.1	Texas	5,582.7	5,758.9	5,762.2
Louisiana	1,491.9	1,524.5	1,517.4	Utah	546.4	565.0	566.9
Maine	416.8	412.0	415.9	Vermont	195.4	196.7	197.4
Maryland	1,631.1	1,632.8	1,639.9	Virginia	2,101.6	2,108.1	2,118.2
Massachusetts	2,605.6	2,663.5	2,[illegible]7.9	Washington	1,579.5	1,615.8	1,621.4
Michigan	3,682.2	3,444.4	3,426.8	West Virginia	644.5	633.4	635.9
Minnesota	1,772.2	1,776.6	1,795.8	Wisconsin	1,980.1	1,973.5	1,976.0
Mississippi	842.7	836.7	830.5	Wyoming	209.3	211.8	215.9
Missouri	2,022.8	1,999.0	1,989.4				
				Virgin Islands	36.5	37.2	36.8

10. Employment by industry division and major manufacturing group

[Nonagricultural payroll data, in thousands]

Industry division and group	Annual average		1979							1980					
	1978	1979	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May p	June p
TOTAL	86,697	89,886	90,914	90,018	90,083	90,629	91,062	91,286	91,394	89,630	89,781	90,316	90,761	90,986	91,090
MINING	851	960	971	979	980	983	984	986	985	982	987	996	1,006	1,024	1,040
CONSTRUCTION	4,229	4,483	4,706	4,813	4,863	4,801	4,792	4,696	4,536	4,194	4,109	4,150	4,311	4,477	4,608
MANUFACTURING	20,505	21,062	21,331	21,054	21,096	21,295	21,193	21,055	20,987	20,777	20,730	20,793	20,533	20,251	20,156
Production workers	14,734	15,085	15,328	15,026	15,048	15,265	15,170	15,034	14,964	14,738	14,678	14,727	14,466	14,170	14,087
Durable goods	12,274	12,772	12,965	12,797	12,683	12,891	12,824	12,744	12,733	12,600	12,599	12,647	12,414	12,153	12,022
Production workers	8,805	9,120	9,299	9,105	8,979	9,190	9,131	9,054	9,040	8,885	8,869	8,909	8,672	8,410	8,285
Lumber and wood products	754.7	766.1	791.3	785.4	788.2	785.0	780.0	757.2	737.4	717.4	718.9	716.9	678.4	656.8	666.4
Furniture and fixtures	494.1	499.3	496.1	486.5	497.1	498.6	502.5	503.1	501.8	498.0	494.6	494.1	488.7	468.5	455.4
Stone, clay, and glass products	688.2	709.7	732.0	726.0	726.5	721.6	718.6	710.3	697.4	678.2	674.7	679.0	675.5	667.7	662.7
Primary metal industries	1,214.9	1,250.2	1,281.1	1,267.4	1,250.6	1,250.6	1,231.4	1,222.6	1,209.9	1,207.2	1,205.1	1,203.7	1,193.8	1,148.8	1,107.7
Fabricated metal products	1,672.6	1,723.7	1,746.8	1,711.8	1,711.7	1,731.4	1,733.8	1,733.3	1,725.2	1,696.8	1,689.4	1,703.8	1,671.4	1,621.4	1,588.4
Machinery, except electrical	2,325.5	2,481.6	2,511.4	2,504.9	2,489.7	2,513.8	2,465.1	2,458.7	2,471.6	2,538.5	2,536.5	2,539.9	2,523.5	2,506.8	2,478.7
Electric and electronic equipment	2,006.1	2,124.3	2,144.4	2,127.6	2,105.7	2,152.8	2,162.0	2,164.0	2,171.9	2,162.9	2,157.7	2,167.7	2,156.2	2,120.1	2,101.9
Transportation equipment	2,002.8	2,082.8	2,114.2	2,063.0	1,965.5	2,087.4	2,076.5	2,044.2	2,079.3	1,975.8	1,983.1	2,005.6	1,891.1	1,836.7	1,836.1
Instruments and related products	653.1	688.9	686.5	691.2	693.7	691.6	694.6	694.9	698.8	697.7	700.5	703.6	702.2	700.4	702.9
Miscellaneous manufacturing	451.5	445.6	451.6	433.2	454.5	457.1	459.7	455.5	439.4	427.7	428.8	432.9	433.0	425.9	422.1
Nondurable goods	8,231	8,290	8,366	8,257	8,413	8,404	8,369	8,311	8,254	8,177	8,131	8,146	8,119	8,098	8,134
Production workers	5,929	5,965	6,029	5,921	6,069	6,075	6,039	5,980	5,924	5,853	5,809	5,818	5,794	5,760	5,802
Food and kindred products	1,724.1	1,728.1	1,727.5	1,749.5	1,828.8	1,834.5	1,781.8	1,736.3	1,706.2	1,650.9	1,644.1	1,641.1	1,626.2	1,637.0	1,677.6
Tobacco manufactures	70.6	69.9	65.0	65.0	73.8	77.5	77.4	68.6	70.8	69.1	67.1	64.4	62.9	62.5	64.3
Textile mill products	899.1	888.5	897.1	872.3	886.8	885.0	886.1	880.4	880.7	884.0	884.6	886.9	882.1	869.3	861.7
Apparel and other textile products	1,332.3	1,312.5	1,335.2	1,276.0	1,308.1	1,308.8	1,317.3	1,305.8	1,287.1	1,282.0	1,305.8	1,318.4	1,304.2	1,298.9	1,314.5
Paper and allied products	698.7	706.7	716.9	711.8	715.6	710.5	709.3	707.8	705.9	703.5	701.9	701.8	698.8	692.1	693.6
Printing and publishing	1,192.0	1,239.5	1,240.2	1,242.3	1,242.5	1,243.0	1,251.4	1,262.0	1,268.5	1,266.3	1,270.4	1,272.1	1,270.4	1,268.0	1,267.3
Chemicals and allied products	1,095.5	1,110.7	1,124.8	1,120.9	1,119.0	1,112.7	1,113.7	1,113.9	1,114.2	1,113.1	1,112.1	1,118.1	1,120.6	1,119.1	1,113.3
Petroleum and coal products	207.7	210.0	212.9	213.9	214.1	213.7	213.5	212.6	210.6	208.6	155.9	153.1	173.6	204.6	207.0
Rubber and miscellaneous plastics products	754.5	775.6	788.1	776.0	774.1	770.2	770.8	765.9	755.6	750.3	746.3	746.5	737.2	703.5	689.8
Leather and leather products	256.8	248.0	256.5	228.8	250.4	247.9	247.9	247.6	245.2	240.3	242.6	243.4	243.3	242.5	244.7
TRANSPORTATION AND PUBLIC UTILITIES	4,923	5,141	5,219	5,187	5,197	5,229	5,233	5,243	5,240	5,136	5,130	5,143	5,147	5,162	5,194
WHOLESALE AND RETAIL TRADE	19,542	20,269	20,321	20,254	20,296	20,425	20,474	20,756	21,114	20,325	20,155	20,226	20,373	20,506	20,525
WHOLESALE TRADE	4,969	5,204	5,245	5,243	5,243	5,239	5,266	5,282	5,264	5,241	5,250	5,269	5,265	5,263	5,283
RETAIL TRADE	14,573	15,066	15,076	15,011	15,053	15,186	15,208	15,474	15,850	15,084	14,905	14,957	15,108	15,243	15,242
FINANCE, INSURANCE, AND REAL ESTATE	4,724	4,974	5,019	5,048	5,068	5,015	5,025	5,039	5,047	5,052	5,061	5,085	5,104	5,130	5,205
SERVICES	16,252	17,078	17,285	17,324	17,315	17,238	17,297	17,284	17,271	17,136	17,317	17,478	17,636	17,756	17,812
GOVERNMENT	15,672	15,920	16,080	15,359	15,269	15,643	16,064	16,227	16,214	16,029	16,292	16,445	16,651	16,673	16,549
Federal	2,753	2,773	2,824	2,838	2,844	2,751	2,756	2,760	2,770	2,763	2,803	2,869	3,103	3,097	3,121
State and local	12,919	13,147	13,256	12,521	12,425	12,892	13,308	13,467	13,444	13,266	13,489	13,576	13,548	13,576	13,428

NOTE: In accordance with usual practice, BLS has revised establishment survey data to reflect a new benchmark and updated seasonal adjustment factors. Because of these revisions, establishment data in this table may differ from data published earlier. See technical note, page 68.

11. Employment by industry division and major manufacturing group, seasonally adjusted

[Nonagricultural payroll data, in thousands]

Industry division and group	1979							1980					
	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May ^{p}	June ^{p}
TOTAL	89,909	90,054	90,222	90,280	90,441	90,552	90,678	91,031	91,186	91,144	90,951	90,602	90,088
MINING	953	960	974	976	982	985	992	999	1,007	1,009	1,012	1,023	1,021
CONSTRUCTION	4,472	4,491	4,499	4,507	4,529	4,553	4,615	4,745	4,659	4,529	4,467	4,441	4,377
MANUFACTURING	21,132	21,128	21,055	21,071	21,043	20,966	20,983	20,971	20,957	20,938	20,642	20,282	19,969
Production workers	15,190	15,140	15,046	15,058	15,025	14,948	14,956	14,911	14,871	14,850	14,550	14,181	13,925
Durable goods	12,837	12,841	12,782	12,802	12,764	12,693	12,706	12,681	12,715	12,707	12,442	12,139	11,905
Production workers	9,163	9,173	9,100	9,129	9,069	9,001	9,009	8,953	8,967	8,961	8,686	8,386	8,183
Lumber and wood products	768	766	764	767	768	757	746	743	745	737	689	656	646
Furniture and fixtures	498	499	499	497	498	498	497	497	495	494	491	471	455
Stone, clay, and glass products	711	709	710	708	709	704	704	705	705	700	680	662	644
Primary metal industries	1,262	1,260	1,250	1,242	1,236	1,230	1,219	1,215	1,214	1,209	1,193	1,143	1,091
Fabricated metal products	1,732	1,726	1,713	1,723	1,723	1,722	1,718	1,707	1,711	1,711	1,678	1,621	1,574
Machinery, except electrical	2,502	2,513	2,509	2,518	2,478	2,460	2,459	2,532	2,529	2,530	2,518	2,514	2,469
Electric and electronic equipment	2,136	2,140	2,109	2,140	2,149	2,150	2,163	2,169	2,168	2,176	2,167	2,126	2,094
Transportation equipment	2,085	2,082	2,080	2,080	2,063	2,033	2,057	1,970	2,006	2,006	1,865	1,820	1,820
Instruments and related products	690	691	693	693	696	695	698	699	702	705	703	701	696
Miscellaneous manufacturing	445	445	446	444	444	444	445	444	440	439	438	425	416
Nondurable goods	8,295	8,287	8,273	8,249	8,279	8,273	8,277	8,290	8,242	8,231	8,200	8,143	8,064
Production workers	5,967	5,967	5,943	5,929	5,956	5,947	5,947	5,958	5,904	5,889	5,864	5,795	5,742
Food and kindred products	1,728	1,722	1,722	1,712	1,723	1,725	1,724	1,716	1,713	1,704	1,690	1,689	1,678
Tobacco manufactures	71	71	70	70	70	64	66	67	68	68	69	70	71
Textile mill products	887	886	883	881	885	887	889	888	886	888	884	868	851
Apparel and other textile products	1,311	1,316	1,305	1,298	1,302	1,294	1,296	1,305	1,313	1,316	1,302	1,291	1,291
Paper and allied products	706	709	708	708	709	706	708	710	709	706	702	691	683
Printing and publishing	1,238	1,243	1,244	1,245	1,251	1,259	1,261	1,269	1,273	1,274	1,272	1,268	1,265
Chemicals and allied products	1,115	1,112	1,110	1,110	1,114	1,116	1,118	1,121	1,121	1,123	1,123	1,119	1,103
Petroleum and coal products	209	209	209	211	212	212	213	214	161	157	175	205	203
Rubber and miscellaneous plastics products	779	781	774	767	766	762	756	755	751	749	740	704	682
Leather and leather products	251	249	248	247	247	246	246	245	245	244	243	238	237
TRANSPORTATION AND PUBLIC UTILITIES	5,168	5,196	5,182	5,185	5,203	5,216	5,212	5,202	5,198	5,202	5,178	5,162	5,143
WHOLESALE AND RETAIL TRADE	20,217	20,254	20,301	20,352	20,414	20,479	20,448	20,529	20,637	20,610	20,531	20,496	20,422
WHOLESALE TRADE	5,205	5,214	5,222	5,228	5,246	5,269	5,251	5,278	5,302	5,301	5,286	5,268	5,241
RETAIL TRADE	15,012	15,040	15,079	15,124	15,168	15,210	15,197	15,251	15,335	15,309	15,245	15,228	15,181
FINANCE, INSURANCE, AND REAL ESTATE	4,970	4,989	5,010	5,017	5,033	5,049	5,064	5,091	5,101	5,115	5,119	5,139	5,153
SERVICES	17,074	17,114	17,152	17,182	17,264	17,308	17,362	17,462	17,540	17,580	17,618	17,666	17,618
GOVERNMENT	15,923	15,959	16,040	15,983	15,973	15,996	16,002	16,032	16,087	16,161	16,384	16,391	16,385
Federal	2,783	2,784	2,811	2,762	2,769	2,773	2,773	2,791	2,826	2,886	3,115	3,094	3,077
State and local	13,140	13,175	13,229	13,221	13,204	13,223	13,229	13,241	13,261	13,275	13,269	13,297	13,308

NOTE: In accordance with usual practice, BLS has revised establishment survey data to reflect a new benchmark and update seasonal adjustment factors. Because of these revisions, establishment data in this table may differ from data published earlier. See technical note, page 68.

12. Labor turnover rates in manufacturing, 1977 to date

[Per 100 employees]

Year	Annual average	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
	Total accessions												
1977	4.0	3.7	3.7	4.0	3.8	4.6	4.9	4.3	5.3	4.6	3.9	3.1	2.4
1978	4.1	3.8	3.2	3.8	4.0	4.7	4.9	4.4	5.4	4.9	4.3	3.3	2.4
1979	4.0	4.0	3.4	3.8	3.9	4.7	4.8	4.3	5.0	4.5	4.1	3.0	2.2
1980	...	3.8	3.3	3.5	3.1	^{p}3.3	...	...	...	...	...	...	...
	New hires												
1977	2.8	2.2	2.1	2.6	2.7	3.5	3.7	3.0	4.0	3.5	3.0	2.2	1.6
1978	3.1	2.5	2.2	2.7	2.9	3.6	3.9	3.3	4.2	3.9	3.5	2.6	1.7
1979	2.9	2.8	2.5	2.8	2.9	3.6	3.8	3.1	3.7	3.4	3.1	2.2	1.5
1980	...	2.4	2.2	2.3	2.1	^{p}2.1	...	...	...	...	...	...	...
	Recalls												
1977	.9	1.2	1.3	1.1	.9	.8	.8	.9	1.0	.8	.6	.6	.6
1978	.7	1.0	.7	.8	.8	.8	.7	.8	.9	.7	.6	.5	.5
1979	.7	.9	.7	.7	.7	.8	.7	.9	.9	.8	.7	.5	.5
1980	...	1.1	.9	.9	.8	^{p}1.0	...	...	...	...	...	...	...
	Total separations												
1977	3.8	3.9	3.4	3.4	3.4	3.5	3.5	4.3	5.1	4.9	3.8	3.4	3.4
1978	3.9	3.6	3.1	3.5	3.6	3.7	3.8	4.1	5.3	4.9	4.1	3.5	3.4
1979	4.0	3.8	3.2	3.6	3.7	3.8	3.9	4.3	5.7	4.7	4.2	3.8	3.5
1980	...	4.1	3.5	3.7	4.7	^{p}4.8	...	...	...	...	...	...	...
	Quits												
1977	1.8	1.4	1.3	1.6	1.7	1.9	1.9	1.9	3.1	2.8	1.9	1.5	1.2
1978	2.1	1.5	1.4	1.8	2.0	2.1	2.2	2.1	3.5	3.1	2.3	1.7	1.3
1979	2.0	1.8	1.6	1.9	2.0	2.1	2.1	2.0	3.3	2.7	2.1	1.6	1.1
1980	...	1.6	1.5	1.6	1.5	^{p}1.5	...	...	...	...	...	...	...
	Layoffs												
1977	1.1	1.7	1.4	1.0	.9	.8	.8	1.5	1.0	1.1	1.1	1.1	1.5
1978	.9	1.2	.9	.9	.8	.7	.7	1.1	.8	.8	.9	1.0	1.4
1979	1.1	1.1	.8	.8	.9	.7	.9	1.4	1.3	1.1	1.2	1.5	1.7
1980	...	1.6	1.2	1.3	2.3	^{p}2.5	...	...	...	...	...	...	...

NOTE: In accordance with usual practice, BLS has revised establishment survey data to reflect a new benchmark and updated seasonal adjustment factors. Because of these revisions, establishment data in this table may differ from data published earlier. See technical note, page 68.

13. Labor turnover rates in manufacturing, by major industry group

[Per 100 employees]

Major industry group	Accession rates									Separation rates								
	Total			New hires			Recalls			Total			Quits			Layoffs		
	May 1979	Apr. 1980	May 1980^{p}	May 1979	Apr. 1980	May 1980^{p}	May 1979	Apr. 1980	May 1980^{p}	May 1979	Apr. 1980	May 1980^{p}	May 1979	Apr. 1980	May 1980^{p}	May 1979	Apr. 1980	May 1980^{p}
MANUFACTURING	4.7	3.1	3.3	3.6	2.1	2.1	0.8	0.8	1.0	3.8	4.7	4.8	2.1	1.5	1.5	0.7	2.3	2.5
Seasonally adjusted	4.0	3.0	2.9	3.0	2.1	1.8	...	...	...	4.0	5.3	5.7	2.0	1.5	1.4	1.0	2.9	3.5
Durable goods	4.3	2.7	2.8	3.3	1.7	1.6	.7	.7	.9	3.4	4.7	5.0	1.8	1.2	1.2	.6	2.6	2.9
Lumber and wood products	7.7	4.2	5.5	6.0	2.3	2.3	1.5	1.7	3.1	5.6	10.2	6.5	3.9	2.5	2.1	.5	6.6	3.4
Furniture and fixtures	6.1	3.3	3.2	5.3	2.7	2.3	.6	.4	.7	6.0	5.0	5.6	3.7	2.2	2.2	1.1	1.8	2.4
Stone, clay, and glass products	5.4	3.6	3.8	4.1	1.8	1.8	1.1	1.6	1.8	3.5	4.5	5.6	2.1	1.3	1.3	.5	2.3	3.3
Primary metal industries	3.4	1.9	2.0	2.5	.9	.8	.6	.8	.9	2.2	3.8	6.3	1.0	.6	.5	.3	2.4	5.0
Fabricated metal products	4.9	3.0	3.1	3.8	1.9	1.8	.8	.9	1.1	4.0	5.9	5.6	2.2	1.5	1.3	.8	3.6	3.5
Machinery, except electrical	3.2	2.0	2.1	2.7	1.6	1.5	.2	.2	.4	2.6	3.4	3.7	1.5	1.0	1.0	.3	1.6	1.9
Electric and electronic equipment	4.0	2.6	2.5	3.0	1.7	1.6	.6	.4	.4	3.1	3.5	4.3	1.7	1.2	1.2	.4	1.3	2.2
Transportation equipment	3.9	2.6	...	2.6	1.1	...	.8	1.1	...	3.3	6.2	...	1.2	.8	...	1.1	4.5	...
Instruments and related products	3.5	2.4	2.8	2.9	2.0	2.3	.3	.2	.3	2.6	2.6	3.3	1.6	1.2	1.4	.3	.6	1.2
Miscellaneous manufacturing	6.0	4.4	4.0	4.7	3.1	2.6	1.2	1.0	1.2	5.2	5.0	5.9	2.9	1.9	1.9	1.2	2.0	3.0
Nondurable goods	5.3	3.8	4.1	4.0	2.6	2.8	1.0	.9	1.1	4.4	4.6	4.6	2.6	2.0	1.9	.9	1.8	1.9
Food and kindred products	7.3	5.3	6.3	5.0	3.2	3.8	2.0	1.8	2.3	5.7	6.0	5.6	3.2	2.3	2.3	1.6	2.9	2.4
Tobacco manufacturers	2.5	2.6	...	1.0	.8	...	.9	1.0	...	3.7	2.8	...	.9	.3	...	1.5	1.5	...
Textile mill products	5.8	4.0	3.8	4.7	3.2	2.9	.6	.5	.5	5.2	4.8	4.8	3.5	2.6	2.4	.5	1.1	1.3
Apparel and other products	6.1	5.2	5.4	4.2	3.6	3.4	1.7	1.4	1.7	5.9	5.9	6.1	3.4	2.9	2.9	1.6	2.2	2.4
Paper and allied products	3.8	2.2	2.6	3.0	1.3	1.6	.6	.7	.8	2.5	2.9	3.0	1.4	.9	.9	.4	1.3	1.5
Printing and publishing	3.8	2.8	3.2	3.3	2.4	2.6	.4	.3	.5	3.3	3.1	3.3	2.1	1.8	1.9	.6	.7	.8
Chemicals and allied products	2.5	1.5	2.0	2.0	1.2	1.4	.3	.2	.3	1.7	1.8	2.1	.8	.6	.7	.3	.6	.9
Petroleum and coal products	3.6	2.5	3.5	2.9	1.7	2.8	.4	.8	.5	1.8	2.7	2.5	.9	.7	.6	.4	1.5	1.3
Rubber and miscellaneous plastics products	6.2	3.2	3.3	5.0	2.2	2.0	.7	.8	1.0	4.9	6.8	6.9	3.0	1.9	1.8	.7	3.7	4.1
Leather and leather products	8.5	7.0	6.6	6.2	5.1	5.0	1.8	1.4	1.4	7.4	6.9	7.2	4.8	3.8	3.4	1.4	2.1	2.7

NOTE: In accordance with usual practice, BLS has revised establishment survey data to reflect a new benchmark and updated seasonal adjustment factors. Because of these revisions, establishment data in this table may differ from data published earlier. See technical note, page 68.

14. Hours and earnings, by industry division, 1949-79

[Gross averages, production or nonsupervisory workers on nonagricultural payrolls]

Year	Average weekly earnings	Average weekly hours	Average hourly earnings	Average weekly earnings	Average weekly hours	Average hourly earnings	Average weekly earnings	Average weekly hours	Average hourly earnings	Average weekly earnings	Average weekly hours	Average hourly earnings
	Total private			Mining			Construction			Manufacturing		
1949	$50.24	39.4	$1.275	$62.33	36.3	$1.717	$67.56	37.7	$1.792	$53.88	39.1	$1.378
1950	53.13	39.8	1.335	67.16	37.9	1.772	69.68	37.4	1.863	58.32	40.5	1.440
1951	57.86	39.9	1.45	74.11	38.4	1.93	76.96	38.1	2.02	63.34	40.6	1.56
1952	60.65	39.9	1.52	77.59	38.6	2.01	82.86	38.9	2.13	66.75	40.7	1.64
1953	63.76	39.6	1.61	83.03	38.8	2.14	86.41	37.9	2.28	70.47	40.5	1.74
1954	64.52	39.1	1.65	82.60	38.6	2.14	88.91	37.2	2.39	70.49	39.6	1.78
1955	67.72	39.6	1.71	89.54	40.7	2.20	90.90	37.1	2.45	75.30	40.7	1.85
1956	70.74	39.3	1.80	95.06	40.8	2.33	96.38	37.5	2.57	78.78	40.4	1.95
1957	73.33	38.8	1.89	98.25	40.1	2.45	100.27	37.0	2.71	81.19	39.8	2.04
1958	75.08	38.5	1.95	96.08	38.9	2.47	103.78	36.8	2.82	82.32	39.2	2.10
1959[1]	78.78	39.0	2.02	103.68	40.5	2.56	108.41	37.0	2.93	88.26	40.3	2.19
1960	80.67	38.6	2.09	105.04	40.4	2.60	112.67	36.7	3.07	89.72	39.7	2.26
1961	82.60	38.6	2.14	106.92	40.5	2.64	118.08	36.9	3.20	92.34	39.8	2.32
1962	85.91	38.7	2.22	110.70	41.0	2.70	122.47	37.0	3.31	96.56	40.4	2.39
1963	88.46	38.8	2.28	114.40	41.6	2.75	127.19	37.3	3.41	99.23	40.5	2.45
1964	91.33	38.7	2.36	117.74	41.9	2.81	132.06	37.2	3.55	102.97	40.7	2.53
1965	95.45	38.8	2.46	123.52	42.3	2.92	138.38	37.4	3.70	107.53	41.2	2.61
1966	98.82	38.6	2.56	130.24	42.7	3.05	146.26	37.6	3.89	112.19	41.4	2.71
1967	101.84	38.0	2.68	135.89	42.6	3.19	154.95	37.7	4.11	114.49	40.6	2.82
1968	107.73	37.8	2.85	142.71	42.6	3.35	164.49	37.3	4.41	122.51	40.7	3.01
1969	114.61	37.7	3.04	154.80	43.0	3.60	181.54	37.9	4.79	129.51	40.6	3.19
1970	119.83	37.1	3.23	164.40	42.7	3.85	195.45	37.3	5.24	133.33	39.8	3.35
1971	127.31	36.9	3.45	172.14	42.4	4.06	211.67	37.2	5.69	142.44	39.9	3.57
1972	136.90	37.0	3.70	189.14	42.6	4.44	221.19	36.5	6.06	154.71	40.5	3.82
1973	145.39	36.9	3.94	201.40	42.4	4.75	235.89	36.8	6.41	166.46	40.7	4.09
1974	154.76	36.5	4.24	219.14	41.9	5.23	249.25	36.6	6.81	176.80	40.0	4.42
1975	163.53	36.1	4.53	249.31	41.9	5.95	266.08	36.4	7.31	190.79	39.5	4.83
1976	175.45	36.1	4.86	273.90	42.4	6.46	283.73	36.8	7.71	209.32	40.1	5.22
1977	189.00	36.0	5.25	301.20	43.4	6.94	295.65	36.5	8.10	228.90	40.3	5.68
1978[r]	203.70	35.8	5.69	332.88	43.4	7.67	318.69	36.8	8.66	249.27	40.4	6.17
1979[r]	219.30	35.6	6.16	365.50	43.0	8.50	342.99	37.0	9.27	268.94	40.2	6.69

Year	Average weekly earnings	Average weekly hours	Average hourly earnings	Average weekly earnings	Average weekly hours	Average hourly earnings	Average weekly earnings	Average weekly hours	Average hourly earnings	Average weekly earnings	Average weekly hours	Average hourly earnings
	Transportation and public utilities			Wholesale and retail trade			Finance, insurance, and real estate			Services		
1949	....	....	....	$42.93	40.5	$1.060	$47.63	37.8	$1.260	....	....	....
1950	....	....	....	44.55	40.5	1.100	50.52	37.7	1.340	....	....	....
1951	....	....	....	47.79	40.5	1.18	54.67	37.7	1.45	....	....	....
1952	....	....	....	49.20	40.0	1.23	57.08	37.8	1.51	....	....	....
1953	....	....	....	51.35	39.5	1.30	59.57	37.7	1.58	....	....	....
1954	....	....	....	53.33	39.5	1.35	62.04	37.6	1.65	....	....	....
1955	....	....	....	55.16	39.4	1.40	63.92	37.6	1.70	....	....	....
1956	....	....	....	57.48	39.1	1.47	65.68	36.9	1.78	....	....	....
1957	....	....	....	59.60	38.7	1.54	67.53	36.7	1.84	....	....	....
1958	....	....	....	61.76	38.6	1.60	70.12	37.1	1.89	....	....	....
1959[1]	....	....	....	64.41	38.8	1.66	72.74	37.3	1.95	....	....	....
1960	....	....	....	66.01	38.6	1.71	75.14	37.2	2.02	....	....	....
1961	....	....	....	67.41	38.3	1.76	77.12	36.9	2.09	....	....	....
1962	....	....	....	69.91	38.2	1.83	80.94	37.3	2.17	....	....	....
1963	....	....	....	72.01	38.1	1.89	84.38	37.5	2.25	....	....	....
1964	$118.78	41.1	$2.89	74.66	37.9	1.97	85.79	37.3	2.30	$70.03	36.1	$1.94
1965	125.14	41.3	3.03	76.91	37.7	2.04	88.91	37.2	2.39	73.60	35.9	2.05
1966	128.13	41.2	3.11	79.39	37.1	2.14	92.13	37.3	2.47	77.04	35.5	2.17
1967	130.82	40.5	3.23	82.35	36.6	2.25	95.72	37.1	2.58	80.38	35.1	2.29
1968	138.85	40.6	3.42	87.00	36.1	2.41	101.75	37.0	2.75	83.97	34.7	2.42
1969	147.74	40.7	3.63	91.39	35.7	2.56	108.70	37.1	2.93	90.57	34.7	2.61
1970	155.93	40.5	3.85	96.02	35.3	2.72	112.67	36.7	3.07	96.66	34.4	2.81
1971	168.82	40.1	4.21	101.09	35.1	2.88	117.85	36.6	3.22	103.06	33.9	3.04
1972	187.86	40.4	4.65	106.45	34.9	3.05	122.98	36.6	3.36	110.85	33.9	3.27
1973	203.31	40.5	5.02	111.76	34.6	3.23	129.20	36.6	3.53	117.29	33.8	3.47
1974	217.48	40.2	5.41	119.02	34.2	3.48	137.61	36.5	3.77	126.00	33.6	3.75
1975	233.44	39.7	5.88	126.45	33.9	3.73	148.19	36.5	4.06	134.67	33.5	4.02
1976	256.71	39.8	6.45	133.79	33.7	3.97	155.43	36.4	4.27	143.52	33.3	4.31
1977	278.90	39.9	6.99	142.52	33.3	4.28	165.26	36.4	4.54	153.45	33.0	4.65
1978[r]	302.80	40.0	7.57	153.64	32.9	4.67	178.00	36.4	4.89	163.67	32.8	4.99
1979[r]	325.98	39.9	8.17	164.96	32.6	5.06	190.77	36.2	5.27	175.27	32.7	5.36

[1] Data include Alaska and Hawaii beginning in 1959.

15. Weekly hours, by industry division and major manufacturing group

[Gross averages, production or nonsupervisory workers on private nonagricultural payrolls]

Industry division and group	Annual average		1979							1980					
	1978	1979	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May p	June p
TOTAL PRIVATE	35.8	35.6	35.9	36.0	36.0	35.8	35.7	35.6	35.9	35.1	35.1	35.2	35.0	35.0	35.3
MINING	43.4	43.0	43.2	41.7	43.1	43.4	43.7	43.6	43.9	43.4	43.2	43.4	42.8	42.6	43.3
CONSTRUCTION	36.8	37.0	38.0	37.8	38.1	38.0	37.7	36.6	37.2	35.3	35.7	36.2	36.7	36.9	37.8
MANUFACTURING	40.4	40.2	40.4	39.9	40.0	40.3	40.2	40.3	40.9	39.8	39.8	39.8	39.4	39.3	39.4
Overtime hours	3.6	3.3	3.4	3.2	3.3	3.6	3.4	3.4	3.4	3.0	2.9	3.0	2.7	2.5	2.4
Durable goods	41.1	40.8	41.0	40.4	40.4	40.8	40.8	40.8	41.6	40.3	40.3	40.3	39.9	39.6	39.7
Overtime hours	3.8	3.5	3.6	3.4	3.4	3.6	3.5	3.4	3.5	3.1	3.0	3.1	2.7	2.4	2.4
Lumber and wood products	39.8	39.4	40.2	39.4	39.9	40.1	39.8	38.8	39.2	38.1	38.5	38.3	37.1	37.6	38.1
Furniture and fixtures	39.3	38.7	38.8	38.1	38.5	39.0	39.3	39.3	39.9	38.4	38.4	38.5	37.9	37.3	37.4
Stone, clay, and glass products	41.6	41.5	42.1	41.5	41.8	41.7	41.7	41.7	41.8	40.1	40.1	40.7	40.4	40.6	41.0
Primary metal industries	41.8	41.4	41.6	41.3	40.8	41.3	40.9	40.7	40.9	40.7	40.7	40.7	40.6	39.3	39.4
Fabricated metal products	41.0	40.7	41.0	40.3	40.5	40.8	40.0	41.0	41.9	40.6	40.4	40.6	40.2	39.9	40.1
Machinery except electrical	42.1	41.8	41.6	41.2	41.2	41.8	41.5	41.8	42.7	41.5	41.5	41.5	41.1	40.8	40.8
Electric and electronic equipment	40.3	40.3	40.5	39.6	39.7	40.5	40.3	40.8	41.3	40.2	40.2	40.0	39.6	39.3	39.3
Transportation equipment	42.2	41.1	41.2	40.9	40.5	40.7	41.3	40.8	42.7	40.0	40.4	40.4	39.8	39.8	39.9
Instruments and related products	40.9	40.8	40.7	40.3	40.4	40.7	40.8	41.4	41.7	41.0	40.8	40.6	40.4	40.3	40.7
Miscellaneous manufacturing	38.8	38.9	38.9	38.5	38.8	39.2	39.1	39.4	39.5	38.8	38.6	38.8	38.4	38.2	38.1
Nondurable goods	39.4	39.3	39.4	39.2	39.4	39.6	39.4	39.6	39.9	39.0	38.9	38.9	38.7	38.8	38.8
Overtime hours	3.2	3.1	3.0	3.0	3.2	3.5	3.2	3.3	3.2	2.9	2.8	2.9	2.7	2.6	2.5
Food and kindred products	39.7	39.9	39.8	40.1	40.3	40.6	40.0	40.2	40.4	39.5	39.1	39.0	38.9	38.7	39.5
Tobacco manufactures	38.1	38.0	39.0	36.1	37.6	39.2	38.9	38.8	39.4	37.3	36.9	37.7	38.2	38.3	39.2
Textile mill products	40.4	40.4	40.7	39.9	40.3	40.8	40.8	41.3	41.5	40.9	40.8	40.9	39.9	39.8	39.6
Apparel and other textile products	35.6	35.3	35.6	35.5	35.6	35.3	35.5	35.6	35.9	35.2	35.4	35.4	35.3	35.3	35.6
Paper and allied products	42.9	42.6	42.8	42.5	42.6	42.7	42.7	42.9	43.5	42.7	42.4	42.4	42.2	41.6	41.9
Printing and publishing	37.6	37.5	37.4	37.4	37.9	37.9	37.5	37.9	38.1	37.2	37.0	37.2	36.8	36.9	36.8
Chemicals and allied products	41.9	41.9	41.8	41.7	41.8	41.8	41.7	42.2	42.2	41.7	41.6	41.7	41.6	41.5	41.2
Petroleum and coal products	43.6	43.8	43.4	44.1	43.6	44.7	44.1	44.8	43.5	38.2	38.7	38.4	41.1	42.5	42.6
Rubber and miscellaneous plastics products	40.9	40.5	40.7	40.2	40.0	40.5	40.5	40.3	40.7	40.3	39.9	40.0	39.7	39.0	39.6
Leather and leather products	37.1	36.5	37.1	36.9	36.6	36.8	36.5	36.8	37.3	36.7	36.8	36.4	36.7	37.0	37.7
TRANSPORTATION AND PUBLIC UTILITIES	40.0	39.9	40.1	40.0	40.3	39.9	40.0	40.2	40.0	39.5	39.4	39.5	39.5	39.3	39.8
WHOLESALE AND RETAIL TRADE	32.9	32.6	32.9	33.3	33.2	32.6	32.4	32.4	32.9	31.9	31.9	32.0	31.8	31.9	32.2
WHOLESALE TRADE	38.8	38.8	39.0	39.0	39.0	38.8	38.9	38.9	39.1	38.5	38.4	38.4	38.4	38.5	38.6
RETAIL TRADE	31.0	30.6	31.0	31.5	31.4	30.6	30.4	30.4	31.0	29.8	29.8	29.9	29.7	29.9	30.2
FINANCE, INSURANCE, AND REAL ESTATE	36.4	36.2	36.1	36.2	36.1	36.1	36.2	36.3	36.4	36.2	36.3	36.3	36.2	36.1	36.4
SERVICES	32.8	32.7	32.9	33.3	33.2	32.7	32.6	32.6	32.8	32.5	32.5	32.5	32.4	32.3	32.7

NOTE: In accordance with usual practice, BLS has revised establishment survey data to reflect a new benchmark and updated seasonal adjustment factors. Because of these revisions, establishment data in this table may differ from data published earlier. See technical note, page 68.

16. Weekly hours, by industry division and major manufacturing group, seasonally adjusted

[Gross averages, production or nonsupervisory workers on private nonagricultural payrolls]

Industry division and group	1979							1980					
	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May ^{p}	June ^{p}
TOTAL PRIVATE	35.6	35.6	35.7	35.6	35.6	35.6	35.7	35.6	35.5	35.4	35.3	35.1	35.0
MINING	43.2	41.7	43.1	43.4	43.7	43.6	43.9	43.4	43.2	43.4	42.8	42.6	43.3
CONSTRUCTION	37.2	36.9	37.3	37.5	36.8	37.0	37.2	37.3	37.1	36.6	36.7	36.8	37.0
MANUFACTURING	40.1	40.1	40.1	40.1	40.1	40.1	40.2	40.3	40.1	39.8	39.8	39.3	39.1
Overtime hours	3.3	3.3	3.3	3.2	3.2	3.3	3.2	3.2	3.0	3.1	3.0	2.5	2.4
Durable goods	40.6	40.7	40.7	40.7	40.7	40.6	40.7	40.8	40.6	40.3	40.3	39.7	39.5
Overtime hours	3.5	3.5	3.4	3.3	3.3	3.3	3.2	3.3	3.1	3.2	3.0	2.4	2.4
Lumber and wood products	39.4	39.3	39.6	39.6	39.2	38.9	39.0	39.4	39.1	38.7	37.3	37.5	37.4
Furniture and fixtures	38.5	38.5	38.6	38.7	38.8	38.9	38.9	39.2	39.0	38.5	38.5	37.6	37.1
Stone, clay, and glass products	41.4	41.4	41.4	41.5	41.3	41.4	41.5	41.4	41.2	40.9	40.6	40.3	40.4
Primary metal industries	41.2	41.3	41.0	41.1	41.1	40.8	40.7	40.8	40.8	40.7	40.6	39.2	39.0
Fabricated metal products	40.6	40.7	40.6	40.7	40.8	40.7	40.9	40.9	40.8	40.7	40.8	39.9	39.7
Machinery, except electrical	41.8	41.8	41.6	41.7	41.5	41.5	41.5	41.6	41.5	41.3	41.5	41.0	40.7
Electric and electronic equipment	40.2	40.2	39.9	40.3	40.3	40.4	40.5	40.5	40.3	40.0	39.9	39.5	39.1
Transportation equipment	40.7	41.0	41.5	40.6	41.0	40.5	40.9	40.9	40.8	40.4	40.5	39.6	39.5
Instruments and related products	40.6	40.8	40.6	40.7	40.7	41.0	41.0	41.4	40.9	40.4	40.7	40.3	40.6
Miscellaneous manufacturing	38.8	39.0	38.9	39.0	38.9	38.9	39.0	39.2	39.1	38.6	38.5	38.3	38.0
Nondurable goods	39.2	39.2	39.3	39.3	39.3	39.4	39.4	39.5	39.4	39.0	39.1	38.9	38.6
Overtime hours	3.0	3.0	3.1	3.1	3.1	3.2	3.1	3.1	2.9	3.0	3.0	2.7	2.5
Food and kindred products	39.8	39.8	39.8	40.0	39.9	39.9	39.9	39.8	39.7	39.3	39.6	39.9	39.5
Tobacco manufactures	38.0	38.1	38.1	38.4	38.3	37.8	38.5	38.5	37.9	37.7	38.2	37.8	38.2
Textile mill products	40.2	40.3	40.3	40.7	40.8	41.0	41.0	41.5	41.1	40.8	40.3	39.7	39.1
Apparel and other textile products	35.2	35.3	35.3	35.2	35.4	35.3	35.6	36.0	35.9	35.3	35.8	35.3	35.2
Paper and allied products	42.5	42.5	42.6	42.5	42.6	42.7	42.8	43.0	42.9	42.6	42.5	41.7	41.6
Printing and publishing	37.5	37.5	37.8	37.5	37.4	37.5	37.4	37.8	37.4	37.2	37.2	37.1	36.9
Chemicals and allied products	41.7	41.8	41.9	41.8	41.7	42.0	41.8	42.0	41.9	41.8	41.5	41.5	41.1
Petroleum and coal products	43.4	43.6	43.6	44.0	43.5	44.4	43.4	36.9	40.7	39.7	41.1	42.7	42.6
Rubber and miscellaneous plastics products	40.6	40.6	40.2	40.3	40.2	40.0	40.0	40.7	40.0	39.9	40.1	39.3	39.5
Leather and leather products	36.4	36.6	36.5	36.8	36.5	36.6	37.0	37.2	37.2	36.9	37.3	36.7	37.0
TRANSPORTATION AND PUBLIC UTILITIES	40.1	40.0	40.3	39.9	40.0	40.2	40.0	39.5	39.4	39.5	39.5	39.3	39.8
WHOLESALE AND RETAIL TRADE	32.6	32.6	32.6	32.6	32.6	32.6	32.6	32.6	32.4	32.3	32.0	32.1	31.9
WHOLESALE TRADE	38.8	38.8	38.8	38.8	38.8	38.9	38.9	38.9	38.8	38.5	38.5	38.6	38.4
RETAIL TRADE	30.6	30.6	30.6	30.6	30.6	30.6	30.6	30.6	30.4	30.3	30.0	30.1	29.8
FINANCE, INSURANCE, AND REAL ESTATE	36.1	36.2	36.1	36.1	36.2	36.3	36.4	36.2	36.3	36.3	36.2	36.1	36.4
SERVICES	32.7	32.8	32.7	32.7	32.6	32.7	32.8	32.7	32.7	32.7	32.6	32.5	32.5

NOTE: In accordance with usual practice, BLS has revised establishment survey data to reflect a new benchmark and updated seasonal adjustment factors. Because of these revisions, establishment data in this table may differ from data published earlier. See technical note, page 68.

17. Hourly earnings, by industry division and major manufacturing group

[Gross averages, production or nonsupervisory workers on private nonagricultural payrolls]

Industry division and group	Annual average		1979							1980					
	1978	1979	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May[p]	June[p]
TOTAL PRIVATE	$5.69	$6.16	$6.11	$6.16	$6.18	$6.30	$6.31	$6.34	$6.38	$6.42	$6.46	$6.51	$6.53	$6.56	$6.61
MINING	7.67	8.50	8.50	8.54	8.50	8.59	8.59	8.73	8.75	8.88	8.90	8.95	9.10	9.07	9.07
CONSTRUCTION	8.66	9.27	9.14	9.26	9.34	9.52	9.50	9.52	9.58	9.49	9.61	9.68	9.69	9.76	9.79
MANUFACTURING	6.17	6.69	6.67	6.72	6.70	6.80	6.82	6.87	6.97	6.96	7.00	7.06	7.09	7.13	7.18
Durable goods	6.58	7.13	7.12	7.15	7.13	7.24	7.25	7.29	7.42	7.39	7.46	7.54	7.56	7.60	7.67
Lumber and wood products	5.60	6.08	6.15	6.22	6.22	6.30	6.23	6.22	6.24	6.21	6.33	6.35	6.28	6.39	6.55
Furniture and fixtures	4.68	5.06	5.06	5.04	5.09	5.18	5.19	5.21	5.26	5.27	5.32	5.37	5.39	5.42	5.46
Stone, clay, and glass products	6.33	6.85	6.86	6.90	6.90	6.99	7.01	7.08	7.11	7.06	7.14	7.27	7.34	7.44	7.52
Primary metal industries	8.20	8.97	8.91	9.04	9.10	9.16	9.11	9.26	9.28	9.30	9.44	9.45	9.53	9.61	9.63
Fabricated metal products	6.35	6.84	6.83	6.83	6.85	6.95	6.98	7.01	7.14	7.09	7.14	7.24	7.27	7.32	7.38
Machinery, except electrical	6.78	7.32	7.34	7.34	7.36	7.48	7.44	7.50	7.63	7.66	7.69	7.76	7.81	7.90	7.94
Electric and electronic equipment	5.82	6.32	6.26	6.28	6.37	6.47	6.49	6.52	6.64	6.67	6.71	6.78	6.79	6.78	6.85
Transportation equipment	7.91	8.54	8.53	8.56	8.45	8.59	8.70	8.72	8.93	8.81	8.86	9.04	9.04	9.05	9.24
Instruments and related products	5.71	6.17	6.12	6.17	6.15	6.21	6.32	6.39	6.50	6.57	6.59	6.63	6.63	6.72	6.71
Miscellaneous manufacturing	4.69	5.03	4.99	5.01	5.02	5.06	5.10	5.13	5.20	5.28	5.30	5.34	5.37	5.39	5.44
Nondurable goods	5.53	6.00	5.94	6.03	6.04	6.11	6.14	6.21	6.26	6.28	6.27	6.30	6.36	6.42	6.46
Food and kindred products	5.80	6.27	6.21	6.28	6.28	6.32	6.35	6.50	6.55	6.61	6.64	6.68	6.75	6.82	6.83
Tobacco manufactures	6.13	6.65	6.81	6.83	6.51	6.43	6.33	6.97	6.98	7.08	7.36	7.57	7.79	7.68	8.04
Textile mill products	4.30	4.66	4.54	4.65	4.77	4.82	4.83	4.86	4.87	4.90	4.90	4.92	4.91	4.90	4.93
Apparel and other textile products	3.94	4.23	4.21	4.23	4.21	4.27	4.31	4.32	4.38	4.44	4.45	4.49	4.46	4.45	4.49
Paper and allied products	6.52	7.13	7.07	7.18	7.24	7.33	7.36	7.43	7.50	7.49	7.52	7.55	7.63	7.64	7.74
Printing and publishing	6.51	6.95	6.91	6.94	6.98	7.08	7.10	7.13	7.21	7.24	7.29	7.34	7.34	7.45	7.46
Chemicals and allied products	7.02	7.60	7.54	7.61	7.66	7.74	7.83	7.88	7.92	7.97	8.01	8.05	8.12	8.16	8.24
Petroleum and coal products	8.63	9.36	9.31	9.38	9.34	9.50	9.46	9.56	9.48	9.46	9.37	9.29	9.83	10.12	10.12
Rubber and miscellaneous plastics products	5.52	5.96	5.91	5.95	5.94	6.03	6.12	6.14	6.21	6.25	6.25	6.27	6.30	6.34	6.42
Leather and leather products	3.89	4.22	4.18	4.18	4.21	4.29	4.31	4.33	4.35	4.45	4.47	4.51	4.52	4.52	4.54
TRANSPORTATION AND PUBLIC UTILITIES	7.57	8.17	8.02	8.19	8.31	8.44	8.43	8.51	8.54	8.55	8.58	8.62	8.71	8.71	8.76
WHOLESALE AND RETAIL TRADE	4.67	5.06	5.03	5.05	5.06	5.13	5.15	5.18	5.18	5.34	5.36	5.40	5.40	5.42	5.44
WHOLESALE TRADE	5.88	6.39	6.35	6.40	6.42	6.52	6.52	6.58	6.69	6.72	6.77	6.83	6.87	6.89	6.95
RETAIL TRADE	4.20	4.53	4.50	4.51	4.52	4.57	4.59	4.62	4.61	4.78	4.78	4.81	4.80	4.82	4.83
FINANCE, INSURANCE, AND REAL ESTATE	4.89	5.27	5.21	5.28	5.28	5.37	5.35	5.41	5.48	5.53	5.60	5.66	5.68	5.69	5.79
SERVICES	4.99	5.36	5.28	5.29	5.31	5.45	5.48	5.55	5.61	5.65	5.70	5.75	5.75	5.79	5.83

NOTE: In accordance with usual practice, BLS has revised establishment survey data to reflect a new benchmark and updated seasonal adjustment factors. Because of these revisions, establishment data in this table may differ from data published earlier. See technical note, page 68.

18. Hourly Earnings Index for production or nonsupervisory workers on private nonagricultural payrolls, by industry division

[Seasonally adjusted data: 1967 = 100]

Industry	1979							1980						May 1980 to May 1980	June 1979 to June 1980
	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May[p]	June[p]		
TOTAL PRIVATE (in current dollars)	229.1	230.8	232.2	234.2	234.9	237.2	239.4	240.4	242.5	245.3	246.2	248.2	250.7	1.0	9.4
Mining	263.4	265.0	264.8	265.5	267.6	272.1	274.7	277.1	278.6	280.9	283.7	283.7	284.1	.1	7.9
Construction	220.5	222.2	223.2	224.5	224.6	226.5	228.2	225.7	229.8	232.2	233.0	233.8	234.9	.5	6.5
Manufacturing	234.1	235.7	236.8	238.5	239.9	241.9	244.1	245.1	247.9	250.2	252.4	254.9	257.6	1.1	10.0
Transportation and public utilities	247.0	249.9	252.5	255.1	255.9	258.8	260.2	260.8	262.5	266.0	267.2	268.4	270.7	.9	9.6
Wholesale and retail trade	222.6	223.8	225.5	227.0	227.3	229.5	231.4	234.8	235.5	238.0	238.0	239.7	241.4	.7	8.4
Finance, insurance, and real estate	208.4	210.2	211.5	214.0	212.9	215.7	217.9	218.3	221.2	225.7	224.9	225.9	231.0	2.3	10.8
Services	226.0	227.4	228.8	231.5	232.4	234.9	237.7	237.7	239.6	242.8	243.0	245.7	249.0	1.3	10.2
TOTAL PRIVATE (in constant dollars)	105.9	105.5	105.1	104.8	104.1	104.1	103.8	102.7	102.3	102.0	101.4	101.3	([1])	([1])	([1])

[1] Not available.

NOTE: In accordance with usual practice BLS has revised establishment survey data to reflect a new benchmark and updated seasonal adjustment factors. Because of these revisions, establishment data in this table may differ from data published earlier. See technical note, page 68.

19. Weekly earnings, by industry division and major manufacturing group

[Gross averages, production or nonsupervisory workers on private nonagricultural payrolls]

Industry division and group	Annual average		1979							1980					
	1978	1979	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May[p]	June[p]
TOTAL PRIVATE	$203.70	$219.30	$219.35	$221.76	$222.48	$225.54	$225.27	$225.70	$229.04	$225.34	$226.75	$229.15	$228.55	$229.60	$233.33
MINING	332.88	365.50	367.20	356.12	366.35	372.81	375.38	380.63	384.13	385.39	384.48	388.43	389.48	386.38	392.73
CONSTRUCTION	318.69	342.99	347.32	350.03	355.85	361.76	358.15	348.43	356.38	335.00	343.08	350.42	355.62	360.14	370.06
MANUFACTURING	249.27	268.94	269.47	268.13	268.00	274.04	274.16	276.86	285.07	277.01	278.60	280.99	279.35	280.21	282.89
Durable goods	270.44	290.90	291.92	288.86	288.05	295.39	295.80	297.43	308.67	297.82	300.64	303.86	301.64	300.96	304.50
Lumber and wood products	222.88	239.55	247.23	245.07	248.18	252.63	247.95	241.34	244.61	236.60	243.71	243.21	232.99	240.26	249.56
Furniture and fixtures	183.92	195.82	196.33	192.02	197.49	202.02	203.97	204.75	209.87	202.37	204.29	206.75	204.28	202.17	204.20
Stone, clay, and glass products	263.33	284.28	288.81	286.35	288.42	291.48	292.32	295.24	297.20	283.11	286.31	295.89	296.54	302.06	308.32
Primary metal industries	342.76	371.36	370.66	373.35	371.28	378.31	372.60	376.88	379.55	378.51	384.21	384.62	386.92	377.67	379.42
Fabricated metal products	260.35	278.39	280.03	275.25	277.43	283.56	285.48	287.41	299.17	287.85	288.46	293.94	292.25	292.07	295.94
Machinery except electrical	285.44	305.98	307.55	302.41	302.82	312.66	308.76	313.50	325.80	317.89	319.14	322.04	320.21	322.32	323.95
Electric and electronic equipment	234.55	254.70	253.53	248.69	252.89	262.04	261.55	266.02	274.23	268.13	269.74	271.20	268.88	266.45	269.21
Transportation equipment	333.80	350.99	351.44	350.10	342.23	349.61	359.31	355.78	381.31	352.40	357.94	365.22	359.79	360.19	368.68
Instruments and related products	233.54	251.74	249.08	248.65	248.46	252.75	257.86	264.55	271.05	269.37	268.87	269.18	267.85	270.82	273.10
Miscellaneous manufacturing	181.97	195.16	194.11	192.89	194.78	198.35	199.41	202.12	205.40	204.86	204.58	207.19	206.21	205.90	207.26
Nondurable goods	217.88	235.80	234.04	236.38	237.98	241.96	241.92	245.92	249.77	244.92	243.90	245.07	246.13	249.10	250.65
Food and kindred products	230.26	250.17	247.16	251.83	253.08	256.59	254.00	261.30	264.62	261.10	259.62	260.52	262.58	270.75	269.79
Tobacco manufactures	233.55	252.70	265.59	246.56	244.78	252.06	246.24	270.44	275.01	264.08	271.58	285.39	297.58	294.14	315.17
Textile mill products	173.72	188.26	184.78	185.54	192.23	196.66	197.06	200.72	202.11	200.41	199.92	201.23	195.91	195.02	195.23
Apparel and other textile products	140.26	149.32	149.88	150.17	149.88	150.73	153.01	153.79	157.24	156.29	157.53	158.95	157.44	157.09	159.84
Paper and allied products	279.71	303.74	302.60	305.15	308.42	312.99	314.27	318.75	326.25	319.82	318.85	320.12	321.99	317.82	324.31
Printing and publishing	244.78	260.63	258.43	259.56	264.54	268.33	266.25	270.23	274.70	269.33	269.73	273.05	270.11	274.91	274.53
Chemicals and allied products	294.14	318.44	315.17	317.34	320.19	323.53	326.51	332.54	334.22	332.35	333.22	335.69	337.79	338.64	339.49
Petroleum and coal products	376.27	409.97	404.05	413.66	407.22	424.65	418.07	428.29	412.38	342.45	371.99	366.03	404.01	430.10	431.11
Rubber and miscellaneous plastics products	225.77	241.38	240.54	239.19	237.60	244.22	247.86	247.44	252.75	251.88	249.38	250.80	250.11	247.26	254.23
Leather and leather products	144.32	154.03	155.08	154.24	154.09	157.87	157.32	159.34	162.26	163.32	164.50	164.16	165.88	167.24	171.16
TRANSPORTATION AND PUBLIC UTILITIES	302.80	325.98	321.60	327.60	334.89	336.76	337.20	342.10	341.60	337.73	338.05	340.49	344.05	342.30	348.65
WHOLESALE AND RETAIL TRADE	153.64	164.96	165.49	168.17	167.99	167.24	166.86	167.83	170.42	170.35	170.98	172.80	171.72	172.90	175.17
WHOLESALE TRADE	228.14	247.93	247.65	249.60	250.38	252.98	253.63	255.96	261.58	258.72	259.97	262.27	263.81	265.27	268.27
RETAIL TRADE	130.20	138.62	139.50	142.07	141.93	139.84	139.54	140.45	142.91	142.44	142.44	143.82	142.56	144.12	145.87
FINANCE, INSURANCE, AND REAL ESTATE	178.00	190.77	188.08	191.14	190.60	193.86	193.67	196.38	199.47	200.19	203.28	206.18	205.62	205.41	210.76
SERVICES	163.67	175.27	173.71	176.16	176.29	178.22	178.65	180.93	184.01	183.63	185.25	186.88	186.30	187.02	190.64

NOTE: In accordance with usual practice, BLS has revised establishment survey data to reflect a new benchmark and updated seasonal adjustment factors. Because of these revisions, establishment data in this table may differ from data published earlier. See technical note, page 68.

20. Gross and spendable weekly earnings, in current and 1967 dollars, 1960 to date

[Averages for production or nonsupervisory workers on private nonagricultural payrolls]

Year and month	Private nonagricultural workers						Manufacturing workers					
	Gross average weekly earnings		Spendable average weekly earnings				Gross average weekly earnings		Spendable average weekly earnings			
			Worker with no dependents		Married worker with 3 dependents				Worker with no dependents		Married worker with 3 dependents	
	Current dollars	1967 dollars	Current dollars	1967 dollars	Current dollars	1967 dollars	Current dollars	1967 dollars	Current dollars	1967 dollars	Current dollars	1967 dollars
1960	$80.67	$90.95	$65.59	$73.95	$72.96	$82.25	$89.72	$101.15	$72.57	$81.82	$80.11	$90.32
1961	82.60	92.19	67.08	74.87	74.48	83.13	92.34	103.06	74.60	83.26	82.18	91.72
1962	85.91	94.82	69.56	76.78	76.99	84.98	96.56	106.58	77.86	85.94	85.53	94.40
1963	88.46	96.47	71.05	77.48	78.56	85.67	99.23	108.21	79.51	86.71	87.25	95.15
1964	91.33	98.31	75.04	80.78	82.57	88.88	102.97	110.84	84.40	90.85	92.18	99.22
1965	95.45	101.01	79.32	83.94	86.63	91.67	107.53	113.79	89.08	94.26	96.78	102.41
1966	98.82	101.67	81.29	83.63	88.66	91.21	112.19	115.42	91.45	94.08	99.33	102.19
1967	101.84	101.84	83.38	83.38	90.86	90.86	114.49	114.49	92.97	92.97	100.93	100.93
1968	107.73	103.39	86.71	83.21	95.28	91.44	122.51	117.57	97.70	93.76	106.75	102.45
1969	114.61	104.38	90.96	82.84	99.99	91.07	129.51	117.95	101.90	92.81	111.44	101.49
1970	119.83	103.04	96.21	82.73	104.90	90.20	133.33	114.64	106.32	91.42	115.58	99.38
1971	127.31	104.95	103.80	85.57	112.43	92.69	142.44	117.43	114.97	94.78	124.24	102.42
1972	136.90	109.26	112.19	89.54	121.68	97.11	154.71	123.47	125.34	100.03	135.57	108.20
1973	145.39	109.23	117.51	88.29	127.38	95.70	166.46	125.06	132.57	99.60	143.50	107.81
1974	154.76	104.78	124.37	84.20	134.61	91.14	176.80	119.70	140.19	94.92	151.56	102.61
1975	163.53	101.45	132.49	82.19	145.65	90.35	190.79	118.36	151.61	94.05	166.29	103.16
1976	175.45	102.90	143.30	84.05	155.87	91.42	209.32	122.77	167.83	98.43	181.32	106.35
1977	189.00	104.13	155.19	85.50	169.93	93.63	228.90	126.12	183.80	101.27	200.06	110.23
1978[r]	203.70	104.30	165.39	84.69	180.71	92.53	249.27	127.63	197.40	101.08	214.87	110.02
1979[r]	219.30	100.73	177.56	81.56	194.35	89.27	268.94	123.54	212.43	97.58	232.07	106.60
1979[r]: June	219.35	101.13	177.59	81.88	194.39	89.62	269.47	124.24	219.79	98.11	232.48	107.18
July	221.76	101.08	179.35	81.75	196.26	89.45	268.13	122.21	211.88	96.57	231.46	105.50
August	222.48	100.44	179.87	81.21	196.83	88.86	268.00	120.99	211.79	95.62	231.36	104.45
September	225.54	100.82	182.10	81.40	199.15	89.03	274.04	122.50	215.69	96.51	235.94	105.47
October	225.27	99.85	181.90	80.63	198.94	88.18	274.16	121.52	215.97	95.73	236.04	104.63
November	225.70	99.17	182.22	80.06	199.27	87.55	276.86	121.64	217.80	95.69	238.08	104.60
December	229.04	99.58	184.59	80.26	201.80	87.74	285.07	123.94	223.38	97.12	244.31	106.22
1980[r]: January	225.34	96.59	181.96	77.99	199.00	85.30	277.01	118.74	217.91	93.40	238.20	102.10
February	226.75	95.88	182.98	77.37	200.07	84.60	278.60	117.80	218.99	92.60	239.40	101.23
March	229.15	95.52	184.67	76.98	201.89	84.16	280.99	117.13	220.61	91.96	241.22	100.55
April	228.55	94.21	184.25	75.95	201.43	83.03	279.35	115.15	219.49	90.47	239.97	98.92
May[p]	229.60	93.68	184.98	75.47	202.23	82.51	280.21	114.32	220.08	89.79	240.63	98.18
June[p]	233.33	(1)	187.59	(1)	205.06	(1)	282.69	(1)	221.90	(1)	242.66	(1)

[1] Not available.

NOTE: The earnings expressed in 1967 dollars have been adjusted for changes in price level as measured by the Bureau's Consumer Price Index for Urban Wage Earners and Clerical Workers. These series are described in "The Spendable Earnings Series: A Technical Note on its Calculation," **Employment and Earnings and Monthly Report on the Labor Force**, February 1969, pp. 6-13. See also "Spendable Earnings Formulas, 1978-80," **Employment and Earnings**, March 1980, pp. 10-11.

UNEMPLOYMENT INSURANCE DATA

UNEMPLOYMENT INSURANCE DATA are compiled monthly by the Employment and Training Administration of the U.S. Department of Labor from records of State and Federal unemployment insurance claims filed and benefits paid. Railroad unemployment insurance data are prepared by the U.S. Railroad Retirement Board.

Definitions

Data for **all programs** represent an unduplicated count of insured unemployment under State programs, Unemployment Compensation for Ex-Servicemen, and Unemployment Compensation for Federal Employees, and the Railroad Insurance Act.

Under both State and Federal unemployment insurance programs for civilian employees, insured workers must report the completion of at least 1 week of unemployment before they are defined as unemployed. Persons not covered by unemployment insurance (about one-third of the labor force) and those who have exhausted or not yet earned benefit rights are excluded from the scope of the survey. **Initial claims** are notices filed by persons in unemployment insurance programs to indicate they are out of work and wish to begin receiving compensation. A claimant who continued to be unemployed a full week is then counted in the insured unemployment figure. The **rate of insured unemployment** expresses the number of insured unemployed as a percent of the average insured employment in a 12-month period.

An **application** for benefits is filed by a railroad worker at the beginning of his first period of unemployment in a benefit year; no application is required for subsequent periods in the same year. **Number of payments** are payments made in 14-day registration periods. The **average amount of benefit payment** is an average for all compensable periods, not adjusted for recovery of overpayments or settlement of underpayments. However, **total benefits** paid have been adjusted.

21. Unemployment insurance and employment service operations

[All items except average benefits amounts are in thousands]

Item	1979								1980				
	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May
All programs:													
Insured unemployment	2,230	2,119	2,429	2,377	2,104	2,236	2,559	3,047	3,740	3,730	3,652	3,627	3,680
State unemployment insurance program:[1]													
Initial claims[2]	1,309	1,400	1,978	1,545	1,219	1,641	1,627	2,263	2,837	1,818	1,705	......	......
Insured unemployment (average weekly volume)	2,078	1,991	2,300	2,245	2,024	2,057	2,384	2,864	3,537	3,518	3,356	3,278	3,346
Rate of insured unemployment	2.6	2.5	2.8	2.7	2.4	2.4	2.8	3.4	4.1	4.1	3.9	3.8	3.9
Weeks of unemployment compensated	8,442	7,197	7,869	8,830	6,963	7,638	8,107	9,171	13,702	12,800	13,170	......	......
Average weekly benefit amount for total unemployment	$88.37	$87.25	$86.40	$88.56	$89.07	$90.59	$92.39	$94.54	$96.41	$98.46	$99.15	......	......
Total benefits paid	$725,229	$610,269	$665,687	$767,025	$606,095	$673,965	$728,370	$843,869	$1,283,946	$1,229,877	$1,218,231	......	......
Unemployment compensation for ex-servicemen:[3]													
Initial claims[1]	20	24	28	28	23	26	24	24	25	21	21	......	......
Insured unemployment (average weekly volume)	45	45	51	52	52	52	54	56	60	58	63	52	50
Weeks of unemployment compensated	214	193	216	234	211	236	232	233	299	255	249	......	......
Total benefits paid	$20,440	$18,623	$20,965	$23,861	$19,634	$23,325	$23,093	$23,093	$29,635	$25,414	$24,928	......	......
Unemployment compensation for Federal civilian employees:[4]													
Initial claims	12	13	16	13	13	18	15	15	19	11	12	......	......
Insured unemployment (average weekly volume)	24	23	25	25	26	28	29	31	34	32	30	26	32
Weeks of unemployment compensated	106	91	98	107	91	100	118	118	150	129	123	......	......
Total benefits paid	$9,330	$8,341	$8,802	$9,829	$8,453	$10,093	$11,063	$11,947	$14,118	$12,387	$11,901	......	......
Railroad unemployment insurance:													
Applications	3	9	15	8	13	11	10	11	22	7	5	......	......
Insured unemployment (average weekly volume)	10	8	11	12	21	18	20	19	40	39	30	......	......
Number of payments	29	19	20	26	32	51	36	41	80	71	68	......	......
Average amount of benefit payment	$177.39	$183.13	$190.10	$195.61	$188.06	$189.61	$183.38	$197.22	$199.01	$208.73	$210.79	......	......
Total benefits paid	$5,661	$3,314	$3,699	$3,767	$5,747	$8,003	$6,462	$8,085	$14,967	$14,573	$13,884	......	......
Employment service:[5]													
New applications and renewals	10,452	11,907	13,186	14,479	15,525	1,855	......	4,378	......	......	8,553	......	......
Nonfarm placements	2,616	3,051	3,482	3,935	4,349	456	......	1,044	......	......	1,816	......	......

[1] Initial claims and State insured unemployment include data under the program for Puerto Rican sugarcane workers.

[2] Includes interstate claims for the Virgin Islands. Excludes transition claims under State programs.

[3] Excludes data on claims and payments made jointly with other programs.

[4] Includes the Virgin Islands. Excludes data on claims and payments made jointly with State programs.

[5] Cumulative total for fiscal year (October 1 - September 30).

NOTE: Data for Puerto Rico included. Dashes indicate data not available.

PRICE DATA

PRICE DATA are gathered by the Bureau of Labor Statistics from retail and primary markets in the United States. Price indexes are given in relation to a base period (1967 = 100, unless otherwise noted).

Definitions

The **Consumer Price Index** is a monthly statistical measure of the average change in prices in a fixed market basket of goods and services. Effective with the January 1978 index, the Bureau of Labor Statistics began publishing CPI's for two groups of the population. One index, a new CPI for All Urban Consumers, covers 80 percent of the total noninstitutional population; and the other index, a revised CPI for Urban Wage Earners and Clerical Workers, covers about half the new index population. The All Urban Consumers index includes, in addition to wage earners and clerical workers, professional, managerial, and technical workers, the self-employed, short-term workers, the unemployed, retirees, and others not in the labor force.

The CPI is based on prices of food, clothing, shelter, fuel, drugs, transportation fares, doctor's and dentist's fees, and other goods and services that people buy for day-to-day living. The quantity and quality of these items is kept essentially unchanged between major revisions so that only price changes will be measured. Prices are collected from over 18,000 tenants, 24,000 retail establishments, and 18,000 housing units for property taxes in 85 urban areas across the country. All taxes directly associated with the purchase and use of items are included in the index. Because the CPI's are based on the expenditures of two population groups in 1972–73, they may not accurately reflect the experience of individual families and single persons with different buying habits.

Though the CPI is often called the "Cost-of-Living Index," it measures only price change, which is just one of several important factors affecting living costs. Area indexes do not measure differences in the level of prices among cities. They only measure the average change in prices for each area since the base period.

Producer Price Indexes measure average changes in prices received in primary markets of the United States by producers of commodities in all stages of processing. The sample used for calculating these indexes contains about 2,800 commodities and about 10,000 quotations per month selected to represent the movement of prices of all commodities produced in the manufacturing, agriculture, forestry, fishing, mining, gas and electricity, and public utilities sectors. The universe includes all commodities produced or imported for sale in commercial transactions in primary markets in the United States.

Producer Price Indexes can be organized by stage of processing or by commodity. The stage of processing structure organizes products by degree of fabrication (that is, finished goods, intermediate or semifinished goods, and crude materials). The commodity structure organizes products by similarity of end-use or material composition.

To the extent possible, prices used in calculating Producer Price Indexes apply to the first significant commercial transaction in the United States, from the production or central marketing point. Price data are generally collected monthly, primarily by mail questionnaire. Most prices are obtained directly from producing companies on a voluntary and confidential basis. Prices generally are reported for the Tuesday of the week containing the 13th day of the month.

In calculating Producer Price Indexes, price changes for the various commodities are averaged together with implicit quantity weights representing their importance in the total net selling value of all commodities as of 1972. The detailed data are aggregated to obtain indexes for stage of processing groupings, commodity groupings, durability of product groupings, and a number of special composite groupings.

Price indexes for the output of selected SIC industries measure average price changes in commodities produced by particular industries, as defined in the *Standard Industrial Classification Manual 1972* (Washington, U.S. Office of Management and Budget, 1972). These indexes are derived from several price series, combined to match the economic activity of the specified industry and weighted by the value of shipments in the industry. They use data from comprehensive industrial censuses conducted by the U.S. Bureau of the Census and the U.S. Department of Agriculture.

Notes on the data

Beginning with the May 1978 issue of the *Review*, regional CPI's cross classified by population size, were introduced. These indexes will enable users in local areas for which an index is not published to get a better approximation of the CPI for their area by using the appropriate population size class measure for their region. The cross-classified indexes will be published bimonthly. (See table 24.)

For further details about the new and the revised indexes and a comparison of various aspects of these indexes with the old unrevised CPI, see *Facts About the Revised Consumer Price Index*, a pamphlet in the Consumer Price Index Revision 1978 series. See also *The Consumer Price Index: Concepts and Content Over the Years*. Report 517, revised edition (Bureau of Labor Statistics, May 1978).

For interarea comparisons of living costs at three hypothetical standards of living, see the family budget data published in the *Handbook of Labor Statistics, 1977*, Bulletin 1966 (Bureau of Labor Statistics, 1977), tables 122–133. Additional data and analysis on price changes are provided in the *CPI Detailed Report* and *Producer Prices and Price Indexes*, both monthly publications of the Bureau.

As of January 1976, the Wholesale Price Index (as it was then called) incorporated a revised weighting structure reflecting 1972 values of shipments. From January 1967 through December 1975, 1963 values of shipments were used as weights.

For a discussion of the general method of computing consumer, producer, and industry price indexes, see *BLS Handbook of Methods for Surveys and Studies*, Bulletin 1910 (Bureau of Labor Statistics, 1976), chapters 13–15. See also John F. Early, "Improving the measurement of producer price change," *Monthly Labor Review*, April 1978, pp. 7–15. For industry prices, see also Bennett R. Moss, "Industry and Sector Price Indexes," *Monthly Labor Review*, August 1965, pp. 974–82.

22. Consumer Price Index for Urban Wage Earners and Clerical Workers, annual averages and changes, 1967–79

[1967 = 100]

Year	All items		Food and beverages		Housing		Apparel and upkeep		Transportation		Medical care		Entertainment		Other goods and services	
	Index	Percent change	Index	Percent change	Index	Percent change	Index	Percent change	Index	Percent change	Index	Percent change	Index	Percent change	Index	Percent change
1967	100.0	...	100.0		100.0		100.0		100.0	...	100.0	...	100.0	...	100.0	...
1968	104.2	4.2	103.6	3.6	104.0	4.0	105.4	5.4	103.2	3.2	106.1	6.1	105.7	5.7	105.2	5.2
1969	109.8	-	108.8	5.0	110.4	6.2	111.5	5.8	107.2	3.9	113.4	6.9	111.0	5.0	110.4	4.9
1970	116.3	5.9	114.7	5.4	118.2	7.1	116.1	4.1	112.7	5.1	120.6	6.3	116.7	5.1	116.8	5.8
1971	121.3	4.3	118.3	3.1	123.4	4.4	119.8	3.2	118.6	5.2	128.4	6.5	122.9	5.3	122.4	4.8
1972	125.3	3.3	123.2	4.1	128.1	3.8	122.3	2.1	119.9	1.1	132.5	3.2	126.5	2.9	127.5	4.2
1973	133.1	6.2	139.5	13.2	133.7	4.4	126.8	3.7	123.8	3.3	137.7	3.9	130.0	2.8	132.5	3.9
1974	147.7	11.0	158.7	13.8	148.8	11.3	136.2	7.4	137.7	11.2	150.5	9.3	139.8	7.5	142.0	7.2
1975	161.2	9.1	172.1	8.4	164.5	10.6	142.3	4.5	150.6	9.4	168.6	12.0	152.2	8.9	153.9	8.4
1976	170.5	5.8	177.4	3.1	174.6	6.1	147.6	3.7	165.5	9.9	184.7	9.5	159.8	5.0	162.7	5.7
1977	181.5	6.5	188.0	6.0	186.5	6.8	154.2	4.5	177.2	7.1	202.4	9.6	167.7	4.9	172.2	5.8
1978	195.3	7.6	206.2	9.7	202.6	8.6	159.5	3.4	185.8	4.9	219.4	8.4	176.2	5.1	183.2	6.4
1979	217.7	11.5	228.7	10.9	227.5	12.3	166.4	4.3	212.8	14.5	240.1	9.4	187.6	6.5	196.3	7.2

23. Consumer Price Index for All Urban Consumers and revised CPI for Urban Wage Earners and Clerical Workers, U.S. city average—general summary and groups, subgroups, and selected items

[1967 = 100 unless otherwise specified]

General summary	All Urban Consumers							Urban Wage Earners and Clerical Workers (revised)						
	1979		1980					1979		1980				
	May	Dec.	Jan.	Feb.	Mar.	Apr.	May	May	Dec.	Jan.	Feb.	Mar.	Apr.	May
All items	214.1	229.9	233.2	236.4	239.8	242.5	244.9	214.3	230.0	233.3	236.5	239.9	242.6	245.1
Food and beverages	228.2	235.5	237.5	238.6	241.0	242.8	244.1	228.2	235.7	237.8	239.0	241.2	243.2	244.7
Housing	222.4	243.6	247.3	250.5	254.5	257.9	261.7	222.3	243.6	247.3	250.5	254.4	257.8	261.7
Apparel and upkeep	166.1	172.2	171.0	171.9	176.0	177.3	177.5	165.7	171.4	169.8	171.5	175.1	176.1	176.8
Transportation	207.7	227.7	233.5	239.6	243.7	246.8	249.0	208.6	228.3	234.1	240.2	244.3	247.7	249.9
Medical care	236.3	250.7	253.9	257.9	260.2	262.0	263.4	236.3	251.7	254.9	258.7	260.9	263.1	264.9
Entertainment	187.8	193.4	195.3	197.8	200.6	202.5	204.0	187.1	192.3	193.9	196.2	199.5	201.3	202.4
Other goods and services	193.9	204.0	206.3	208.1	208.9	209.8	211.2	193.8	203.0	206.0	207.7	208.3	209.2	210.6
Commodities	205.8	219.4	222.4	225.2	228.0	229.9	231.4	206.1	219.4	222.3	225.3	228.1	230.1	231.7
Commodities less food and beverages	192.9	208.8	212.0	215.5	218.4	220.4	222.0	193.1	208.7	212.0	215.7	216.7	220.6	222.3
Nondurables less food and beverages	195.7	219.0	224.6	231.8	237.5	239.5	240.3	196.6	220.5	226.3	234.1	239.8	241.7	242.6
Durables	189.2	199.8	201.3	202.1	203.0	204.9	207.1	189.9	198.2	199.6	200.3	201.2	203.3	205.4
Services	229.5	249.3	253.1	256.8	261.3	265.3	269.2	229.7	249.6	253.6	257.3	261.7	265.8	269.9
Rent, residential	173.8	182.9	184.1	185.6	186.6	187.0	188.9	173.7	182.7	183.9	185.5	186.4	186.9	188.7
Household services less rent	260.2	289.2	295.1	300.2	307.3	313.4	319.6	261.1	291.1	297.2	302.4	309.6	315.8	322.2
Transportation services	209.8	224.2	226.8	229.6	233.4	238.1	241.5	210.5	224.0	226.6	229.3	232.7	238.0	241.5
Medical care services	254.4	270.7	274.4	279.0	281.5	283.4	284.7	254.0	271.8	275.6	279.8	282.2	284.5	286.3
Other services	197.6	207.1	209.0	211.1	212.9	214.5	215.9	198.0	207.4	209.3	211.4	213.5	214.6	216.5
Special indexes:														
All items less food	208.9	226.4	229.9	233.5	237.1	239.9	242.6	209.1	226.4	230.0	233.7	237.3	240.2	242.9
All items less mortgage interest costs	208.7	221.7	224.3	227.1	229.8	231.8	233.7	209.1	222.0	224.7	227.6	230.2	232.4	234.2
Commodities less food	191.6	207.2	210.4	213.8	216.7	218.6	220.2	191.8	207.1	210.3	214.0	216.9	218.9	220.5
Nondurables less food	193.2	215.2	220.5	227.3	232.6	234.6	235.5	194.0	216.7	222.1	229.4	234.8	236.7	237.7
Nondurables less food and apparel	210.2	240.1	248.6	258.2	264.1	266.5	267.9	211.0	241.5	250.2	260.1	266.3	268.7	270.0
Nondurables	212.8	228.2	232.0	236.3	240.3	242.2	243.2	213.2	229.0	232.9	237.4	241.4	243.3	244.6
Services less rent	239.8	261.6	266.1	270.2	275.4	280.0	284.4	240.1	262.1	266.7	270.8	275.9	280.8	285.4
Services less medical care	225.3	245.3	249.2	252.7	257.4	261.5	265.7	225.6	245.5	249.5	253.1	257.7	261.9	266.3
Domestically produced farm foods	224.2	227.5	229.2	229.1	231.2	232.7	233.6	223.9	227.5	229.0	229.2	231.0	232.4	233.4
Selected beef cuts	271.9	263.2	265.7	267.2	270.2	268.0	265.6	273.1	265.2	268.1	270.3	272.3	269.5	267.5
Energy	260.8	313.7	327.9	344.6	355.0	358.8	363.2	262.2	317.0	331.5	348.7	359.6	363.3	367.3
All items less energy	210.7	223.6	225.9	228.0	230.8	233.4	235.7	210.8	223.0	225.3	227.3	230.0	232.7	235.1
All items less food and energy	204.1	218.1	220.6	222.8	225.7	228.5	231.0	204.0	217.3	219.6	221.8	224.6	227.5	230.0
Commodities less food and energy	183.6	192.6	193.7	194.9	196.5	198.2	199.9	183.3	191.4	192.4	193.5	195.1	196.9	198.6
Energy commodities	266.4	340.0	361.5	385.0	398.5	402.3	403.0	267.3	341.5	362.8	386.4	400.3	404.0	404.7
Services less energy	227.8	247.6	251.6	255.2	259.6	263.5	267.0	228.0	248.0	252.2	256.7	260.0	264.2	267.8
Purchasing power of the consumer dollar, 1967 = $1	$0.467	$0.435	$0.429	$0.423	$0.417	$0.412	$0.408	$0.467	$0.435	$0.429	$0.423	$0.417	$0.412	$0.408

23. Continued—Consumer Price Index—U.S. city average

[1967 = 100 unless otherwise specified]

General summary	All Urban Consumers							Urban Wage Earners and Clerical Workers (revised)						
	1979		1980					1979		1980				
	May	Dec.	Jan.	Feb.	Mar.	Apr.	May	May	Dec.	Jan.	Feb.	Mar.	Apr.	May
FOOD AND BEVERAGES	228.2	235.5	237.5	238.6	241.0	242.8	244.1	228.2	235.7	237.8	239.0	241.2	243.2	244.7
Food	234.3	241.7	243.8	244.9	247.3	249.1	250.4	234.2	241.8	244.0	245.2	247.5	249.5	251.0
Food at home	233.4	238.7	240.6	241.3	243.6	245.3	246.5	232.8	238.3	240.1	241.1	243.1	245.0	246.1
Cereals and bakery products	216.2	231.6	234.2	236.8	238.6	242.0	244.5	216.8	232.3	234.7	237.4	239.3	242.2	244.4
Cereals and cereal products (12/77 = 100)	114.6	122.9	125.0	125.8	126.6	129.4	131.5	114.7	123.8	126.1	127.2	127.7	130.1	132.4
Flour and prepared flour mixes (12/77 = 100)	116.7	123.8	125.7	125.7	126.6	127.8	129.0	117.0	125.1	126.9	127.3	127.5	128.9	129.9
Cereal (12/77 = 100)	115.1	122.8	123.7	124.9	126.0	129.4	131.5	115.4	122.9	124.2	125.5	126.6	129.7	132.0
Rice, pasta, and cornmeal (12/77 = 100)	111.9	122.2	126.4	127.4	127.6	130.8	133.8	111.7	123.9	127.9	129.2	129.4	131.9	135.2
Bakery products (12/77 = 100)	114.4	122.4	123.5	125.1	126.1	127.6	128.7	114.7	122.7	123.6	125.1	126.2	127.5	128.3
White bread	189.0	207.4	208.6	210.7	212.0	215.1	216.7	189.0	206.6	207.4	209.7	212.1	215.1	216.0
Other breads (12/77 = 100)	114.9	123.3	123.8	124.6	125.6	127.0	128.3	116.2	126.0	126.9	127.5	129.3	129.3	130.6
Fresh biscuits, rolls, and muffins (12/77 = 100)	114.7	123.1	124.8	126.2	127.0	126.9	127.8	114.5	122.3	123.1	124.3	124.9	125.3	126.4
Fresh cakes and cupcakes (12/77 = 100)	113.3	120.3	121.7	122.8	124.4	126.5	127.4	113.9	120.1	120.8	122.2	123.2	125.4	126.5
Cookies (12/77 = 100)	113.4	117.8	119.7	122.8	124.4	125.3	126.1	114.9	119.6	121.5	124.0	125.6	126.3	126.8
Crackers and bread and cracker products (12/77 = 100)	113.3	116.2	117.5	119.9	120.2	122.0	122.2	113.2	116.3	118.4	121.0	121.8	122.2	123.0
Fresh sweetrolls, coffeecake, and donuts (12/77 = 100)	113.7	121.5	122.2	123.8	125.0	126.6	128.4	115.3	123.4	124.1	125.4	126.2	128.0	129.2
Frozen and refrigerated bakery products and fresh pies, tarts, and turnovers (12/77 = 100)	116.6	124.8	125.7	127.2	127.9	129.7	131.0	114.1	121.4	122.5	123.8	124.0	125.3	126.0
Meats, poultry, fish, and eggs	242.2	235.5	238.0	236.2	237.8	235.1	231.5	241.2	235.1	237.5	236.4	237.1	234.3	230.7
Meats, poultry, and fish	247.9	239.8	243.0	242.6	243.8	241.1	238.2	246.9	239.2	242.5	242.8	243.0	240.2	237.2
Meats	252.1	242.3	244.1	244.1	245.7	242.6	239.2	250.9	241.8	243.7	244.3	245.0	241.3	238.1
Beef and veal	270.3	262.2	264.6	266.2	269.1	267.0	264.8	271.3	263.7	266.7	268.9	270.8	268.2	266.3
Ground beef other than canned	280.6	271.2	271.4	273.3	275.3	272.9	269.4	280.0	273.0	272.7	276.2	278.7	274.7	270.6
Chuck roast	285.7	268.1	274.7	277.7	286.2	277.9	273.0	293.1	274.2	283.6	288.7	293.4	286.1	280.0
Round roast	244.4	238.1	241.9	244.5	244.2	242.7	243.4	244.1	240.5	245.1	245.8	244.5	242.1	245.5
Round steak	256.5	247.5	249.8	252.3	254.2	253.5	250.6	253.2	246.2	249.4	250.5	251.1	249.6	250.2
Sirloin steak	259.0	250.8	250.9	251.1	254.3	256.1	256.2	259.3	253.5	253.5	253.0	256.0	257.8	257.5
Other beef and veal (12/77 = 100)	152.8	150.2	151.8	152.2	153.8	153.3	152.4	153.4	149.9	151.9	152.8	153.7	153.1	152.2
Pork	222.2	205.0	206.4	202.8	202.6	197.1	191.8	221.6	205.6	206.8	204.1	203.0	196.7	191.8
Bacon	215.8	193.6	194.5	190.1	187.6	182.1	177.4	216.7	195.8	195.3	193.8	189.4	183.9	177.7
Pork chops	210.1	187.8	192.1	189.7	190.7	187.0	182.4	211.3	189.1	194.8	191.0	190.5	184.7	180.9
Ham other than canned (12/77 = 100)	101.8	102.5	99.1	95.7	95.8	90.6	87.4	[illegible]	100.9	96.5	95.2	94.7	88.7	85.4
Sausage	276.1	256.5	256.6	255.1	257.6	255.1	250.2	274.2	[illegible]	260.3	257.0	259.8	258.0	253.9
Canned ham	229.5	218.9	220.8	219.5	219.3	213.5	210.0	229.6	219.1	219.3	218.9	217.4	214.5	213.0
Other pork (12/77 = 100)	127.0	112.6	116.2	114.3	113.6	110.7	107.1	126.5	112.7	116.2	114.6	113.7	110.0	106.5
Other meats	244.0	243.0	243.2	244.7	245.8	243.9	240.2	240.0	239.5	239.3	240.9	241.5	239.0	235.6
Frankfurters	245.2	239.3	239.0	242.7	244.6	240.6	234.8	242.4	238.7	239.5	242.1	242.8	239.3	234.0
Bologna, liverwurst, and salami (12/77 = 100)	134.1	134.4	134.1	135.6	135.5	134.9	133.5	132.2	130.8	130.5	132.3	132.2	131.1	129.5
Other lunchmeats (12/77 = 100)	121.8	121.5	121.2	120.7	121.8	121.9	121.4	118.6	119.4	118.7	118.6	118.8	118.4	117.6
Lamb and organ meats (12/77 = 100)	138.5	140.0	141.6	142.4	142.3	140.1	136.3	140.0	141.7	142.5	143.4	144.3	141.3	138.4
Poultry	188.0	176.2	187.8	182.6	180.7	177.2	176.5	186.2	173.9	184.3	118.1	177.4	176.0	173.8
Fresh whole chicken	185.9	175.2	191.1	183.6	179.5	174.7	172.9	183.9	169.8	183.8	178.9	172.5	170.6	168.0
Fresh and frozen chicken parts (12/77 = 100)	120.4	112.3	120.7	116.8	116.8	114.5	114.4	120.2	111.8	118.7	117.0	116.3	114.7	112.7
Other poultry (12/77 = 100)	125.1	118.9	119.3	118.8	118.2	117.3	117.4	122.9	117.4	120.1	119.4	117.7	118.1	117.7
Fish and seafood	297.2	312.6	316.7	320.4	322.6	325.3	324.5	292.7	309.1	315.4	317.9	320.2	325.1	323.0
Canned fish and seafood (12/77 = 100)	109.8	117.1	118.5	120.3	120.4	122.9	125.4	108.6	116.5	118.4	119.7	119.5	121.8	124.0
Fresh and frozen fish and seafood (12/77 = 100)	115.2	120.2	121.9	123.0	124.3	124.5	122.5	113.2	118.5	121.2	122.0	123.5	125.1	122.4
Eggs	172.9	185.9	178.2	157.2	164.5	161.2	148.4	171.5	186.6	177.0	156.7	164.3	161.5	148.9
Dairy products	203.8	216.9	218.4	219.5	220.3	222.4	226.2	204.3	217.4	218.9	219.8	221.1	223.1	226.9
Fresh milk and cream (12/77 = 100)	114.7	122.7	123.2	123.7	124.1	124.7	127.0	115.2	122.6	123.2	123.6	124.2	124.9	127.2
Fresh whole milk	188.1	201.2	202.3	203.2	204.0	204.9	208.5	188.7	200.9	201.8	202.7	203.8	204.8	208.4
Other fresh milk and cream (12/77 = 100)	114.3	122.0	122.1	122.7	122.7	123.5	125.9	114.9	122.2	122.8	123.0	123.1	124.1	126.8
Processed dairy products (12/77 = 100)	115.8	122.5	123.8	124.5	125.1	127.0	129.1	116.0	123.3	124.5	125.1	126.2	128.0	129.9
Butter	199.4	214.0	216.9	218.3	218.3	219.9	222.2	201.5	216.6	219.8	220.9	220.9	222.7	225.3
Cheese (12/77 = 100)	116.3	122.6	123.5	124.2	124.9	126.2	127.8	116.1	122.7	123.6	124.4	125.5	126.8	128.5
Ice cream and related products (12/77 = 100)	115.2	122.6	124.0	124.6	125.1	128.6	131.9	115.7	124.3	125.6	125.6	127.2	130.4	132.9
Other dairy products (12/77 = 100)	112.7	117.9	119.8	120.9	121.6	124.0	126.1	112.6	118.3	120.4	121.3	121.9	123.6	125.7
Fruits and vegetables	226.8	230.2	229.8	228.3	232.4	240.9	246.6	224.9	228.3	227.2	225.9	230.1	239.8	245.5
Fresh fruits and vegetables	231.0	230.1	227.2	223.1	229.9	245.2	255.1	228.7	228.5	224.9	220.6	227.4	244.8	254.4
Fresh fruits	240.6	234.9	233.6	235.8	245.4	257.0	264.7	245.7	233.3	232.7	234.7	245.4	255.6	263.8
Apples	229.9	221.8	230.4	239.6	250.2	265.5	276.3	224.2	220.2	230.1	237.6	249.0	264.4	277.3
Bananas	212.6	225.2	221.9	238.5	243.9	242.8	249.7	209.1	222.0	219.5	234.6	240.8	243.5	244.5
Oranges	267.1	256.7	233.2	231.1	238.1	240.6	243.9	259.7	249.5	231.3	228.4	240.9	234.3	237.6
Other fresh fruits (12/77 = 100)	135.4	121.1	122.5	121.4	127.4	136.5	140.8	134.7	121.6	122.7	121.3	126.9	135.7	140.9
Fresh vegetables	213.6	225.7	221.2	211.2	215.5	234.2	246.2	213.4	224.2	217.9	207.9	211.3	235.2	246.0
Potatoes	203.9	207.0	203.8	203.3	203.3	201.7	210.1	203.5	199.6	200.9	199.8	200.3	198.2	205.6
Lettuce	184.1	227.5	197.6	198.7	208.3	271.9	279.9	195.1	231.3	193.2	191.7	203.8	281.9	288.6
Tomatoes	219.7	227.9	216.7	184.9	201.4	201.2	230.8	217.9	224.8	213.2	184.3	197.2	197.7	228.4
Other fresh vegetables (12/77 = 100)	122.9	128.0	132.0	125.1	125.4	134.6	140.1	123.0	128.1	130.5	123.9	123.0	135.3	139.7
Processed fruits and vegetables	224.2	232.3	234.7	236.2	237.2	238.4	239.4	222.5	230.0	231.8	233.9	235.0	236.2	237.6
Processed fruits (12/77 = 100)	116.8	121.8	122.9	123.4	123.9	125.0	125.4	116.8	121.3	122.4	123.6	123.9	124.9	125.7
Frozen fruit and fruit juices (12/77 = 100)	112.6	116.8	117.2	117.6	117.7	119.3	118.1	113.3	115.9	116.5	117.3	116.5	118.4	117.5
Fruit juices and other than frozen (12/77 = 100)	115.6	123.6	125.1	126.0	127.2	128.3	129.3	115.7	123.4	124.5	126.3	127.4	128.4	129.8
Canned and dried fruits (12/77 = 100)	121.8	124.2	125.3	125.5	125.5	126.3	127.5	120.8	123.5	124.8	125.3	125.9	126.4	127.8
Processed vegetables (12/77 = 100)	108.5	111.7	113.0	114.0	114.6	114.5	115.2	107.4	110.5	111.2	112.2	113.0	113.2	113.9
Frozen vegetables (12/77 = 100)	107.2	110.6	111.9	113.0	112.6	113.3	114.7	107.2	110.8	111.4	111.7	111.9	113.0	114.6

23. Continued — Consumer Price Index — U.S. city average

[1967 = 100 unless otherwise specified]

General summary	All Urban Consumers							Urban Wage Earners and Clerical Workers (revised)						
	1979		1980					1979		1980				
	May	Dec.	Jan.	Feb.	Mar.	Apr.	May	May	Dec.	Jan.	Feb.	Mar.	Apr.	May
FOOD AND BEVERAGES — Continued														
Food — Continued														
Food at home — Continued														
Fruits and vegetables — Continued														
Cut corn and canned beans except lima (12/77 = 100)	112.2	114.4	114.5	115.2	116.0	115.6	116.0	111.0	113.0	112.7	113.4	115.4	114.3	114.2
Other canned and dried vegetables (12/77 = 100)	107.4	110.9	112.9	113.9	114.8	114.7	115.1	105.7	109.1	110.4	111.9	112.3	112.7	113.3
Other foods at home	266.0	281.1	283.5	288.0	292.0	295.1	298.1	265.3	279.9	282.6	287.3	290.9	294.6	298.0
Sugar and sweets	276.3	284.6	289.8	297.5	313.5	319.5	326.8	275.6	284.1	289.6	297.1	314.1	320.8	328.0
Candy and chewing gum (12/77 = 100)	117.1	120.1	121.3	122.4	123.8	126.3	128.9	116.9	119.9	121.2	122.2	123.9	126.5	129.0
Sugar and artificial sweeteners (12/77 = 100)	115.3	117.2	122.2	131.5	153.0	156.9	161.4	115.4	117.6	122.7	131.6	153.8	158.6	163.3
Other sweets (12/77 = 100)	111.7	117.5	118.7	119.5	120.4	121.3	123.6	110.4	116.6	117.5	118.5	119.3	120.0	122.2
Fats and oils (12/77 = 100)	225.3	233.0	233.9	235.9	236.8	238.3	239.5	225.1	233.7	234.9	236.5	236.8	238.3	240.1
Margarine	238.8	247.7	248.3	247.9	248.8	247.9	246.1	236.9	247.8	248.8	247.9	248.3	248.3	248.4
Nondairy substitutes and peanut butter (12/77 = 100)	112.4	115.7	115.3	116.4	117.9	119.8	121.4	112.1	115.8	116.1	117.2	118.5	120.0	121.6
Other fats, oils, and salad dressings (12/77 = 100)	117.0	121.1	121.9	123.6	123.7	124.8	125.8	117.4	121.5	122.3	123.8	123.4	124.4	125.5
Nonalcoholic beverages	349.3	375.4	378.5	384.5	387.1	390.3	393.0	348.4	372.3	375.6	383.0	384.4	389.2	392.3
Cola drinks, excluding diet cola	237.4	247.2	249.5	255.9	259.3	261.7	265.4	235.6	243.4	246.5	253.6	255.4	260.1	263.2
Carbonated drinks, including diet cola (12/77 = 100)	115.1	118.7	119.9	122.3	123.5	125.6	126.2	112.9	116.4	116.4	120.2	121.1	123.4	124.8
Roasted coffee	341.2	440.7	443.2	439.6	437.6	434.0	433.5	340.3	435.3	440.1	436.8	432.3	430.4	430.0
Freeze dried and instant coffee	329.8	374.3	378.2	382.2	381.7	380.2	381.9	328.6	372.9	376.8	380.4	380.3	379.2	380.4
Other noncarbonated drinks (12/77 = 100)	113.5	116.3	116.8	118.3	118.6	120.7	120.7	112.3	115.5	116.2	117.5	118.1	119.6	120.0
Other prepared foods	206.6	217.4	218.8	221.8	224.1	226.6	229.1	206.5	217.2	219.1	221.7	224.0	226.6	229.6
Canned and packaged soup (12/77 = 100)	111.4	115.9	116.5	118.1	118.0	120.5	122.0	111.6	116.3	116.8	117.9	117.6	120.6	122.5
Frozen prepared foods (12/77 = 100)	118.3	125.6	126.0	126.6	128.2	130.4	131.3	117.3	123.9	125.1	125.5	127.1	128.8	131.0
Snacks (12/77 = 100)	113.1	121.3	121.8	123.4	124.1	124.8	126.1	113.6	122.2	122.8	124.7	125.3	126.0	127.3
Seasonings, olives, pickles, and relish (12/77 = 100)	114.0	120.1	121.4	123.6	124.9	125.2	125.4	113.6	119.0	121.1	123.1	124.0	124.5	125.5
Other condiments (12/77 = 100)	113.1	119.5	120.8	123.7	126.0	127.1	127.9	113.9	120.2	121.4	124.6	126.6	128.1	129.2
Miscellaneous prepared foods (12/77 = 100)	114.5	118.9	119.6	120.7	122.2	124.4	127.6	114.2	118.7	119.7	120.5	122.2	123.7	127.0
Other canned and packaged prepared foods (12/77 = 100)	114.6	118.6	119.4	121.2	122.2	123.1	124.6	114.2	118.6	119.5	120.3	122.0	123.3	124.3
Food away from home	241.1	253.4	256.1	258.3	260.9	263.0	264.6	242.0	255.1	258.0	260.1	262.7	265.3	267.6
Lunch (12/77 = 100)	117.7	123.3	124.6	125.9	127.0	127.9	128.5	118.5	124.0	125.7	126.7	127.6	128.9	129.9
Dinner (12/77 = 100)	116.8	123.4	124.8	125.8	127.0	127.9	128.7	116.8	124.2	125.6	126.8	128.1	129.1	130.5
Other meals and snacks (12/77 = 100)	115.9	121.4	122.5	123.2	124.9	126.4	127.4	116.6	122.5	123.7	124.4	126.2	127.7	128.6
Alcoholic beverages	171.5	178.0	179.3	180.4	181.7	183.9	185.4	171.9	178.7	179.7	181.1	182.8	185.0	186.9
Alcoholic beverages at home (12/77 = 100)	111.5	116.0	116.8	117.4	118.2	119.9	120.9	112.4	117.0	117.6	118.3	119.3	120.8	122.0
Beer and ale	169.2	177.8	179.0	179.9	182.0	185.9	187.7	169.2	177.6	178.8	179.9	181.7	185.1	187.5
Whiskey	126.5	130.8	131.6	132.6	132.8	133.4	133.9	127.8	132.0	132.9	133.8	134.4	134.6	135.1
Wine	192.7	199.1	201.6	202.5	204.1	206.6	208.5	195.9	204.0	203.8	206.1	208.4	209.8	212.0
Other alcoholic beverages (12/77 = 100)	104.7	106.9	107.1	107.3	107.4	108.2	109.0	105.0	106.4	106.4	106.7	107.2	107.8	108.7
Alcoholic beverages away from home (12/77 = 100)	113.7	116.8	118.0	119.2	120.0	120.5	121.5	111.2	115.2	115.9	117.6	119.1	120.5	121.7
HOUSING	222.4	243.6	247.3	250.5	254.5	257.9	261.7	222.3	243.6	247.3	250.5	254.4	257.8	261.7
Shelter	233.5	250.4	264.0	267.2	271.6	276.0	280.2	234.1	260.4	265.1	268.3	272.7	277.2	281.6
Rent, residential	173.8	182.9	184.1	185.6	186.6	187.0	188.9	173.7	182.7	183.9	185.5	186.4	186.9	188.7
Other rental costs	230.3	244.9	251.1	255.7	258.6	260.7	261.9	229.6	244.4	251.1	255.6	258.6	260.5	261.7
Lodging while out of town	242.1	258.4	267.0	272.8	276.8	279.3	279.9	240.5	256.9	266.1	271.6	275.7	278.0	278.6
Tenants' insurance (12/77 = 100)	107.2	115.1	116.2	117.8	116.6	118.9	121.2	107.5	115.5	116.8	118.5	119.3	120.1	121.4
Homeownership	254.9	286.9	292.5	296.3	302.0	307.7	312.9	255.9	288.7	294.6	298.4	304.0	310.0	315.4
Home purchase	217.6	239.9	242.1	243.0	244.0	246.5	249.7	217.6	240.2	242.3	243.0	243.8	246.5	249.8
Financing, taxes, and insurance	297.2	348.3	359.8	367.7	379.9	390.6	399.7	299.2	351.6	363.4	371.6	384.1	395.3	404.9
Property insurance	307.1	323.1	327.7	333.7	335.7	338.9	344.9	306.9	324.5	328.8	335.2	337.4	340.4	346.4
Property taxes	181.2	186.0	186.7	188.2	188.2	188.4	187.6	182.7	187.4	188.2	189.9	189.9	190.1	189.3
Contracted mortgage interest cost	358.4	435.3	452.8	464.0	483.0	499.4	513.6	358.9	436.1	453.7	465.0	484.1	500.9	515.6
Mortgage interest rates	162.0	178.3	183.7	187.5	194.4	199.4	202.4	162.2	178.4	183.8	187.8	194.8	199.8	202.8
Maintenance and repairs	252.4	268.3	270.6	273.7	278.8	282.9	284.9	253.4	268.9	271.9	274.4	278.2	281.7	283.4
Maintenance and repair services	273.2	290.4	293.2	297.1	303.2	307.9	310.1	275.5	292.8	295.9	299.3	303.5	307.7	309.1
Maintenance and repair commodities	203.8	216.6	217.6	218.9	221.4	224.3	225.8	204.0	215.8	218.4	219.5	222.3	224.3	226.5
Paint and wallpaper, supplies, tools, and equipment (12/77 = 100)	110.7	121.6	122.5	123.5	125.0	126.6	128.7	110.8	120.3	122.2	122.3	123.6	126.0	128.7
Lumber, awnings, glass, and masonry (12/77 = 100)	112.6	115.4	115.9	115.8	117.6	118.8	118.0	113.3	118.1	118.6	119.3	119.9	119.7	118.4
Plumbing, electrical, heating, and cooling supplies (12/77 = 100)	108.4	114.7	114.7	115.3	116.4	119.1	119.3	109.5	114.5	117.0	117.9	119.3	120.0	122.0
Miscellaneous supplies and equipment (12/77 = 100)	110.2	114.3	115.4	116.4	117.0	118.2	118.7	108.6	112.3	113.2	114.5	118.2	119.4	120.1
Fuel and other utilities	232.2	256.1	258.6	263.8	268.0	270.5	275.9	232.5	255.7	259.2	264.4	268.7	271.0	276.4
Fuels	274.6	311.8	318.0	327.1	333.9	337.8	346.4	274.6	311.8	318.1	327.0	333.9	337.6	346.0
Fuel oil, coal, and bottled gas	364.3	488.0	514.0	539.1	553.4	556.4	556.0	364.8	489.0	515.1	540.3	554.1	557.1	557.1
Fuel oil	375.3	507.3	534.4	561.9	577.9	580.7	580.4	375.7	508.1	534.9	562.5	577.9	580.7	580.5
Other fuels (6/78 = 100)	100.1	126.0	132.7	136.6	138.3	139.6	139.4	100.2	126.6	133.7	137.9	139.5	140.8	141.3
Gas (piped) and electricity	251.6	270.8	273.0	278.8	284.0	288.0	298.2	251.4	270.7	273.0	278.5	283.9	287.6	297.5
Electricity	214.3	224.7	226.6	233.8	237.9	241.5	248.1	214.7	224.9	226.8	233.9	238.1	241.5	248.0
Utility (piped) gas	296.8	332.6	335.1	336.8	343.9	347.9	364.6	295.4	331.1	333.8	335.4	342.6	346.4	362.3

23. Continued—Consumer Price Index—U.S. city average

[1967 = 100 unless otherwise specified]

General summary	All Urban Consumers							Urban Wage Earners and Clerical Workers (revised)						
	1979		1980					1979		1980				
	May	Dec.	Jan.	Feb.	Mar.	Apr.	May	May	Dec.	Jan.	Feb.	Mar.	Apr.	May
HOUSING—Continued														
Fuel and other utilities—Continued														
Other utilities and public services	159.0	161.9	161.5	161.3	161.9	162.3	163.1	159.1	161.8	161.5	161.4	161.9	162.3	163.1
Telephone services	132.2	134.3	133.4	132.8	133.2	133.4	134.0	132.2	134.2	133.4	132.8	133.1	133.2	133.9
Local charges (12/77 = 100)	100.6	103.2	102.6	102.7	103.3	103.5	104.3	100.6	103.2	102.6	102.7	103.2	103.3	104.0
Interstate toll calls (12/77 = 100)	98.3	98.4	97.7	97.4	97.4	97.3	97.3	98.3	98.4	97.7	97.5	97.5	97.4	97.4
Intrastate toll calls (12/77 = 100)	100.7	101.5	100.8	98.8	98.7	99.0	99.4	100.6	101.3	100.6	98.7	98.6	98.9	99.3
Water and sewerage maintenance	241.4	247.2	250.0	252.3	253.9	255.2	256.5	241.5	247.3	250.5	253.0	254.7	256.2	257.6
Household furnishings and operations	189.2	195.8	196.9	199.0	201.3	203.0	204.2	188.1	193.9	194.9	196.8	199.2	200.7	201.9
Housefurnishings	162.6	166.9	167.6	169.3	171.5	172.7	173.4	162.4	165.9	166.5	167.9	170.4	171.5	172.2
Textile housefurnishings	173.1	178.6	178.7	182.9	187.2	188.2	187.3	173.1	177.3	175.3	181.2	185.3	186.3	186.1
Household linens (12/77 = 100)	106.1	108.3	105.4	110.1	113.9	114.8	114.4	105.8	107.2	106.0	109.8	113.2	113.8	113.4
Curtains, drapes, slipcovers, and sewing materials (12/77 = 100)	109.7	114.6	115.1	118.2	119.7	119.9	119.3	110.3	114.4	113.2	116.6	118.2	118.9	119.0
Furniture and bedding	178.9	182.8	184.0	185.2	189.2	190.9	191.9	178.4	182.7	183.6	184.3	187.9	189.4	190.1
Bedroom furniture (12/77 = 100)	112.8	118.3	119.1	120.5	122.5	124.3	125.0	110.8	116.0	116.8	117.5	119.2	120.9	121.7
Sofas (12/77 = 100)	108.2	108.2	108.2	108.5	110.9	111.6	111.4	108.4	111.6	110.6	110.3	112.7	111.8	112.0
Living room chairs and tables (12/77 = 100)	103.7	102.1	108.9	110.0	110.8	110.9	110.8	105.4	108.2	109.4	111.2	111.9	112.6	112.6
Other furniture (12/77 = 100)	114.7	117.[illegible]	118.1	118.3	122.6	124.0	125.6	112.9	115.9	117.8	117.5	121.3	123.1	123.5
Appliances including TV and sound equipment	135.6	137.5	137.8	138.3	138.8	139.3	139.9	135.8	136.9	137.2	137.9	139.0	139.7	140.2
Television and sound equipment (12/77 = 100)	104.0	105.3	105.3	105.4	105.7	105.7	105.7	103.8	104.8	104.9	104.9	105.5	105.4	105.4
Television	102.8	103.6	103.7	103.7	104.0	104.0	104.1	102.2	102.2	102.2	102.3	102.9	102.8	102.8
Sound equipment (12/77 = 100)	106.1	107.8	107.8	108.1	108.3	108.3	108.3	106.3	108.0	108.2	108.2	108.7	108.6	108.7
Household appliances	155.4	157.9	158.5	159.4	160.2	161.4	162.6	156.0	157.1	157.7	158.8	160.7	162.3	163.4
Refrigerators and home freezer	152.4	156.7	156.7	156.5	157.9	160.6	162.7	156.9	159.0	159.4	159.7	161.4	163.5	166.0
Laundry equipment (12/77 = 100)	109.8	113.6	114.1	115.0	116.8	117.5	118.2	109.9	112.8	113.8	114.7	116.6	117.8	118.5
Other household appliances (12/77 = 100)	109.7	109.9	110.5	111.3	111.2	111.5	112.1	108.8	108.2	108.6	109.5	110.7	111.6	111.8
Stoves, dishwashers, vacuums, and sewing machines (12/77 = 100)	110.0	108.6	110.0	110.8	110.9	110.0	110.3	109.6	108.1	109.2	110.5	111.1	111.6	111.9
Office machines, small electric appliances, and air conditioners (12/77 = 100)	109.3	111.4	111.1	112.0	111.6	113.1	114.2	108.0	108.3	107.8	108.4	110.2	111.6	111.7
Other household equipment (12/77 = 100)	109.3	113.0	114.6	115.9	117.3	118.4	119.0	109.0	111.8	113.3	114.4	116.0	117.0	117.8
Floor and window coverings, infants' laundry cleaning and outdoor equipment (12/77 = 100)	108.5	111.7	113.1	114.5	116.4	118.2	117.6	104.6	107.4	108.9	109.4	110.8	113.1	113.2
Clocks, lamps, and decor items (12/77 = 100)	105.2	110.1	111.6	112.7	114.9	115.6	117.6	105.9	107.3	109.4	109.8	112.3	112.6	114.4
Tableware, serving pieces, and nonelectric kitchenware (12/77 = 100)	113.0	117.2	119.9	121.4	122.6	123.4	124.1	111.7	115.2	117.3	118.9	120.8	121.4	121.7
Lawn equipment, power tools, and other hardware (12/77 = 100)	107.9	110.3	110.6	111.7	112.2	113.5	114.0	110.1	112.5	113.0	114.2	115.0	115.9	117.4
Housekeeping supplies	220.5	229.2	231.1	235.0	238.0	240.7	243.6	219.4	227.2	228.8	232.8	235.5	238.1	241.2
Soaps and detergents	209.6	221.2	224.1	228.9	232.1	233.2	235.0	208.2	219.7	222.2	226.5	230.0	231.1	232.1
Other laundry and cleaning products (12/77 = 100)	110.1	114.7	116.1	117.2	117.0	117.6	119.8	110.0	114.5	115.6	117.1	116.9	118.1	119.5
Cleansing and toilet tissue, paper towels and napkins (12/77 = 100)	116.3	120.5	120.6	121.2	123.9	126.2	128.6	117.1	120.9	121.8	123.4	125.8	128.1	130.8
Stationery, stationery supplies, and gift wrap (12/77 = 100)	107.3	111.9	111.6	112.7	113.8	115.6	116.3	106.7	108.3	109.0	112.3	113.6	114.9	116.0
Miscellaneous household products (12/77 = 100)	111.6	116.9	117.7	119.4	120.9	122.0	123.0	110.4	114.7	115.0	116.6	118.3	119.2	120.9
Lawn and garden supplies (12/77 = 100)	111.7	112.5	114.4	119.4	121.4	123.8	125.2	110.0	109.9	111.3	113.3	114.0	116.5	118.9
Housekeeping services	248.2	258.1	260.0	261.6	263.6	266.0	267.6	244.9	257.5	259.2	261.1	262.7	264.3	265.6
Postage	257.3	257.3	257.3	257.3	257.3	257.3	257.3	257.2	257.2	257.2	257.2	257.2	257.3	257.3
Moving, storage, freight, household laundry, and drycleaning services (12/77 = 100)	113.8	121.2	122.9	124.2	125.4	128.3	129.4	114.1	122.3	123.3	124.6	126.1	127.8	128.5
Appliance and furniture repair (12/77 = 100)	108.5	113.4	114.0	114.7	115.8	116.5	117.2	107.6	113.4	114.4	115.5	116.0	116.2	116.7
APPAREL AND UPKEEP	166.1	172.2	171.0	171.9	176.0	177.3	177.5	165.7	171.4	169.8	171.5	175.1	176.1	176.8
Apparel commodities	160.8	166.1	164.3	165.1	169.2	170.2	170.1	160.6	165.7	163.6	165.2	168.7	169.5	169.8
Apparel commodities less footwear	158.4	163.0	161.1	161.8	166.2	167.2	166.9	158.1	162.6	160.2	161.9	165.7	166.3	166.4
Men's and boys'	160.1	165.4	162.8	162.7	165.6	166.9	168.0	160.8	165.0	162.4	162.9	166.0	167.3	168.9
Men's (12/77 = 100)	101.1	104.3	102.6	102.3	104.3	105.0	105.7	101.8	104.2	102.3	102.4	104.4	105.2	106.3
Suits, sport coats, and jackets (12/77 = 100)	98.5	100.9	98.8	98.2	99.9	101.1	101.2	97.2	96.8	94.9	94.4	96.4	97.3	97.1
Coats and jackets (12/77 = 100)	94.8	98.0	95.5	93.6	96.9	96.5	97.3	97.9	98.1	95.6	92.2	96.9	97.0	97.2
Furnishings and special clothing (12/77 = 100)	107.4	112.3	112.2	112.7	115.0	116.6	117.9	106.1	109.9	109.3	111.1	113.2	114.2	116.4
Shirts (12/77 = 100)	103.9	110.5	108.6	109.3	111.9	111.5	112.2	105.0	111.5	108.3	109.4	112.0	111.7	113.7
Dungarees, jeans, and trousers (12/77 = 100)	100.0	100.4	98.2	97.7	98.7	99.4	100.2	102.1	103.4	102.2	102.2	102.7	104.2	105.2
Boys' (12/77 = 100)	102.8	106.6	105.6	106.3	107.5	108.9	109.7	101.9	105.8	104.7	105.9	107.5	108.7	109.6
Coats, jackets, sweaters, and shirts (12/77 = 100)	99.3	102.4	99.3	99.9	102.5	104.4	105.2	98.1	103.1	99.8	101.9	105.0	107.2	107.7
Furnishings (12/77 = 100)	107.1	111.9	111.5	110.9	112.0	113.3	114.3	106.1	110.2	109.7	109.5	110.7	111.6	112.7
Suits, trousers, sport coats, and jackets (12/77 = 100)	103.8	107.8	108.2	109.5	109.8	110.7	111.3	103.2	108.2	106.6	107.7	108.2	108.8	109.9
Women's and girls'	153.2	154.6	151.5	151.1	155.5	155.9	154.1	152.0	153.5	149.9	151.3	154.9	154.7	154.1
Women's (12/77 = 100)	102.4	102.8	100.8	100.8	103.8	103.9	102.4	102.2	102.3	100.1	101.4	103.7	103.3	103.0
Coats and jackets	164.3	170.0	166.4	163.1	167.6	168.3	162.0	173.0	167.9	165.0	162.4	167.0	167.8	162.4
Dresses	170.4	165.3	161.3	160.6	169.3	167.8	163.9	162.0	155.7	150.0	151.2	157.5	154.1	154.5
Separates and sportswear (12/77 = 100)	96.7	98.6	98.1	97.1	98.8	101.1	100.3	98.7	98.5	97.1	99.2	101.0	101.6	101.2
Underwear, nightwear, and hosiery (12/77 = 100)	105.4	108.2	108.6	110.2	111.0	111.5	111.8	106.1	109.3	109.1	110.6	111.5	111.7	112.2
Suits (12/77 = 100)	90.5	95.8	91.0	88.2	91.6	90.4	88.0	95.6	98.1	94.0	96.8	100.2	98.2	98.2
Girls (12/77 = 100)	99.1	102.8	100.5	99.9	101.8	102.6	102.7	98.3	101.4	97.9	97.3	100.1	101.1	100.5
Coats, jackets, dresses, and suits (12/77 = 100)	98.1	100.3	97.5	95.7	98.9	98.8	99.4	95.8	97.7	91.9	92.6	95.7	96.8	95.3
Separates and sportswear (12/77 = 100)	98.3	102.6	98.9	98.2	100.8	101.4	101.8	92.2	102.9	98.8	98.1	99.8	100.5	99.9
Underwear, nightwear, hosiery, and accessories (12/77 = 100)	105.8	107.3	106.7	105.6	109.4	109.5	110.0	104.3	104.4	104.4	103.5	107.8	108.9	110.0

23. Continued—Consumer Price Index—U.S. city average

[1967 = 100 unless otherwise specified]

General summary	All Urban Consumers							Urban Wage Earners and Clerical Workers (revised)						
	1979		1980					1979		1980				
	May	Dec.	Jan.	Feb.	Mar.	Apr.	May	May	Dec.	Jan.	Feb.	Mar.	Apr.	May
APPAREL AND UPKEEP—Continued														
Apparel commodities—Continued														
Apparel commodities less footwear—Continued														
Infants' and toddlers'	221.2	227.1	224.9	226.6	231.4	234.3	237.4	223.6	230.5	229.1	232.7	237.3	241.1	242.8
Other apparel commodities	166.9	180.9	184.4	191.4	199.9	201.9	202.7	167.3	182.9	185.5	191.8	197.8	198.5	197.4
Sewing materials and notions (12/77 = 100)	101.2	102.4	103.2	106.3	107.1	107.9	109.1	96.4	100.8	101.2	105.7	107.2	106.9	108.6
Jewelry and luggage (12/77 = 100)	110.7	123.1	126.1	131.2	138.6	140.1	140.4	113.5	126.2	128.4	132.3	137.3	138.1	136.3
Footwear	175.0	184.3	183.7	184.6	187.0	188.3	189.3	175.2	183.8	183.3	183.9	186.3	188.1	189.3
Men's (12/77 = 100)	111.8	117.3	117.8	118.3	119.0	119.7	120.0	112.2	119.4	119.3	119.4	120.9	122.4	122.7
Boys' and girls' (12/77 = 100)	109.3	115.8	117.3	117.9	119.5	119.5	121.3	109.8	114.7	116.9	118.0	119.5	119.5	121.5
Womens' (12/77 = 100)	108.3	113.8	111.6	112.1	114.2	115.6	115.8	107.7	111.8	109.4	109.5	110.9	112.6	112.9
Apparel services	203.1	216.6	220.7	222.9	225.9	230.0	232.2	202.6	213.4	216.9	219.8	223.5	226.0	230.8
Laundry and drycleaning other than coin operated (12/77 = 100)	118.4	127.1	129.3	130.6	132.5	135.5	136.9	118.4	126.6	129.0	130.6	132.3	134.1	135.6
Other apparel services (12/77 = 100)	111.2	117.0	119.6	120.7	122.1	123.3	124.5	110.9	113.7	115.1	116.9	119.6	120.4	125.0
TRANSPORTATION	207.7	227.7	233.5	239.6	243.7	246.8	249.0	208.6	228.3	234.1	240.2	244.3	247.7	249.9
Private	208.1	227.5	233.5	239.8	244.0	247.0	249.2	208.8	228.2	234.1	240.4	244.6	248.0	250.1
New cars	165.8	171.7	173.9	175.3	175.0	177.0	178.9	165.3	171.7	174.1	175.4	175.4	177.7	179.6
Used cars	205.4	198.2	197.2	195.3	195.2	196.7	199.3	205.4	198.3	197.2	195.3	195.2	196.8	199.3
Gasoline	247.7	313.9	334.6	357.6	370.9	374.7	375.4	248.5	315.6	335.9	359.0	372.7	376.3	377.1
Automobile maintenance and repair	240.1	252.6	255.1	258.2	260.9	264.1	266.1	240.5	253.4	256.2	259.2	261.7	264.3	266.1
Body work (12/77 = 100)	114.1	123.3	125.0	126.5	127.3	129.1	130.6	115.2	123.1	124.3	126.1	127.2	128.4	129.7
Automobile drive train, brake, and miscellaneous mechanical repair (12/77 = 100)	114.9	120.6	121.8	123.2	124.1	126.1	126.6	115.8	121.8	123.6	124.8	126.1	127.4	127.8
Maintenance and servicing (12/77 = 100)	114.3	119.2	120.2	121.3	123.1	124.7	125.9	113.8	119.3	120.4	121.3	122.8	124.2	125.4
Power plant repair (12/77 = 100)	113.1	119.2	120.4	122.5	123.5	124.4	125.1	113.3	119.6	120.9	123.1	124.0	124.6	125.4
Other private transportation	196.4	207.5	209.8	212.6	216.5	221.3	224.5	196.9	208.4	210.6	213.6	217.1	223.1	226.7
Other private transportation commodities	171.0	185.6	188.4	191.2	192.7	194.1	195.3	172.1	186.4	188.0	191.7	193.2	195.8	196.7
Motor oil, coolant, and other products (12/77 = 100)	109.9	118.1	120.9	123.9	126.4	129.8	132.2	108.6	119.3	122.4	124.0	126.1	129.1	131.5
Automobile parts and equipment (12/77 = 100)	110.6	120.3	121.9	123.5	124.3	124.8	125.4	111.6	120.6	121.4	123.9	124.7	126.2	126.5
Tires	151.4	163.8	165.8	168.5	170.1	171.2	172.6	153.8	165.7	166.3	170.6	172.5	174.9	175.6
Other parts and equipment (12/77 = 100)	113.0	124.4	126.6	127.3	127.2	127.1	126.5	112.4	122.4	124.0	125.0	124.4	125.1	125.0
Other private transportation services	205.1	215.3	217.6	220.4	225.0	230.6	234.5	205.4	216.3	218.7	221.5	225.7	232.6	236.8
Automobile insurance	226.5	235.3	237.1	240.2	244.0	245.2	247.1	226.4	235.2	236.8	239.7	243.8	244.9	246.9
Automobile finance charges (12/77 = 100)	115.5	127.2	129.9	132.1	137.4	148.6	155.0	114.8	126.5	129.4	131.3	135.2	147.8	153.8
Automobile rental, registration, and other fees (12/77 = 100)	106.5	108.5	109.1	109.8	110.8	111.5	112.1	106.8	109.2	109.8	110.9	111.6	112.2	113.1
State registration	144.0	144.1	144.2	145.2	145.3	146.4	146.4	143.9	144.0	144.1	145.3	145.5	146.5	146.5
Drivers' license (12/77 = 100)	104.5	104.5	104.7	104.8	104.7	104.7	104.7	104.3	104.2	104.5	104.5	104.4	104.4	104.4
Vehicle inspection (12/77 = 100)	112.7	117.5	117.5	119.0	119.7	119.7	120.4	113.5	118.3	118.3	119.7	120.2	120.3	121.0
Other vehicle related fees (12/77 = 100)	113.0	117.6	118.8	119.6	122.0	122.7	124.0	115.8	122.2	123.8	125.4	127.0	127.8	130.0
Public	193.3	223.0	226.8	229.5	232.1	235.9	239.5	194.2	219.1	221.9	223.9	226.1	229.7	232.9
Airline fare	193.7	245.5	251.1	255.4	259.9	264.3	270.0	193.2	245.8	251.0	255.2	259.3	263.9	270.0
Intercity bus fare	250.1	282.2	284.7	288.5	290.7	291.5	293.6	249.2	282.3	284.8	288.2	290.2	291.0	293.4
Intracity mass transit	187.9	196.4	198.5	199.7	200.8	203.0	204.6	188.0	195.7	196.7	197.6	198.6	200.8	202.0
Taxi fare	216.2	238.5	243.1	244.0	245.6	256.4	259.9	221.8	243.9	248.9	249.3	251.2	261.6	265.7
Intercity train fare	205.2	236.3	237.2	237.2	237.2	237.3	250.0	205.2	236.6	237.1	237.0	237.1	237.2	251.1
MEDICAL CARE	236.3	250.7	253.9	257.9	260.2	262.0	263.4	236.3	251.7	254.9	258.7	260.9	263.1	264.9
Medical care commodities	152.4	159.2	160.5	162.1	163.5	164.9	166.4	153.3	159.9	161.0	162.7	164.4	166.0	167.2
Prescription drugs	140.6	146.4	147.9	149.8	150.9	152.2	153.5	141.5	147.4	148.8	150.7	152.0	153.5	154.6
Anti-infective drugs (12/77 = 100)	110.7	114.6	115.8	117.2	117.9	118.5	118.7	111.7	116.8	118.2	119.8	120.1	120.4	120.7
Tranquilizers and sedatives (12/77 = 100)	113.3	118.4	119.9	121.3	122.2	122.9	124.1	113.7	118.3	119.7	121.0	122.2	122.7	123.5
Circulatories and diuretics (12/77 = 100)	107.9	111.4	112.4	113.4	113.3	114.2	114.6	108.5	112.3	113.0	114.2	114.7	115.9	116.8
Hormones, diabetic drugs, biologicals, and prescription and supplies (12/77 = 100)	117.5	123.8	126.0	128.7	130.0	131.3	133.2	117.5	123.1	124.8	127.8	129.6	131.3	132.4
Pain and symptom control drugs (12/77 = 100)	111.8	117.8	118.8	119.7	120.5	121.4	122.9	112.9	118.2	119.0	120.1	121.3	122.6	124.2
Supplements, cough and cold preparations, and respiratory agents (12/77 = 100)	109.2	112.1	112.6	113.7	115.5	117.1	118.2	110.1	113.7	114.2	115.2	116.5	118.5	119.5
Nonprescription drugs and medical supplies (12/77 = 100)	109.4	114.6	115.3	116.3	117.3	118.4	119.5	110.3	115.1	115.6	116.6	118.0	119.2	120.1
Eyeglasses (12/77 = 100)	106.7	110.9	111.5	112.9	114.1	115.0	116.5	107.0	110.5	111.4	112.6	114.5	115.3	116.3
Internal and respiratory over-the-counter drugs	169.3	177.9	179.1	180.4	182.2	184.4	186.0	170.6	178.5	179.0	180.8	183.0	185.4	186.9
Nonprescription medical equipment and supplies (12/77 = 100)	108.1	113.1	113.8	114.6	115.1	115.3	116.5	109.3	114.2	115.0	115.6	116.1	116.3	117.1
Medical care services	254.4	270.7	274.4	279.0	281.5	283.4	284.7	254.0	271.8	275.6	279.8	282.2	284.5	286.3
Professional services	224.3	235.9	238.9	242.9	245.3	248.2	250.3	225.3	238.3	241.7	245.5	247.8	251.2	253.5
Physicians' services	240.7	252.5	256.0	260.2	262.3	264.8	267.5	241.4	256.5	260.3	264.1	266.2	269.7	272.3
Dental services	212.4	224.5	227.4	231.5	234.1	237.2	238.8	214.6	226.1	229.5	233.4	235.7	238.9	241.2
Other professional services (12/77 = 100)	110.2	115.1	116.6	118.1	119.5	121.7	122.2	109.4	114.8	115.9	117.4	119.3	121.1	121.6
Other medical care services	290.9	312.8	317.4	322.7	325.3	325.8	326.3	289.0	313.0	317.3	322.1	324.4	325.3	326.5
Hospital and other medical services (12/77 = 100)	115.6	123.8	125.6	127.8	128.8	129.7	130.4	114.7	123.2	124.9	126.8	127.7	128.6	129.7
Hospital room	363.9	389.4	395.3	403.4	405.8	408.0	410.1	361.3	388.7	393.9	398.8	401.2	403.6	406.7
Other hospital and medical care services	114.7	122.9	124.7	126.5	127.8	128.8	129.5	113.7	122.1	123.8	125.9	126.9	128.0	129.1

23. Continued—Consumer Price Index—U.S. city average

[1967 = 100 unless otherwise specified]

General summary	All Urban Consumers							Urban Wage Earners and Clerical Workers (revised)						
	1979		1980					1979		1980				
	May	Dec.	Jan.	Feb.	Mar.	Apr.	May	May	Dec.	Jan.	Feb.	Mar.	Apr.	May
ENTERTAINMENT	187.8	193.4	195.3	197.8	200.6	202.5	204.0	187.1	[r]192.3	193.9	196.2	199.5	201.3	202.4
Entertainment commodities	188.1	195.2	197.6	200.4	203.4	205.7	207.0	186.8	192.4	194.2	196.9	200.3	202.8	203.4
Reading materials (12/77 = 100)	109.4	115.1	116.7	117.4	119.4	120.1	121.5	109.1	114.8	116.2	117.0	119.1	119.7	121.1
Newspapers	212.2	223.5	226.8	227.7	232.4	234.8	237.2	211.7	223.3	226.4	227.3	232.0	234.3	236.4
Magazines, periodicals, and books (12/77 = 100)	111.2	116.8	118.1	119.2	120.8	120.8	122.4	111.0	116.6	117.8	118.9	120.7	120.6	122.3
Sporting goods and equipment (12/77 = 100)	109.2	112.2	113.8	115.9	117.2	116.7	118.5	106.4	107.7	108.6	110.8	112.4	114.1	114.0
Sport vehicles (12/77 = 100)	110.6	112.9	.....	117.4	118.7	120.6	119.9	107.0	105.8	....	109.1	110.8	113.0	112.5
Indoor and warm weather sport equipment (12/77 = 100)	105.9	107.5	107.6	108.3	109.5	111.3	112.0	102.9	106.3	106.4	107.8	109.3	110.5	110.3
Bicycles	158.7	167.1	170.5	174.5	177.2	178.6	179.7	158.1	167.0	170.5	174.9	177.8	179.8	180.9
Other sporting goods and equipment (12/77 = 100)	106.8	111.0	111.8	112.4	112.9	113.1	113.7	104.7	111.3	111.9	112.6	113.4	114.0	114.6
Toys, hobbies, and other entertainment (12/77 = 100)	108.2	112.1	113.2	115.1	116.9	118.4	119.4	108.6	111.8	112.6	114.3	116.4	118.0	118.1
Toys, hobbies, and music equipment (12/77 = 100)	108.9	111.2	112.1	114.1	115.7	117.3	118.5	109.0	109.9	110.9	112.3	114.9	116.5	115.8
Photographic supplies and equipment (12/77 = 100)	107.3	109.7	110.8	114.1	118.2	120.1	120.8	107.1	110.1	111.2	114.2	116.9	118.9	120.5
Pet supplies and expense (12/77 = 100)	107.5	115.5	116.8	117.6	118.2	119.2	120.1	108.6	116.1	116.7	117.9	119.0	120.0	120.9
Entertainment services	187.6	191.1	192.5	194.5	197.0	198.5	200.1	188.5	[r]193.0	194.4	196.0	199.1	199.9	201.8
Fees for participant sports (12/77 = 100)	111.6	113.6	114.6	116.0	117.5	119.0	120.2	111.6	[r]115.0	115.6	116.3	118.8	119.3	120.5
Admissions (12/77 = 100)	113.2	116.6	117.9	118.3	119.1	118.7	118.8	113.9	117.8	119.4	119.7	120.0	120.1	121.0
Other entertainment services (12/77 = 100)	108.1	108.6	109.1	111.4	113.2	114.8	116.4	108.8	109.0	109.3	111.8	113.9	115.1	116.5
OTHER GOODS AND SERVICES	193.9	204.0	206.3	208.1	208.9	209.8	211.2	193.8	203.0	206.0	207.7	208.3	209.2	210.6
Tobacco products	186.3	192.1	196.7	198.1	198.4	198.8	200.4	186.3	192.1	197.1	198.3	198.6	198.9	200.5
Cigarettes	188.6	194.7	199.7	200.9	201.2	201.4	202.9	188.9	194.8	200.3	201.3	201.6	201.6	203.2
Other tobacco products and smoking accessories (12/77 = 100)	110.3	113.2	113.9	115.6	116.3	117.6	119.0	109.4	112.7	113.4	114.8	115.7	117.2	118.5
Personal care	193.9	203.0	204.2	206.5	208.1	209.7	211.6	193.7	202.3	204.4	206.6	207.7	209.5	210.9
Toilet goods and personal care appliances	187.3	195.8	196.4	198.6	200.2	201.8	204.1	187.7	194.5	196.2	198.3	199.6	201.8	203.9
Products for the hair, hairpieces and wigs (12/77 = 100)	107.1	113.0	114.2	116.1	116.6	117.9	120.0	107.0	112.4	114.0	114.9	114.9	117.9	120.0
Dental and shaving products (12/77 = 100)	111.5	117.3	117.8	118.6	119.2	120.5	121.0	110.7	114.7	115.3	116.8	118.4	119.3	118.8
Cosmetics, bath and nail preparations, manicure and eye makeup implements (12/77 = 100)	109.5	113.0	112.9	114.2	115.1	115.7	116.5	108.7	112.1	112.9	114.0	114.8	115.2	116.2
Other toilet goods and small personal care appliances (12/77 = 100)	107.1	112.1	112.1	112.9	114.7	115.4	117.4	110.4	113.1	114.0	115.6	116.6	117.2	119.0
Personal care services	200.4	210.0	211.6	214.2	215.7	217.2	218.8	199.8	210.2	212.7	215.0	215.8	217.2	218.1
Beauty parlor services for women	202.4	212.1	213.3	216.1	217.9	218.6	220.4	202.0	212.0	214.2	216.6	217.8	218.6	219.4
Haircuts and other barber shop services for men (12/77 = 100)	111.4	116.8	118.1	119.3	119.7	121.7	122.2	110.7	117.1	118.8	120.0	120.1	121.5	122.0
Personal and educational expenses	208.8	224.6	226.3	228.0	228.3	228.7	229.2	209.3	224.8	226.2	227.8	228.2	228.7	229.4
School books and supplies	191.6	202.5	206.0	206.5	206.9	207.1	207.1	194.2	206.0	209.8	210.4	210.7	210.9	210.9
Personal and educational services	213.2	229.9	231.4	233.3	233.6	234.0	234.7	213.4	229.7	230.6	232.5	232.9	233.4	234.2
Tuition and other school fees	108.7	118.1	118.3	118.5	118.6	118.6	118.6	108.6	118.2	118.4	118.6	118.7	118.7	118.7
College tuition (12/77 = 100)	108.9	117.3	117.6	117.8	117.9	117.9	117.9	108.9	117.3	117.6	117.8	117.9	117.9	117.9
Elementary and high school tuition (12/77 = 100)	107.5	120.9	120.9	120.9	120.9	120.9	120.9	107.4	120.7	120.7	120.7	120.7	120.7	120.7
Personal expenses (12/77 = 100)	112.3	117.3	120.1	124.4	125.0	126.1	127.8	112.3	116.3	117.7	121.4	122.1	123.3	125.1
Special indexes:														
Gasoline, motor oil, coolant, and other products	245.1	309.7	329.9	352.5	365.5	369.3	370.1	245.8	311.4	331.3	353.8	367.2	370.8	371.6
Insurance and finance	264.5	302.1	310.5	316.7	326.3	335.2	342.6	264.4	301.6	310.0	316.2	325.6	335.2	342.8
Utilities and public transportation	208.8	223.5	225.0	227.9	230.9	233.4	238.9	209.3	223.0	224.4	227.2	230.2	232.6	237.9
Housekeeping and home maintenance services	267.1	282.2	284.7	287.6	292.0	295.7	297.6	267.8	283.4	286.0	288.7	292.0	295.1	296.5

24. Consumer Price Index for All Urban Consumers: Cross classification of region and population size class by expenditure category and commodity and service group

[December 1977 = 100]

Category and group	Size class A (1.25 million or more)			Size class B (385,000 - 1.250 million)			Size class C (75,000 - 385,000)			Size class D (75,000 or less)		
	1979	1980		1979	1980		1979	1980		1979	1980	
	Dec.	Feb.	Apr.	Dec.	Feb.	Apr.	Dec.	Feb.	Apr.	Dec.	Feb.	Apr.
						Northeast						
EXPENDITURE CATEGORY												
All items	119.0	122.1	125.0	122.2	125.6	129.0	125.7	129.1	132.7	121.8	124.2	127.4
Food and beverages	120.6	122.1	124.5	121.9	124.3	127.1	123.2	126.0	128.8	121.2	123.4	125.2
Housing	119.8	122.9	126.1	123.7	126.7	130.0	132.1	135.5	140.2	123.2	124.8	127.9
Apparel and upkeep	108.9	109.5	112.5	109.0	107.1	111.1	1.85	107.3	112.7	109.8	106.8	113.0
Transportation	123.7	129.9	133.8	127.6	135.0	140.8	127.0	133.1	136.2	127.3	133.5	138.1
Medical care	117.3	120.6	122.4	120.0	121.6	122.4	118.9	121.3	122.5	119.0	121.4	122.7
Entertainment	111.5	114.4	116.7	113.5	115.7	117.9	109.8	112.2	115.7	115.1	118.9	121.5
Other goods and services	112.7	114.4	114.7	114.3	116.5	117.5	116.3	119.2	119.6	113.1	114.8	116.0
COMMODITY AND SERVICE GROUP												
Commodities	120.5	124.1	126.5	123.7	127.5	130.8	125.1	128.5	131.6	122.5	125.6	128.0
Commodities less food and beverages	120.4	125.3	127.8	124.6	129.1	132.5	126.0	129.7	132.9	123.2	126.6	129.3
Services	117.2	119.5	122.9	119.9	122.5	126.3	126.6	129.9	134.5	120.7	122.2	126.5
						North Central						
EXPENDITURE CATEGORY												
All items	126.3	120.6	133.2	124.6	127.2	130.9	123.7	126.4	128.9	123.0	125.8	128.7
Food and beverages	123.2	124.9	126.8	120.2	122.6	124.9	123.4	124.8	127.0	124.8	126.9	128.9
Housing	133.1	136.7	141.1	129.3	131.5	135.8	125.9	127.6	130.4	123.6	125.9	129.1
Apparel and upkeep	105.6	105.2	109.2	110.9	107.1	111.2	109.0	109.0	110.7	111.9	110.4	113.6
Transportation	127.9	133.5	138.1	127.5	133.4	137.6	129.1	135.8	139.3	127.3	132.6	137.4
Medical care	119.6	123.2	125.3	119.3	122.2	125.0	119.7	124.5	125.7	121.8	126.8	127.4
Entertainment	113.9	116.9	118.9	111.0	111.5	114.0	114.4	116.2	118.7	113.8	115.9	116.1
Other goods and services	113.6	115.4	116.2	117.7	119.4	121.5	114.0	115.5	116.7	116.1	119.1	119.8
COMMODITY AND SERVICE GROUP												
Commodities	125.4	128.1	130.9	122.5	124.5	127.9	123.7	125.9	128.1	122.5	124.3	126.0
Commodities less food and beverages	126.4	129.6	132.8	123.5	125.2	129.2	123.6	126.4	128.5	121.6	123.1	124.8
Services	127.7	131.8	136.6	128.0	131.6	135.6	124.1	127.1	130.3	123.8	128.2	132.9
						South						
EXPENDITURE CATEGORY												
All items	123.1	127.1	130.7	124.6	128.0	131.7	14.3	127.9	131.3	122.5	125.9	128.3
Food and beverages	123.5	125.0	126.4	122.9	124.4	127.0	123.9	126.0	127.8	122.5	124.0	126.2
Housing	125.0	129.1	133.9	128.4	131.9	136.7	128.4	131.8	136.6	123.9	127.7	129.7
Apparel and upkeep	112.2	112.5	116.4	110.3	109.6	112.9	105.7	105.5	108.2	104.8	100.9	104.7
Transportation	127.6	135.7	139.7	127.8	134.7	138.4	126.4	133.7	137.2	126.3	133.1	136.5
Medical care	117.7	119.7	121.9	118.3	121.6	123.3	120.7	124.8	126.4	124.9	129.0	131.2
Entertainment	109.5	114.5	115.7	113.9	115.4	119.8	113.8	115.9	118.3	119.4	121.6	124.4
Other goods and services	115.8	118.5	119.3	115.1	117.7	118.1	115.5	117.5	118.8	118.3	121.5	121.9
COMMODITY AND SERVICE GROUP												
Commodities	122.6	126.7	129.3	123.1	125.9	129.0	122.7	126.4	128.7	121.9	124.7	127.2
Commodities less food and beverages	122.2	127.5	130.6	123.2	126.6	129.8	122.2	126.5	129.1	121.6	125.0	127.7
Services	123.8	127.7	132.6	126.8	131.1	135.8	126.7	130.2	135.3	123.5	127.7	129.8
						West						
EXPENDITURE CATEGORY												
All items	124.8	129.6	132.8	126.6	130.6	134.1	124.5	128.1	131.4	124.3	127.1	130.4
Food and beverages	123.4	124.2	126.5	125.8	126.9	128.8	122.9	123.8	125.7	123.7	125.7	128.0
Housing	127.0	132.9	136.3	130.2	134.6	139.1	127.8	131.0	134.8	125.4	127.1	129.7
Apparel and upkeep	110.0	113.6	115.7	111.5	112.4	115.8	104.4	104.2	107.7	114.9	114.7	121.8
Transportation	129.9	137.4	141.2	128.8	135.8	139.2	129.0	137.1	141.2	128.2	134.8	139.6
Medical care	121.9	125.6	128.8	121.3	124.8	126.9	119.9	124.6	126.7	122.7	126.2	128.9
Entertainment	111.1	113.5	117.8	115.9	118.6	123.1	114.9	117.8	121.0	119.2	123.6	127.5
Other goods and services	115.5	119.2	121.2	116.5	120.3	121.5	113.6	116.3	117.7	116.4	119.7	122.5
COMMODITY AND SERVICE GROUP												
Commodities	123.1	127.0	129.5	125.3	128.8	131.5	123.6	126.7	129.0	123.0	126.7	129.8
Commodities less food and beverage	123.0	128.1	130.6	125.1	129.6	132.7	123.8	127.8	130.4	122.7	127.2	130.6
Services	126.9	133.2	137.2	128.4	133.0	137.7	125.9	130.0	134.8	126.3	127.6	131.2

25. Consumer Price Index—U.S. city average, and selected areas

[1967 = 100 unless otherwise specified]

Area[1]	All Urban Consumers							Urban Wage Earners and Clerical Workers (revised)						
	1979		1980					1979		1980				
	May	Dec.	Jan.	Feb.	Mar.	Apr.	May	May.	Dec.	Jan.	Feb.	Mar.	Apr.	May
U.S. city average[2]	214.1	229.9	233.2	236.4	239.8	242.5	244.9	214.3	230.0	233.3	236.5	239.9	242.6	245.1
Anchorage, Alaska (10/67 = 100)	203.5	...	218.2	...	223.5	...	226.5	202.5	...	215.9	...	220.2	...	223.1
Atlanta, Ga.	...	223.3	...	230.3	...	235.3	...	...	227.0	...	233.5	...	239.3	...
Baltimore, Md.	215.3	...	234.4	...	245.0	...	249.1	216.0	...	234.5	...	243.9	...	247.8
Boston, Mass.	209.5	...	227.3	...	234.2	...	236.9	208.7	...	225.9	...	234.2	...	236.8
Buffalo, N.Y.	...	221.2	...	227.9	...	233.7	...	...	220.7	...	227.9	...	233.3	...
Chicago, Ill.-Northwestern Ind.	210.1	228.4	230.3	232.7	235.5	240.1	243.1	209.6	227.8	229.8	232.5	235.2	239.8	243.0
Cincinnati, Ohio-Ky.-Ind.	221.5	...	239.5	...	247.8	...	251.6	223.1	...	241.0	...	249.7	...	252.9
Cleveland, Ohio	...	232.5	...	243.5	...	247.3	...	...	233.2	...	244.1	...	248.4	...
Dallas-Ft. Worth, Tex.	...	234.1	...	241.7	...	251.4	...	...	233.3	...	240.9	...	249.6	...
Denver-Boulder, Colo.	231.1	...	247.3	...	255.2	...	258.0	233.2	...	250.9	...	259.4	...	262.4
Detroit, Mich.	213.9	233.2	237.2	240.4	242.9	248.2	248.4	214.1	232.2	236.4	238.9	242.4	246.0	248.9
Honolulu, Hawaii	...	214.8	...	220.9	...	227.4	...	...	215.5	...	221.3	...	228.4	...
Houston, Tex.	...	248.7	...	255.9	...	260.8	...	...	246.0	...	251.9	...	257.3	...
Kansas City, Mo.-Kansas	...	233.7	...	238.7	...	243.8	...	...	232.4	...	236.6	...	242.2	...
Los Angeles-Long Beach, Anaheim, Calif.	211.0	228.0	232.6	237.6	241.3	244.6	249.1	212.4	229.9	235.0	240.0	243.9	247.8	252.6
Miami, Fla. (11/77 = 100)	112.5	...	122.3	...	127.7	...	129.7	113.8	...	124.9	...	128.8	...	130.9
Milwaukee, Wis.	217.1	...	236.4	...	242.7	...	250.3	219.5	...	240.8	...	247.8	...	255.2
Minneapolis-St. Paul, Minn.-Wis.	...	234.0	...	237.9	...	244.3	...	...	234.8	...	238.6	...	245.7	...
New York, N.Y.-Northeastern N.J.	210.5	222.9	226.1	228.0	231.2	233.1	234.5	210.3	222.4	225.5	227.7	230.8	232.4	234.1
Northeast, Pa. (Scranton)	207.3	...	224.4	...	229.0	...	232.5	209.6	...	225.8	...	231.3	...	235.8
Philadelphia, Pa.-N.J.	210.6	223.7	227.2	231.1	234.6	237.4	239.4	211.4	224.6	228.0	231.6	235.1	237.9	238.9
Pittsburgh, Pa.	...	229.2	...	235.5	...	240.9	...	...	229.7	...	235.9	...	242.2	...
Portland, Oreg.-Wash.	220.7	...	244.6	...	253.6	...	257.3	221.9	...	243.5	...	251.7	...	255.9
St. Louis, Mo.-Ill.	211.1	...	232.7	...	238.1	...	241.8	210.3	...	233.5	...	238.5	...	242.6
San Diego, Calif.	228.3	...	254.0	...	258.3	...	269.7	226.1	...	251.0	...	255.6	...	264.8
San Francisco-Oakland, Calif.	...	230.2	...	240.7	...	243.5	...	...	229.0	...	240.0	...	242.8	...
Seattle-Everett, Wash.	212.4	...	236.0	...	243.8	...	249.6	210.9	...	233.8	...	241.3	...	248.8
Washington, D.C.-Md.-Va.	216.0	...	231.9	...	238.8	...	241.2	217.8	...	233.0	...	239.2	...	242.0

[1] The areas listed include not only the central city but the entire portion of the Standard Metropolitan Statistical Area, as defined for the 1970 Census of Population, except that the Standard Consolidated Area is used for New York and Chicago.

[2] Average of 85 cities.

26. Producer Price Indexes, by stage of processing

[1967=100]

Commodity grouping	Annual average 1978	1979							1980					
		June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb. [1]	Mar.	Apr.	May	June
FINISHED GOODS														
Finished goods	194.6	213.7	216.2	217.3	220.7	224.2	226.3	228.1	232.4	235.7	238.2	240.0	241.0	242.6
Finished consumer goods	192.6	212.7	215.6	217.5	221.7	224.7	227.1	229.1	233.5	237.6	240.6	241.6	242.8	244.5
Finished consumer foods	206.7	223.6	224.9	223.5	228.1	226.7	230.5	232.1	231.4	231.6	233.0	228.7	230.0	231.0
Crude	215.5	227.1	224.9	231.7	214.0	215.5	228.1	227.9	226.0	220.1	230.8	222.2	227.7	223.4
Processed	204.1	221.3	222.8	220.7	227.0	225.5	228.6	230.3	229.7	230.4	231.0	227.1	228.1	229.4
Nondurable goods less foods	195.4	221.7	227.1	233.4	'239.0	243.3	245.5	247.9	254.7	262.7	270.8	276.5	279.1	280.3
Durable goods	165.8	180.4	181.6	181.6	182.9	189.0	190.0	191.8	199.1	202.1	199.7	200.3	199.7	202.7
Capital equipment	199.1	215.8	217.2	216.5	217.8	222.8	223.9	225.3	229.3	230.5	231.8	235.8	236.0	237.5
INTERMEDIATE MATERIALS														
Intermediate materials, supplies, and components	215.5	240.3	244.6	247.5	251.0	255.0	256.3	258.7	265.9	271.6	273.2	274.5	275.8	277.7
Materials and components for manufacturing	208.3	232.1	236.0	238.0	240.7	244.3	245.5	247.8	255.5	259.8	259.0	259.7	261.8	263.9
Materials for food manufacturing	202.3	222.3	226.7	225.1	228.9	225.5	227.8	230.4	226.0	245.6	239.8	238.7	255.4	260.2
Materials for nondurable manufacturing	195.8	218.1	222.5	225.3	227.6	231.4	233.4	235.3	241.1	244.0	246.6	251.8	254.9	256.0
Materials for durable manufacturing	237.2	268.9	273.3	275.2	278.8	284.7	284.6	287.8	303.7	306.5	301.1	296.2	295.1	298.3
Components for manufacturing	189.1	205.3	207.7	209.3	211.3	213.2	214.8	216.3	219.2	223.2	225.2	227.4	228.0	229.6
Materials and components for construction	224.4	245.6	247.4	249.2	252.5	254.7	254.0	253.7	257.7	262.1	265.1	265.3	265.3	267.3
Processed fuels and lubricants	296.4	349.5	364.8	384.6	'399.4	410.6	416.5	424.6	444.0	464.0	481.1	486.7	488.3	489.6
Manufacturing industries	270.4	293.8	304.0	311.2	317.2	322.5	325.2	332.2	340.5	351.4	357.4	358.4	363.6	368.2
Nonmanufacturing industries	320.0	404.9	425.5	458.8	483.0	500.6	510.0	519.1	550.3	579.9	608.9	619.5	617.0	614.7
Containers	212.5	234.9	235.4	237.6	237.9	242.6	243.8	247.1	250.9	251.6	253.3	262.5	263.7	265.3
Supplies	196.9	216.1	219.6	219.6	221.2	224.9	226.4	229.2	232.5	238.0	239.9	240.7	240.8	242.3
Manufacturing industries	183.6	202.7	204.2	208.6	209.4	212.2	213.7	216.3	220.9	222.5	223.3	226.8	228.4	230.2
Nonmanufacturing industries	204.0	223.2	227.8	225.4	227.5	231.7	233.3	236.1	238.7	247.8	248.7	248.1	247.5	248.8
Feeds	200.2	226.2	241.3	220.8	224.0	228.9	226.9	230.4	224.4	223.3	219.1	207.1	210.6	208.1
Other supplies	201.9	219.2	221.5	223.1	224.9	228.9	231.2	233.9	236.3	249.6	251.6	253.5	251.9	254.1
CRUDE MATERIALS														
Crude materials for further processing	240.1	283.0	287.1	281.7	288.3	289.5	290.8	296.2	296.8	308.4	303.3	296.9	300.7	299.5
Foodstuffs and feedstuffs	215.3	248.2	254.1	243.7	248.7	247.5	246.4	249.7	243.0	252.6	245.0	235.5	242.4	242.5
Nonfood materials	286.7	348.7	349.3	353.6	363.1	368.9	374.0	384.2	398.9	414.3	412.2	413.5	410.4	407.9
Nonfood materials except fuel	235.4	286.6	285.2	286.1	293.3	298.1	304.6	311.6	330.1	341.7	339.4	336.9	393.8	389.8
Manufacturing industries	240.8	295.9	294.0	294.9	302.8	307.8	314.9	322.5	342.1	354.9	352.1	349.0	340.2	334.6
Construction	185.7	205.4	207.2	208.6	209.9	212.6	214.8	216.6	226.0	228.7	229.7	232.4	232.9	234.2
Crude fuel	463.7	563.1	570.7	586.2	604.0	612.9	617.4	634.5	636.3	664.8	663.3	677.4	690.4	695.5
Manufacturing industries	481.9	601.3	610.4	629.2	651.8	662.5	667.8	688.3	690.3	725.7	723.5	740.8	756.7	762.6
Nonmanufacturing industries	459.6	544.3	550.7	563.6	577.8	585.5	589.3	603.9	605.7	628.8	627.9	639.8	650.6	655.1
SPECIAL GROUPINGS														
Finished goods excluding foods	188.9	208.5	211.4	213.2	216.2	221.3	222.8	224.6	230.5	234.6	237.4	241.2	242.0	243.8
Finished consumer goods excluding foods	183.7	205.2	208.4	212.3	216.3	220.6	223.1	225.3	232.3	238.3	242.0	245.5	246.8	248.8
Intermediate materials less foods and feeds	216.4	241.3	245.4	249.0	252.5	256.8	258.1	260.5	268.4	273.7	275.7	277.4	278.0	279.9
Intermediate foods and feeds	201.0	223.0	231.0	223.1	226.6	226.0	226.9	229.6	224.8	237.5	232.3	227.5	239.7	242.1
Crude materials less agricultural products	316.6	389.5	391.7	396.9	408.6	417.0	424.1	435.0	452.9	469.3	468.4	469.4	464.6	463.7

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[1] Data for February 1980 have been revised to reflect the availability of late reports and corrections by respondents. All data are subject to revision 4 months after original publication.

27. Producer Price indexes, by commodity groupings

[1967 = 100 unless otherwise specified]

Code	Commodity group and subgroup	Annual average 1978	1979							1980					
			June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.[1]	Mar.	Apr.	May	June
	All commodities	209.3	233.5	236.9	238.3	242.0	245.6	247.2	249.7	254.9	260.2	261.5	262.3	263.7	265.2
	All commodities (1957-59 = 100)	222.1	247.7	251.4	252.8	256.7	260.6	262.3	267.3	[1]270.2	275.6	277.5	278.3	279.7	282.5
	Farm products and processed foods and feeds	206.6	229.0	232.2	227.5	231.8	230.6	232.3	234.6	231.9	237.0	234.9	229.2	233.9	234.2
	Industrial commodities	209.4	234.0	237.5	240.6	244.2	248.0	250.6	253.1	260.6	265.9	268.2	270.7	271.2	273.0
	FARM PRODUCTS AND PROCESSED FOODS AND FEEDS														
01	Farm products	212.5	242.8	246.8	238.5	241.0	238.6	240.2	242.5	236.4	242.3	239.3	228.9	233.6	233.4
01-1	Fresh and dried fruits and vegetables	216.5	226.4	226.7	241.7	208.3	218.0	216.5	210.7	219.0	220.6	218.3	223.0	243.6	233.4
01-2	Grains	182.5	218.7	247.4	229.1	224.4	229.0	226.6	227.9	214.6	223.3	217.9	210.8	219.0	215.3
01-3	Livestock	220.1	264.0	256.0	240.2	256.4	251.7	248.3	252.5	247.8	257.2	251.8	230.5	233.3	240.0
01-4	Live poultry	199.8	182.9	183.8	171.9	173.5	162.0	195.5	194.7	195.2	184.6	180.1	171.9	171.3	166.6
01-5	Plant and animal fibers	193.4	219.5	207.6	207.9	211.3	212.9	215.4	222.0	239.0	269.5	254.9	266.9	272.7	247.0
01-6	Fluid milk	219.7	243.8	247.6	250.0	258.5	260.8	262.5	264.0	262.3	263.8	263.1	265.4	265.4	265.5
01-7	Eggs	158.6	170.7	167.6	166.8	175.4	155.9	178.7	198.4	165.6	150.4	164.2	153.3	145.7	146.8
01-8	Hay, hayseeds, and oilseeds	215.8	258.4	260.1	251.9	240.9	235.6	229.8	230.3	218.1	224.7	215.9	205.1	206.7	207.4
01-9	Other farm products	274.9	281.0	311.9	310.8	315.9	313.6	318.3	319.4	301.1	304.7	311.5	304.8	311.0	309.4
02	Processed foods and feeds	202.6	220.6	223.3	220.5	225.8	224.8	227.1	229.3	228.5	233.1	231.5	228.5	233.1	233.8
02-1	Cereal and bakery products	190.3	206.3	212.4	216.0	218.7	219.8	222.5	223.6	225.4	229.9	231.3	231.5	233.5	233.1
02-2	Meats, poultry, and fish	217.1	241.4	237.7	225.5	239.9	234.2	239.3	242.8	239.6	239.6	239.2	226.0	224.8	226.6
02-3	Dairy products	188.4	208.4	209.0	215.2	218.3	218.1	219.3	219.9	221.0	220.8	223.3	227.8	228.9	229.9
02-4	Processed fruits and vegetables	202.6	221.5	223.6	224.6	225.1	223.4	222.4	222.6	222.9	223.3	223.6	224.5	225.2	227.3
02-5	Sugar and confectionery	197.8	211.1	215.7	218.3	217.2	218.9	222.9	234.4	235.0	287.5	263.6	274.8	327.4	324.7
02-6	Beverages and beverage materials	200.0	208.5	214.1	216.5	217.9	218.9	221.2	221.6	224.0	224.8	226.0	227.9	231.4	233.6
02-7	Fats and oils	225.3	243.6	253.2	251.7	253.3	246.0	241.9	235.6	225.1	226.4	222.4	214.7	212.1	213.0
02-8	Miscellaneous processed foods	199.0	211.1	212.7	217.6	219.0	220.8	222.2	223.1	225.4	223.5	224.7	225.1	223.2	223.0
02-9	Manufactured animal feeds	197.4	220.5	234.9	216.2	219.2	224.0	222.4	224.9	219.7	219.8	216.8	205.4	207.3	205.4
	INDUSTRIAL COMMODITIES														
03	Textile products and apparel	159.8	168.4	169.3	170.5	171.3	172.0	172.8	173.1	175.2	176.5	178.9	180.6	181.5	182.4
03-1	Synthetic fibers (12/75 = 100)	109.6	118.5	119.5	120.6	123.6	124.7	124.2	124.7	127.0	127.2	129.4	130.7	133.5	134.8
03-2	Processed yarns and threads (12/75 = 100)	102.4	108.6	109.5	110.6	111.7	112.1	112.5	112.7	114.6	118.0	118.9	122.1	123.5	122.4
03-3	Gray fabrics (12/75 = 100)	118.6	125.4	128.3	128.7	128.7	129.7	130.7	132.3	132.7	132.3	133.7	136.1	135.3	133.7
03-4	Finished fabrics (12/75 = 100)	103.8	107.6	108.2	109.0	109.1	108.9	109.7	109.9	110.5	111.1	113.1	114.5	115.2	115.5
03-81	Apparel	152.4	160.2	160.3	161.4	161.6	162.2	163.1	162.6	165.5	166.8	168.3	169.1	169.7	172.0
03-82	Textile housefurnishings	178.6	189.3	189.9	190.5	193.9	196.3	196.5	197.1	199.0	199.7	201.2	201.6	202.6	202.7
04	Hides, skins, leather, and related products	200.0	268.0	261.9	257.9	251.1	253.9	248.9	249.2	255.7	250.9	246.8	243.6	240.7	241.0
04-1	Hides and skins	360.5	611.0	566.5	511.9	465.3	478.8	447.6	443.9	468.8	404.8	348.7	328.6	289.7	315.7
04-2	Leather	238.6	414.6	385.2	365.9	330.0	343.6	319.8	324.8	347.6	340.3	311.0	297.6	290.4	284.4
04-3	Footwear	183.0	221.1	221.8	225.4	226.9	227.5	227.9	227.9	229.1	228.0	231.8	231.9	231.9	232.1
04-4	Other leather and related products	177.0	212.3	212.1	210.9	210.1	209.7	208.4	208.0	213.1	214.8	217.9	216.3	217.5	216.0
05	Fuels and related products and power	322.5	393.7	411.8	432.8	454.8	468.5	476.9	487.9	508.0	532.7	553.5	566.3	571.9	574.8
05-1	Coal	430.0	452.0	452.5	454.2	452.5	454.6	455.1	458.6	459.3	459.6	460.7	463.3	464.8	466.9
05-2	Coke	411.8	430.6	430.6	430.6	430.6	431.2	431.2	431.2	430.6	430.6	430.6	430.6	430.6	430.6
05-3	Gas fuels[2]	428.7	522.3	548.4	572.4	603.4	619.9	637.0	662.4	677.5	716.6	720.3	730.2	744.8	750.1
05-4	Electric power	250.6	269.9	274.8	278.8	280.5	283.5	281.9	287.0	290.5	299.3	305.7	310.4	316.4	320.5
05-61	Crude petroleum[3]	300.1	356.4	370.6	385.7	422.1	436.7	450.4	470.8	513.6	515.1	522.8	533.9	540.1	549.0
05-7	Petroleum products, refined[4]	321.0	423.6	449.8	482.8	513.7	533.7	545.4	555.2	583.3	620.4	657.9	677.3	680.6	681.1
06	Chemicals and allied products	198.8	219.2	225.0	228.5	230.8	234.2	236.0	238.2	246.0	248.7	251.6	258.1	261.1	261.7
06-1	Industrial chemicals[5]	225.6	259.3	270.4	277.1	280.0	285.7	288.4	292.3	302.9	307.9	310.7	316.8	324.8	227.3
06-21	Prepared paint	192.3	201.3	205.3	205.3	206.0	206.7	209.4	210.7	223.3	223.3	223.3	231.5	236.8	236.8
06-22	Paint materials	212.7	239.5	246.7	247.9	252.0	253.6	256.6	256.8	259.9	263.4	266.2	271.1	272.9	274.0
06-3	Drugs and pharmaceuticals	148.1	159.0	159.2	159.6	161.0	162.8	163.0	164.4	166.5	167.6	168.9	172.8	171.8	173.0
06-4	Fats and oils, inedible	315.8	374.1	381.6	376.4	379.9	366.9	344.3	327.1	325.6	302.2	299.9	298.2	294.7	255.8
06-5	Agricultural chemicals and chemical products	198.4	209.2	211.2	215.3	219.4	224.3	229.5	232.9	241.9	248.0	256.0	258.3	258.3	257.7
06-6	Plastic resins and materials	199.8	230.1	244.5	250.1	252.0	260.0	261.4	262.5	270.4	272.1	273.9	285.6	287.8	287.9
06-7	Other chemicals and allied products	181.8	190.5	191.8	194.4	195.8	197.0	198.8	201.4	209.4	211.3	214.5	223.3	225.0	226.3
07	Rubber and plastic products	174.8	193.1	195.5	198.8	200.7	203.0	204.9	205.9	207.8	210.7	212.7	214.6	215.1	217.1
07-1	Rubber and rubber products	185.3	204.8	209.5	214.6	217.1	220.3	223.7	224.3	226.1	231.5	232.3	234.6	235.3	237.6
07-11	Crude rubber	187.2	222.0	226.1	233.0	232.2	236.5	237.2	240.2	252.7	263.9	254.9	263.8	263.0	263.2
07-12	Tires and tubes	179.2	198.9	206.2	211.6	215.0	218.3	223.1	223.1	225.1	231.6	231.2	231.3	231.8	234.6
07-13	Miscellaneous rubber products	189.6	203.5	205.4	209.4	211.9	214.7	217.1	217.7	215.9	267.8	223.4	225.9	227.5	229.7
07-2	Plastic products (6/78 = 100)	....	111.0	111.2	112.2	113.0	114.0	114.3	115.2	116.3	116.7	118.6	119.5	119.6	120.8
08	Lumber and wood products	276.0	290.8	300.1	304.7	309.7	308.8	298.9	290.1	290.0	294.7	295.7	275.2	271.6	278.8
08-1	Lumber	322.4	354.8	355.0	365.3	373.9	370.3	355.6	339.5	336.3	341.4	340.6	310.1	301.3	313.0
08-2	Millwork	235.4	258.9	252.5	249.6	250.9	255.6	252.3	250.3	254.1	258.0	264.7	256.6	250.9	253.0
08-3	Plywood	235.6	238.6	249.7	254.3	257.9	254.0	242.2	237.9	238.2	243.4	240.0	219.2	229.9	241.6
08-4	Other wood products	211.8	236.5	237.6	237.4	238.0	237.7	239.9	240.5	242.2	243.1	243.1	241.7	240.7	238.7

See footnotes at end of table.

27. Continued—Producer Price Indexes, by commodity groupings

[1967=100 unless otherwise specified]

Code	Commodity group and subgroup	Annual average 1979	1979							1980					
			June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.[1]	Mar.	Apr.	May	June
	INDUSTRIAL COMMODITIES—Continued														
09	Pulp, paper, and allied products	195.6	216.6	218.3	222.2	223.0	227.5	229.5	231.7	237.4	239.2	241.6	246.5	248.9	251.3
09-1	Pulp, paper, and products, excluding building paper and board	195.6	217.8	219.6	223.6	224.3	229.0	231.1	233.4	239.2	240.8	243.1	248.0	250.3	252.7
09-11	Woodpulp	266.5	308.3	320.3	320.6	320.6	337.5	338.0	338.0	356.6	356.4	359.0	386.8	388.0	388.0
09-12	Wastepaper	191.2	207.2	207.9	206.6	206.7	206.7	220.0	221.2	222.9	223.4	224.9	242.5	226.1	206.6
09-13	Paper	206.1	227.5	228.2	229.5	230.3	238.7	241.8	242.7	245.5	247.2	250.5	253.6	256.5	258.3
09-14	Paperboard	179.6	199.8	201.7	206.4	209.6	211.3	212.8	215.4	221.8	223.7	225.9	230.2	239.2	242.7
09-15	Converted paper and paperboard products	185.6	207.6	209.0	214.4	214.6	217.3	219.0	221.9	227.7	229.5	231.3	234.6	236.1	239.3
09-2	Building paper and board	187.4	180.8	178.0	179.1	182.6	183.5	183.6	184.6	186.2	191.7	198.7	201.3	206.8	208.9
10	Metals and metal products	227.1	258.2	260.8	261.8	263.7	269.6	271.1	273.6	284.6	288.9	286.3	284.6	281.9	282.4
10-1	Iron and steel	253.6	283.2	286.8	286.1	285.5	289.2	292.0	292.8	297.4	300.3	301.6	307.0	304.7	303.1
10-13	Steel mill products	254.5	277.3	284.6	284.7	284.8	288.3	288.8	289.3	293.6	294.2	295.6	304.1	305.5	305.8
10-2	Nonferrous metals	207.8	259.7	262.3	263.1	269.3	283.1	284.1	291.9	326.3	337.7	320.9	298.9	289.8	290.6
10-3	Metal containers	243.4	267.3	267.2	268.4	268.7	279.9	280.9	280.9	283.3	284.4	287.8	301.1	302.7	302.7
10-4	Hardware	200.4	217.1	218.5	220.1	221.5	224.0	225.5	226.2	228.2	230.4	230.5	236.9	238.2	239.7
10-5	Plumbing fixtures and brass fittings	199.1	217.0	219.6	222.4	223.0	223.5	225.4	226.5	232.8	236.7	242.4	243.7	247.4	248.5
10-6	Heating equipment	174.4	185.2	186.0	188.1	191.3	192.2	193.1	195.6	199.5	202.6	202.0	204.2	204.0	205.1
10-7	Fabricated structural metal products	226.4	248.2	250.5	252.2	253.7	256.3	256.7	257.7	258.9	259.7	262.9	268.2	269.4	270.0
10-8	Miscellaneous metal products	212.0	230.1	231.8	235.6	236.7	238.5	238.6	239.1	240.6	241.6	245.1	247.1	247.7	251.4
11	Machinery and equipment	196.1	212.4	214.8	216.0	217.7	220.0	221.3	223.4	227.6	230.2	231.9	235.8	237.0	238.8
11-1	Agricultural machinery and equipment	213.1	229.4	231.2	233.3	237.4	240.0	243.4	244.2	248.4	249.9	250.4	252.8	254.9	255.7
11-2	Construction machinery and equipment	232.9	254.0	257.0	258.5	258.9	263.9	265.4	268.8	276.0	278.3	278.4	282.9	284.2	286.8
11-3	Metalworking machinery and equipment	217.0	239.1	241.4	243.5	246.4	249.6	252.2	254.6	258.9	261.8	264.1	269.9	272.6	275.4
11-4	General purpose machinery and equipment	216.6	235.1	237.1	238.3	240.2	242.8	244.2	247.6	251.0	253.3	255.7	260.0	262.3	264.3
11-6	Special industry machinery and equipment	223.0	246.1	249.8	251.0	251.2	253.8	254.9	256.1	260.6	263.2	265.6	271.9	273.1	274.5
11-7	Electrical machinery and equipment	164.9	177.6	179.9	181.2	182.5	184.3	184.9	186.6	190.6	194.3	195.9	198.7	199.2	201.2
11-9	Miscellaneous machinery	194.7	207.4	209.7	209.7	212.0	213.6	214.9	216.3	220.3	221.1	222.7	226.8	226.9	227.8
12	Furniture and household durables	160.4	170.2	170.7	171.5	172.7	175.1	176.4	177.9	183.4	185.6	184.6	183.1	184.1	185.3
12-1	Household furniture	173.5	185.3	185.8	186.2	188.5	190.1	193.0	194.6	197.4	198.5	196.9	198.9	200.3	202.0
12-2	Commercial furniture	201.5	221.8	222.7	222.7	222.7	223.3	223.3	225.1	226.9	231.4	232.8	233.5	233.8	235.5
12-3	Floor coverings	141.6	146.5	149.1	150.0	150.4	152.1	152.8	152.9	159.0	158.5	160.7	161.7	163.6	162.2
12-4	Household appliances	153.0	160.0	161.1	162.2	162.7	163.2	164.5	165.3	166.5	168.9	169.7	170.2	172.1	174.7
12-5	Home electronic equipment	90.2	92.8	90.2	90.2	90.3	90.3	90.3	90.5	91.0	91.2	88.8	88.9	89.1	89.3
12-6	Other household durable goods	203.1	220.6	223.7	226.6	231.0	245.6	248.2	254.4	287.4	295.3	287.6	266.8	265.2	266.1
13	Nonmetallic mineral products	222.8	246.9	249.5	249.9	254.6	256.2	257.4	259.6	268.4	274.0	276.1	282.8	282.9	283.2
13-11	Flat glass	172.8	184.0	184.1	184.1	184.5	184.7	185.4	186.4	191.0	191.0	191.4	191.4	191.4	193.6
13-2	Concrete ingredients	217.7	243.3	245.1	245.9	246.7	248.3	249.6	251.0	265.0	266.6	266.0	270.5	271.1	271.9
13-3	Concrete products	214.0	243.7	245.2	246.3	248.7	250.1	250.6	253.2	265.4	266.7	268.6	273.0	275.0	275.9
13-4	Structural clay products excluding refractories	197.2	216.5	220.3	222.3	223.7	221.1	221.8	226.7	229.6	231.0	231.5	234.4	229.5	230.2
13-5	Refractories	216.5	232.6	240.8	241.7	242.4	244.6	247.4	248.0	248.5	251.1	254.8	262.6	265.2	266.7
13-6	Asphalt roofing	292.0	323.0	328.4	325.9	333.0	337.5	347.4	346.5	356.6	372.5	387.6	404.7	398.2	400.7
13-7	Gypsum products	229.1	251.3	251.8	252.3	254.9	255.3	256.2	255.0	255.4	262.2	267.6	264.0	256.5	257.1
13-8	Glass containers	244.4	265.2	265.2	265.2	265.2	265.2	265.2	274.2	274.3	274.3	274.6	294.6	294.6	294.6
13-9	Other nonmetallic minerals	275.6	302.0	310.5	309.9	336.0	341.2	342.2	342.2	351.8	381.7	386.9	389.5	389.5	394.5
14	Transportation equipment (12/68 = 100)	173.5	187.5	188.4	185.9	186.6	194.2	194.8	195.6	198.7	198.2	198.8	202.6	201.1	202.2
14-1	Motor vehicles and equipment	176.0	190.1	190.8	187.8	188.6	197.1	197.4	198.2	200.7	200.1	200.8	204.9	203.1	204.4
14-4	Railroad equipment	252.8	274.7	280.6	280.9	281.6	286.3	288.2	289.0	297.5	299.3	301.3	303.9	304.6	306.2
15	Miscellaneous products	184.3	205.2	207.0	208.9	213.1	218.9	221.4	227.4	242.9	262.9	256.2	252.2	250.9	257.4
15-1	Toys, sporting goods, small arms, ammunition	163.2	174.7	176.9	177.6	179.8	181.1	181.2	183.0	190.9	193.5	194.2	195.3	198.4	197.2
15-2	Tobacco products	198.5	214.4	214.8	221.3	221.9	222.1	222.2	226.6	236.6	237.2	237.1	237.6	244.6	245.1
15-3	Notions	182.0	190.6	192.0	191.9	191.9	195.7	195.8	196.8	203.1	203.2	207.2	216.8	217.0	217.0
15-4	Photographic equipment and supplies	145.7	151.6	152.0	152.2	154.3	157.4	161.2	164.3	165.9	218.6	219.4	212.6	200.0	203.4
15-51	Mobile homes (12/74 = 100)	126.4	137.9	138.2	139.5	140.7	142.9	144.0	144.1	144.7	146.8	146.6	148.9	149.9	150.6
15-9	Other miscellaneous products	210.6	255.8	261.4	261.4	272.5	268.3	293.3	308.8	351.6	378.3	352.3	339.2	339.1	358.8

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[1] Data for February 1980 have been revised to reflect the availability of late reports and corrections by respondents. All data are subject to revision 4 months after original publication.

[2] Prices for natural gas are lagged 1 month.

[3] Includes only domestic production.

[4] Most prices for refined petroleum products are lagged 1 month.

[5] Some prices for industrial chemicals are lagged 1 month.

28. Producer Price Indexes, for special commodity groupings

[1967 = 100 unless otherwise specified]

Commodity grouping	Annual average 1978	1979							1980					
		June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.[1]	Mar.	Apr.	May	June
All commodities — less farm products	208.4	232.0	235.4	237.5	241.4	245.3	247.0	248.5	255.7	260.9	262.6	264.3	265.4	267.0
All foods	206.4	223.8	225.4	224.7	228.5	228.9	230.0	232.2	231.2	235.8	234.7	231.7	237.4	237.7
Processed foods	206.7	224.7	226.4	224.8	230.8	228.9	231.8	234.2	233.3	236.6	236.8	234.0	239.0	239.9
Industrial commodities less fuels	197.2	217.0	219.0	220.3	222.0	225.9	226.9	228.5	234.7	238.0	238.4	239.9	239.9	241.6
Selected textile mill products (Dec. 1975 = 100)	108.8	113.5	114.0	115.1	115.8	116.4	117.0	117.2	118.9	119.3	121.1	122.1	123.1	123.5
Hosiery	106.3	112.7	114.1	113.0	112.7	113.3	114.6	115.3	118.2	119.4	119.9	120.7	121.5	122.2
Underwear and nightwear	158.9	168.3	168.5	170.8	170.8	171.2	171.6	172.9	175.3	177.4	181.8	182.0	182.8	187.4
Chemicals and allied products, including synthetic rubber and manmade fibers and yarns	190.5	209.5	215.0	218.6	220.9	224.3	226.3	228.7	236.3	239.2	242.1	248.4	251.6	252.8
Pharmaceutical preparations	140.6	151.7	151.7	152.0	153.6	155.6	155.4	156.9	159.2	163.3	161.7	165.9	164.7	166.1
Lumber and wood products, excluding millwork and other wood products	298.3	321.7	325.3	333.9	341.0	337.3	323.3	310.8	308.6	313.9	312.2	294.5	281.7	293.5
Special metals and metal products	209.6	233.7	235.5	234.9	238.4	243.4	244.5	246.3	253.7	256.0	254.8	255.6	253.4	254.2
Fabricated metal products	216.2	236.7	237.4	238.8	241.1	244.0	244.6	245.3	247.2	248.4	251.3	256.0	257.0	256.9
Copper and copper products	155.6	193.0	191.9	197.1	200.5	212.2	213.8	217.1	227.7	260.7	240.9	224.7	212.3	208.7
Machinery and motive products	190.4	206.0	207.7	207.2	208.5	213.4	214.3	215.9	219.7	220.9	222.2	226.1	228.1	227.7
Machinery and equipment, except electrical	214.3	232.5	235.1	236.2	238.2	240.8	242.5	244.8	249.1	251.1	252.9	257.5	258.0	260.8
Agricultural machinery, including tractors	216.3	233.8	235.8	236.4	243.6	246.3	250.8	251.5	256.1	257.2	257.7	258.7	261.7	262.5
Metalworking machinery	228.8	256.8	260.1	261.7	265.6	269.5	272.7	276.0	281.9	284.4	288.1	294.3	296.8	299.9
Numerically controlled machine tools (Dec. 1971 = 100)	179.1	195.8	202.2	204.2	206.5	208.5	208.8	211.2	213.1	215.4	216.8	223.9	227.0	228.7
Total tractors	228.7	248.2	251.2	253.8	256.0	261.2	262.5	266.2	273.0	275.1	274.3	278.4	280.0	281.8
Agricultural machinery and equipment less parts	212.7	229.5	231.4	233.7	238.4	241.0	244.9	245.8	250.0	251.5	252.1	254.2	256.1	256.8
Farm and garden tractors less parts	216.1	231.8	233.9	237.6	244.1	247.6	250.5	251.1	256.0	257.5	258.8	261.0	262.0	262.7
Agricultural machinery excluding tractors less parts	216.7	235.7	237.6	239.2	243.5	245.4	251.3	252.0	256.4	257.3	257.0	259.0	261.7	262.6
Industrial valves	232.3	255.8	257.0	258.2	260.1	261.8	263.1	266.1	271.0	273.5	278.1	283.5	286.6	288.6
Industrial fittings	232.7	260.4	260.8	262.3	264.3	272.6	276.8	276.8	276.8	280.4	282.8	289.9	291.5	295.9
Abrasive grinding wheels	208.1	222.8	222.8	224.6	224.6	239.0	239.0	239.0	239.0	244.0	244.0	258.4	261.3	261.3
Construction materials	228.3	250.3	252.3	254.3	256.6	258.5	256.7	255.4	258.3	262.6	264.6	262.1	261.4	264.1

[1] Data for February 1980 have been revised to reflect the availability of late reports and corrections by respondents. All data are subject to revision 4 months after original publication.

29. Producer Price Indexes, by durability of product

[1967 = 100]

Commodity grouping	Annual average 1978	1979							1980					
		June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.[1]	Mar.	Apr.	May	June
Total durable goods	204.9	225.8	227.6	228.0	230.1	234.6	236.3	237.0	243.8	247.1	246.6	247.2	246.4	248.3
Total nondurable goods	211.9	238.8	243.7	246.8	251.1	253.7	256.2	259.5	263.2	270.2	273.1	274.0	277.3	278.4
Total manufactures	204.2	226.5	229.6	231.7	235.2	239.0	240.6	242.6	248.4	253.2	254.8	256.5	257.6	259.4
Durable	204.7	224.6	226.6	227.2	229.4	234.0	234.6	236.2	242.9	245.7	245.2	246.2	245.9	248.2
Nondurable	203.0	227.8	232.5	235.9	241.0	244.0	246.6	249.0	253.9	260.8	264.7	267.3	270.3	271.3
Total raw or slightly processed goods	234.6	269.7	274.3	272.1	276.9	278.7	281.0	285.9	287.6	295.9	295.6	290.4	292.7	293.0
Durable	209.6	272.8	265.4	259.8	256.7	259.2	265.8	267.8	282.6	305.3	302.5	286.0	262.2	249.9
Nondurable	235.6	268.5	274.0	272.0	277.5	279.2	281.2	286.3	286.9	294.2	294.0	289.7	294.0	295.3

[1] Data for February 1980 have been revised to reflect the availability of late reports and corrections by respondents. All data are subject to revision 4 months after original publication.

30. Producer Price Indexes for the output of selected SIC industries

[1967 = 100 unless otherwise specified]

1972 SIC code	Industry description	Annual average 1978	1979							1980					
			June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.[1]	Mar.	Apr.	May	June
	MINING														
1011	Iron ores (12/75 = 100)	121.9	136.0	136.0	136.8	138.1	140.2	140.2	142.0	142.0	147.3	147.3	152.6	152.6	152.6
1092	Mercury ores (12/75 = 100)	126.6	277.0	270.8	245.8	252.1	275.0	252.1	300.0	308.3	335.4	330.0	337.5	337.5	332.9
1211	Bituminous coal and lignite	430.2	452.5	453.1	454.8	452.9	455.1	455.5	458.9	459.2	469.6	460.7	462.9	464.4	463.3
1311	Crude petroleum and natural gas	358.2	444.1	457.5	476.0	508.4	522.1	533.9	551.3	582.7	588.0	600.6	612.3	620.2	631.3
1442	Construction sand and gravel	194.6	217.0	219.3	220.1	221.0	224.0	224.7	225.6	238.8	243.2	243.6	248.4	249.4	250.1
1455	Kaolin and ball clay (6/76 = 100)	111.8	125.5	125.5	125.5	125.5	126.7	124.2	129.3	136.6	136.6	123.4	136.6	136.6	136.6
	MANUFACTURING														
2011	Meat packing plants	216.7	249.1	243.8	229.3	247.2	239.9	241.5	243.9	240.8	240.1	230.9	225.6	227.4	229.9
2013	Sausages and other prepared meats	215.2	217.1	214.7	203.4	211.7	211.9	213.4	220.0	211.9	207.8	200.1	197.7	194.7	190.6
2016	Poultry dressing plants	192.5	177.8	178.4	159.6	171.2	169.1	168.3	168.5	186.1	178.2	173.5	164.5	164.7	164.2
2021	Creamery butter	205.2	225.3	227.5	237.9	240.6	240.1	241.7	243.1	241.8	242.8	243.4	252.8	253.7	255.7

See footnotes at end of table.

30. Continued—Producer Price indexes for the output of selected SIC industries

[1967 = 100 unless otherwise specified]

1972 SIC code	Industry description	Annual average 1978	1979							1980					
			June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb. [1]	Mar.	Apr.	May	June
	MANUFACTURING—Continued														
2022	Cheese natural and processed (12/72 = 100)	169.6	185.6	186.3	195.4	200.8	196.8	193.6	193.9	195.4	192.9	197.4	203.6	203.6	204.2
2024	Ice cream and frozen desserts (12/72 = 100)	154.8	171.5	171.5	175.0	176.1	177.5	179.9	180.1	180.9	181.5	185.0	191.4	192.1	195.2
2033	Canned fruits and vegetables	193.2	207.5	209.9	210.5	212.0	212.9	212.2	212.2	213.4	213.6	214.8	216.3	217.4	220.1
2034	Dehydrated food products (12/73 = 100)	131.3	181.0	182.0	180.7	170.0	158.2	156.2	157.3	157.6	159.0	156.4	157.5	156.4	156.3
2041	Flour mills (12/71 = 100)	147.0	174.6	190.9	176.9	183.5	184.2	184.4	184.1	181.7	183.6	182.6	175.9	183.3	181.8
2044	Rice milling	207.6	206.8	206.8	218.7	223.5	227.3	231.8	218.1	217.5	233.0	258.0	260.4	284.5	236.0
2048	Prepared foods, n.e.c. (12/75 = 100)	107.3	118.9	128.1	119.4	120.9	123.6	124.3	125.0	122.0	122.6	121.8	116.8	117.2	116.6
2061	Raw cane sugar	190.7	207.0	209.0	216.8	216.7	224.3	223.3	248.4	260.5	374.9	276.0	320.2	456.1	402.4
2063	Beet sugar	188.5	199.7	202.0	199.4	200.0	204.7	210.6	223.2	224.6	293.2	303.1	295.4	338.0	343.9
2067	Chewing gum	218.0	242.2	242.9	242.9	242.9	242.9	262.3	262.3	262.3	262.3	281.9	281.9	282.0	282.0
2074	Cottonseed oil mills	183.1	210.4	224.5	214.1	217.9	214.9	204.7	205.6	182.4	184.4	170.4	154.8	150.5	155.1
2075	Soybean oil mills	225.6	251.1	262.8	250.0	248.6	244.7	242.4	241.9	235.1	230.4	219.3	212.6	212.5	209.1
2077	Animal and marine fats and oils	287.9	335.3	352.0	321.4	333.8	333.7	315.2	300.7	298.1	292.6	297.3	274.0	263.0	238.3
2083	Malt	181.5	201.4	201.4	201.4	214.9	214.9	228.2	228.2	244.1	244.1	244.1	244.1	244.1	244.1
2085	Distilled liquor, except brandy (12/75 = 100)	106.7	113.6	113.6	115.7	117.1	117.1	118.1	118.1	118.6	118.7	118.7	118.7	118.9	118.9
2091	Canned and cured seafoods (12/73 = 100)	136.4	142.1	148.5	148.2	154.0	154.3	155.6	159.8	160.9	164.0	165.7	170.2	173.2	175.3
2092	Fresh or frozen packaged fish	303.8	397.6	403.7	391.5	389.2	400.1	391.4	388.4	389.7	385.5	392.6	371.5	361.6	362.8
2095	Roasted coffee (12/72 = 100)	262.3	244.2	271.0	279.2	279.2	280.0	287.5	287.5	281.3	273.9	274.0	273.9	273.9	283.1
2098	Macaroni and spaghetti	176.9	188.6	203.5	210.4	210.4	210.4	221.5	227.7	227.7	227.7	227.7	230.5	230.5	230.5
2111	Cigarettes	204.6	221.4	221.5	228.9	229.1	229.2	229.2	234.3	245.8	245.9	245.9	246.1	254.2	254.3
2121	Cigars	141.4	145.3	149.8	150.1	150.1	149.8	150.4	150.4	151.2	154.2	151.8	152.7	152.7	157.1
2131	Chewing and smoking tobacco	222.0	245.9	246.4	246.4	255.8	260.4	260.8	260.8	260.9	265.1	267.3	274.3	274.6	274.7
2211	Weaving mills, cotton (12/72 = 100)	181.1	194.3	196.1	196.5	198.7	201.1	201.6	201.9	204.4	206.9	209.1	210.9	211.6	211.9
2221	Weaving mills, synthetic (12/77 = 100)	109.0	114.1	116.2	116.3	116.2	116.8	117.3	117.2	118.1	118.3	119.6	122.4	121.8	120.4
2251	Women's hosiery, except socks (12/75 = 100)	91.5	97.6	99.6	98.1	97.5	98.2	100.3	100.2	103.3	103.3	103.7	104.4	105.4	105.4
2254	Knit underwear mills	164.1	173.3	172.9	174.0	174.0	174.3	174.6	178.3	182.5	184.1	186.2	186.4	187.1	190.5
2257	Circular knit fabric mills (6/76 = 100)	98.5	95.8	96.1	96.4	96.2	96.9	98.4	98.6	99.3	100.4	103.1	103.6	104.1	104.7
2261	Finishing plants, cotton (6/76 = 100)	111.0	120.9	122.5	123.2	124.0	126.1	126.3	126.6	128.7	129.6	131.7	131.9	133.2	133.7
2262	Finishing plants, synthetics, silk (6/76 = 100)	101.4	107.0	107.5	108.2	108.3	109.3	109.7	109.8	110.3	109.4	110.3	111.3	112.1	111.5
2271	Woven carpets and rugs (12/75 = 100)	114.7	117.1	([2])	([2])	([2])	([2])	([2])	([2])	([2])	([2])	([2])	([2])	([2])	([2])
2272	Tufted carpets and rugs	125.3	128.1	127.6	128.6	129.0	129.8	130.1	130.1	134.7	134.5	137.5	135.9	138.7	137.5
2281	Yarn mills, except wool (12/71 = 100)	167.4	175.7	177.5	177.4	179.4	181.2	183.0	183.7	188.0	197.8	199.3	203.8	204.5	202.9
2282	Throwing and winding mills (6/76 = 100)	99.2	107.5	108.5	109.7	111.2	110.4	109.6	109.2	110.1	110.6	111.3	114.8	116.3	114.8
2284	Thread mills (6/76 = 100)	114.6	120.4	120.5	128.1	128.1	128.4	128.4	128.6	128.7	129.2	129.3	133.9	142.2	142.1
2298	Cordage and twine (12/77 = 100)	99.3	105.4	105.4	113.5	115.1	114.9	114.9	114.9	115.0	117.2	118.5	123.6	123.8	125.0
2311	Men's and boys' suits and coats	194.3	204.5	205.8	206.5	206.5	206.6	206.8	206.7	209.0	208.1	209.7	205.7	207.0	207.4
2321	Men's and boys' shirts and nightwear	180.8	193.5	194.7	195.9	196.0	196.1	196.6	196.3	197.7	196.2	197.3	202.9	203.5	204.9
2322	Men's and boys' underwear	180.6	188.7	188.7	190.0	190.0	190.0	190.0	194.0	199.8	202.0	204.0	204.2	204.3	208.5
2323	Men's and boys' neckwear (12/75 = 100)	102.3	103.4	103.4	110.9	110.9	110.9	110.9	110.9	112.4	112.4	112.4	106.3	106.3	106.3
2327	Men's and boys' separate trousers	152.7	162.5	162.5	162.7	162.7	162.9	163.4	163.5	164.2	174.2	174.4	174.8	174.9	175.1
2328	Men's and boys' work clothing	195.2	209.0	208.9	210.7	210.9	213.4	219.1	219.6	225.1	233.6	235.4	240.9	241.7	242.5
2331	Women's and misses' blouses and waists (6/78 = 100)	([2])	100.5	102.6	102.7	102.8	103.0	105.9	106.8	107.1	106.6	107.2	107.6	107.7	107.8
2335	Women's and misses' dresses (12/77 = 100)	100.7	105.9	106.4	108.3	108.3	108.7	108.8	108.8	112.9	113.8	113.9	113.9	113.9	114.0
2341	Women's and children's underwear (12/72 = 100)	132.1	143.3	144.2	145.3	145.3	146.7	147.4	147.7	149.4	150.0	152.4	152.4	153.2	155.2
2342	Brassieres and allied garments (12/75 = 100)	111.7	117.5	117.5	117.8	117.8	117.8	117.8	118.8	119.7	122.9	124.9	125.4	125.4	127.0
2361	Children's dresses and blouses (12/77 = 100)	([2])	102.1	102.4	102.4	103.7	105.7	105.7	105.6	105.3	105.3	106.0	106.0	106.0	106.7
2381	Fabric dress and work gloves	214.4	243.9	245.4	245.4	245.4	245.4	246.9	246.9	257.7	261.7	264.8	267.5	271.1	271.1
2394	Canvas and related products (12/77 = 100)	99.6	106.9	108.4	111.0	111.4	112.3	112.1	120.1	122.1	122.8	123.4	123.4	123.4	123.4
2396	Automotive and apparel trimmings (12/77 = 100)	106.3	114.3	114.3	114.3	114.3	114.3	114.3	114.3	114.3	114.3	122.3	122.3	122.3	122.3
2421	Sawmills and planing mills (12/71 = 100)	228.9	250.9	251.3	259.1	265.6	262.2	250.2	237.9	234.8	239.3	239.1	215.7	209.3	218.1
2436	Softwood veneer and plywood (12/75 = 100)	150.1	140.7	148.1	153.4	156.0	153.1	142.9	138.9	138.5	143.7	139.8	121.4	129.6	140.5
2439	Structural wood members, n.e.c. (12/75 = 100)	136.2	150.0	150.0	149.9	150.8	158.2	158.2	158.2	158.2	158.2	158.3	158.2	152.1	152.1
2448	Wood pallets and skids (12/75 = 100)	149.4	167.0	166.9	166.8	167.9	167.9	171.0	170.5	169.8	167.0	166.3	164.6	162.8	159.7
2451	Mobile homes (12/74 = 100)	126.5	138.0	138.2	139.6	140.7	143.0	144.0	144.1	144.8	146.9	146.7	149.0	150.0	150.6
2492	Particleboard (12/75 = 100)	159.7	137.4	134.3	134.7	138.5	139.5	136.8	134.5	136.9	150.7	158.9	161.9	167.3	171.7
2511	Wood household furniture (12/71 = 100)	152.4	164.0	164.5	164.6	168.0	169.3	172.3	174.5	177.5	178.2	177.6	179.7	180.8	182.4
2512	Upholstered household furniture (12/71 = 100)	143.1	149.4	150.0	150.2	151.6	151.8	153.8	155.7	155.9	158.7	156.6	158.7	158.9	160.3
2515	Mattresses and bedsprings	156.3	164.1	164.5	165.8	165.8	168.9	172.3	172.3	169.9	170.5	169.7	171.5	174.8	174.8
2521	Wood office furniture	194.4	214.2	216.8	216.8	216.8	217.6	217.6	221.9	226.2	233.8	233.8	233.9	233.9	233.9
2611	Pulp mills (12/73 = 100)	178.5	196.6	205.4	205.7	205.8	213.5	213.9	213.9	225.2	225.1	227.4	244.9	246.0	246.0
2621	Paper mills, except building (12/74 = 100)	115.7	129.5	130.2	131.0	131.4	135.1	136.5	136.8	139.0	139.8	142.7	145.1	146.1	146.6
2631	Paperboard mills (12/74 = 100)	106.4	118.5	119.7	121.9	123.4	125.4	126.3	127.6	131.3	132.3	134.1	137.0	141.5	143.1
2647	Sanitary paper products	251.4	271.9	276.4	285.9	285.4	286.3	288.4	290.9	295.8	303.9	311.6	312.2	318.1	321.1
2654	Sanitary food containers	170.8	189.1	189.6	189.6	191.8	195.8	198.2	199.9	202.6	204.8	207.3	212.9	216.7	218.3
2655	Fiber cans, drums, and similar products (12/75 = 100)	123.0	134.0	136.6	136.6	136.6	138.5	138.5	142.3	143.2	143.2	143.3	145.7	147.8	150.6
2812	Alkalies and chlorine (12/73 = 100)	198.8	206.3	209.5	212.2	213.1	214.1	216.7	217.3	220.4	226.5	227.1	234.0	238.6	245.3
2821	Plastics materials and resins (6/76 = 100)	103.8	118.6	124.9	127.8	128.9	132.9	133.8	134.1	138.5	139.7	140.6	145.4	147.0	147.1
2822	Synthetic rubber	180.5	206.6	214.2	223.4	223.8	225.7	228.0	230.4	240.9	244.2	243.8	255.7	258.2	258.5
2824	Organic fiber, noncellulosic	107.6	117.4	118.6	119.8	123.5	123.6	123.2	122.6	124.1	124.7	127.1	128.8	131.9	133.0
2873	Nitrogenous fertilizers (12/75 = 100)	96.6	101.4	102.8	104.1	106.1	108.0	111.7	113.5	114.3	119.8	122.2	123.9	124.4	123.4
2874	Phosphatic fertilizers	166.0	184.2	188.9	199.4	204.3	213.2	221.6	223.4	229.2	233.2	235.7	237.3	236.4	236.8
2875	Fertilizers, mixing only	181.9	197.8	198.1	205.6	211.1	218.3	227.0	227.1	233.2	239.8	243.1	247.9	246.0	248.9
2892	Explosives	217.3	239.3	240.1	240.7	250.3	250.8	251.7	252.5	253.6	255.2	260.5	271.3	272.6	273.6
2911	Petroleum refining (6/76 = 100)	119.6	155.1	165.5	176.6	188.9	196.4	201.0	204.8	213.9	228.4	242.2	250.4	253.0	253.2
2951	Paving mixtures and blocks (12/75 = 100)	117.1	131.2	134.4	134.9	141.6	145.6	145.6	145.7	150.0	161.5	167.8	172.6	172.6	171.6
2952	Asphalt felts and coatings (12/75) = 100)	128.2	141.6	143.6	142.7	145.8	147.6	152.2	151.9	156.1	162.7	169.5	176.5	173.6	175.0
3011	Tires and inner tubes (12/73 = 100)	154.0	170.6	176.8	181.2	184.2	186.9	191.2	191.4	193.0	196.7	198.3	198.8	199.0	201.4

30. Continued—Producer Price Indexes for the output of selected SIC industries

[1967 = 100 unless otherwise specified]

1972 SIC code	Industry description	Annual average 1978	1979							1980					
			June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.[1]	Mar.	Apr.	May	June
3021	Rubber and plastic footwear (12/71 = 100)	158.7	169.6	171.0	173.4	173.4	173.5	173.5	173.5	173.5	173.6	173.8	173.8	173.8	173.9
3031	Reclaimed rubber (12/73 = 100)	154.3	168.1	169.2	169.2	177.7	178.8	179.2	179.5	179.7	180.0	182.7	183.7	184.3	184.3
3079	Miscellaneous plastic products (6/78 = 100)	...	110.7	111.4	112.3	113.1	114.3	114.6	115.6	116.6	117.0	118.7	120.1	120.3	121.6
3111	Leather tanning and finishing (12/77 = 100)	119.1	195.8	181.8	172.9	155.2	161.9	150.8	153.5	164.3	160.8	146.7	140.8	137.9	134.6
3142	House slippers (12/75 = 100)	122.5	142.0	135.0	135.0	135.0	135.8	135.9	135.9	143.5	145.4	146.7	146.8	146.8	146.8
3143	Men's footwear, except athletic (12/75 = 100)	127.1	156.4	155.4	158.2	160.1	160.4	160.3	160.3	160.3	157.9	158.4	158.4	158.4	158.6
3144	Women's footwear, except athletic	164.1	195.4	198.7	201.5	201.6	202.3	204.0	204.0	205.6	206.3	213.5	213.8	213.8	213.8
3171	Women's handbags and purses (12/75 = 100)	111.4	131.8	131.8	131.8	131.8	131.8	131.8	131.8	131.9	131.9	132.1	132.1	140.8	140.9
3211	Flat glass (12/71 = 100)	142.7	151.8	151.9	151.9	152.3	152.6	153.3	153.9	157.6	157.6	157.9	157.9	157.9	158.9
3221	Glass containers	244.3	265.2	265.2	265.2	265.2	265.2	265.2	274.2	274.3	274.3	274.5	294.5	294.5	294.5
3241	Cement, hydraulic	251.2	283.7	285.4	285.4	285.4	285.4	285.5	286.2	305.7	305.9	303.2	308.8	310.7	310.8
3251	Brick and structural clay tile	230.8	258.7	261.0	263.3	265.9	261.3	261.3	262.7	268.3	270.4	271.9	276.4	278.5	278.5
3253	Ceramic wall and floor tile (12/75 = 100)	107.7	113.0	120.2	120.2	120.2	120.2	120.2	130.3	130.4	130.4	130.4	130.4	117.6	117.6
3255	Clay refractories	221.4	236.9	246.5	246.7	247.1	251.0	252.9	254.0	255.1	258.4	265.3	275.4	277.1	277.5
3259	Structural clay products, n.e.c.	176.3	187.8	188.2	192.1	192.1	192.8	192.3	196.5	196.3	198.1	196.7	200.6	201.6	204.9
3261	Vitreous plumbing fixtures	189.7	206.4	210.1	212.4	213.1	214.5	215.7	217.3	219.2	224.6	226.7	227.6	236.1	235.8
3262	Vitreous china food utensils	268.8	290.6	297.5	297.5	298.0	298.0	305.4	308.2	308.2	308.2	308.2	313.4	313.4	318.6
3263	Fine earthenware food utensils	228.1	236.4	238.8	238.8	246.0	248.0	248.4	294.3	294.3	294.3	294.0	294.8	293.6	294.4
3269	Pottery products, n.e.c. (12/75 = 100)	122.2	129.0	131.0	131.0	133.3	133.3	135.5	150.1	150.1	150.1	150.0	151.3	151.4	152.6
3271	Concrete block and brick	202.0	232.7	232.7	235.7	237.8	240.0	240.0	240.2	249.5	250.6	252.3	259.3	259.4	259.4
3273	Ready-mixed concrete	217.6	247.5	249.6	250.5	252.4	254.0	254.6	257.0	270.8	272.6	274.9	278.9	281.6	282.5
3274	Lime (12/75 = 100)	129.5	140.1	141.8	142.9	144.2	144.6	144.3	144.6	149.5	153.5	155.5	156.7	156.9	157.4
3275	Gypsum products	229.5	251.9	252.3	252.8	255.4	255.9	256.8	255.6	255.9	262.8	268.1	264.6	267.0	257.5
3291	Abrasive products (12/71 = 100)	172.3	185.8	187.7	188.6	190.4	195.1	195.3	196.5	199.4	203.3	203.9	210.1	211.9	213.5
3297	Nonclay refractories (12/74 = 100)	133.6	143.9	148.1	149.1	149.7	150.1	152.3	152.3	152.6	153.3	154.2	157.4	159.7	161.2
3312	Blast furnaces and steel mills	262.3	285.8	292.8	293.0	293.2	296.4	297.1	297.7	302.4	302.9	304.1	311.9	313.2	313.4
3313	Electrometallurgical products (12/75 = 100)	94.8	112.3	116.5	116.5	116.0	116.2	117.5	117.6	117.8	117.8	118.0	118.7	118.5	118.7
3316	Cold finishing of steel shapes	241.0	261.3	270.6	270.8	270.9	271.7	273.4	273.9	274.1	277.1	277.2	285.9	288.1	288.2
3317	Steel pipes and tubes	255.2	264.5	271.9	271.3	271.3	272.7	273.1	273.2	280.5	281.0	283.6	286.9	286.9	290.5
3321	Gray iron foundries (12/68 = 100)	233.5	254.5	253.9	253.8	254.8	267.1	269.6	269.7	273.7	276.9	275.7	278.4	279.0	279.9
3333	Primary zinc	223.2	275.2	281.4	265.5	264.2	265.2	257.8	265.7	266.1	272.4	279.6	274.2	268.2	268.6
3334	Primary aluminum	217.4	238.5	244.9	247.4	248.2	256.0	263.2	266.6	267.0	267.0	267.8	276.0	287.0	288.6
3351	Copper rolling and drawing	170.2	211.7	211.2	213.6	216.7	226.3	222.6	225.0	231.0	253.1	238.7	230.1	222.9	220.4
3353	Aluminum sheet plate and foil (12/75 = 100)	137.6	148.8	149.6	149.8	150.0	150.7	151.3	151.7	153.2	153.5	155.5	158.0	157.6	157.7
3354	Aluminum extruded products (12/75 = 100)	134.3	147.6	150.3	151.9	151.9	155.2	157.4	158.0	158.8	158.9	160.8	167.6	167.7	167.7
3355	Aluminum rolling, drawing, n.e.c. (12/75 = 100)	119.7	131.6	132.7	133.1	133.5	136.9	139.9	140.5	140.7	141.0	141.2	143.8	145.2	146.5
3411	Metal cans	238.5	262.2	262.2	262.9	263.5	273.8	274.6	274.7	276.6	277.3	279.5	295.1	295.2	294.9
3425	Hand saws and saw blades (12/72 = 100)	147.9	162.5	162.8	166.3	166.4	167.1	169.5	169.8	173.1	174.6	175.4	177.8	181.3	181.7
3431	Metal sanitary ware	209.1	224.1	226.4	228.9	229.2	230.1	231.7	232.9	237.8	242.1	243.1	245.5	249.7	249.9
3465	Automotive stampings (12/75 = 100)	118.8	127.1	127.8	130.9	131.6	132.4	132.4	132.4	132.4	132.4	133.0	133.8	134.1	138.1
3482	Small arms ammunition (12/75 = 100)	119.5	131.4	134.0	134.0	134.0	133.2	133.6	143.2	143.2	143.2	147.3	146.3	147.1	150.2
3493	Steel springs, except wire	204.6	220.5	221.6	222.1	222.8	223.7	224.1	225.6	226.1	226.6	228.4	228.9	228.9	230.1
3494	Valves and pipe fittings (12/71 = 100)	185.5	204.2	205.3	206.2	207.5	210.4	212.5	214.3	216.9	219.6	221.3	227.3	229.1	231.2
3498	Fabricated pipe and fittings	265.5	290.7	294.8	294.8	294.9	297.3	297.4	297.4	301.7	301.8	303.5	306.8	306.9	313.8
3519	Internal combustion engines, n.e.c.	220.1	239.2	242.3	245.7	251.8	254.2	254.9	254.9	260.5	261.8	264.2	269.2	270.2	270.3
3531	Construction machinery (12/76 = 100)	114.0	124.0	125.6	126.3	126.5	128.9	129.4	130.9	134.6	135.7	135.8	138.0	138.7	140.0
3532	Mining machinery (12/72 = 100)	209.5	226.4	231.2	231.5	232.7	233.1	236.4	236.4	245.8	247.1	244.8	254.1	256.2	257.1
3533	Oilfield machinery and equipment	246.2	290.0	292.0	293.3	296.8	300.5	302.8	309.1	314.2	316.2	319.0	329.5	332.9	337.4
3534	Elevators and moving stairways	204.2	214.2	215.4	214.6	219.1	219.4	220.6	220.9	225.6	226.1	228.8	232.6	234.1	242.5
3542	Machine tools, metal forming types (12/71 = 100)	213.6	240.6	244.6	245.1	247.9	249.8	253.7	256.7	266.1	268.1	271.2	276.1	275.7	279.8
3546	Power driven hand tools (12/76 = 100)	111.1	118.7	119.2	120.2	120.4	122.0	122.8	124.4	126.3	126.6	127.3	128.6	130.4	130.6
3552	Textile machinery (12/69 = 100)	179.9	192.6	195.0	197.5	198.2	199.3	200.6	200.6	202.6	205.2	207.0	212.5	213.0	217.0
3553	Woodworking machinery (12/72 = 100)	168.1	184.5	185.9	187.7	190.0	192.6	192.7	192.9	201.2	201.6	205.5	212.7	212.5	214.0
3576	Scales and balances, excluding laboratory	179.7	193.7	194.8	195.4	195.4	195.7	199.5	201.0	204.2	205.8	204.1	205.1	208.2	208.6
3592	Carburetors, pistons, rings, valves (6/76 = 100)	128.2	138.7	139.2	139.6	140.7	142.8	145.1	145.3	147.5	147.8	148.5	152.5	152.8	153.2
3612	Transformers	158.3	168.5	167.9	167.6	168.4	171.2	170.4	171.6	172.9	176.6	177.4	180.0	181.7	183.2
3623	Welding apparatus, electric (12/72 = 100)	178.1	191.9	193.5	194.1	195.1	196.9	198.6	200.3	201.3	203.3	205.3	207.3	209.8	211.0
3631	Household cooking equipment (12/75 = 100)	114.8	120.9	122.0	123.4	124.3	124.4	125.9	126.3	126.7	129.3	129.3	129.6	132.5	133.4
3632	Household refrigerators, freezers (6/76 = 100)	108.6	112.6	113.6	114.3	115.1	115.1	115.7	116.3	117.0	118.5	118.2	119.0	119.0	121.5
3633	Household laundry equipment (12/73 = 100)	141.0	147.2	148.8	149.9	150.6	150.9	152.3	153.5	154.0	156.6	158.2	159.0	159.7	162.8
3635	Household vacuum cleaners	135.5	141.5	141.6	141.7	141.9	144.5	144.7	145.8	146.1	149.7	149.9	150.2	149.2	149.6
3636	Sewing machines (12/75 = 100)	111.2	121.1	121.8	122.2	122.2	122.6	122.6	122.6	122.6	129.2	128.6	128.6	128.6	128.6
3641	Electric lamps	214.7	229.7	240.8	244.3	242.7	244.8	238.7	240.8	248.5	252.4	251.8	252.4	252.3	260.0
3644	Noncurrent-carrying wiring devices (12/72 = 100)	185.8	203.0	203.3	207.7	209.1	210.5	211.9	215.0	212.9	215.2	217.5	219.7	220.3	222.5
3646	Commercial lighting fixtures (12/75 = 100)	112.7	127.4	127.9	127.9	130.5	131.4	131.6	131.9	133.4	134.3	136.6	138.4	138.9	139.6
3648	Lighting equipment, n.e.c. (12/75 = 100)	114.6	121.6	127.6	128.2	129.5	129.6	129.8	130.5	133.0	133.2	134.5	136.6	139.4	140.4
3671	Electron tubes receiving type	200.9	226.4	226.5	226.6	227.2	227.2	227.4	227.7	229.1	229.4	229.5	253.9	254.3	254.8
3674	Semiconductors and related devices	85.3	84.7	84.2	84.3	84.7	85.1	85.6	86.4	86.8	88.5	88.9	89.7	90.7	91.0
3675	Electronic capacitors (12/75 = 100)	111.5	122.1	126.7	129.3	134.1	133.9	135.8	139.0	147.7	149.1	149.0	155.6	156.4	156.2
3676	Electronic resistors (12/75 = 100)	118.3	123.2	124.0	124.6	125.2	126.6	126.7	127.3	127.4	128.8	131.8	131.9	132.8	135.0
3678	Electronic connectors (12/75 = 100)	118.9	126.9	133.4	134.1	137.6	138.9	140.7	142.1	145.1	146.4	145.1	147.3	146.8	148.8
3692	Primary batteries, dry and wet	162.0	172.7	172.8	172.8	172.8	173.1	173.1	174.1	174.2	176.5	176.6	176.8	176.4	176.4
3711	Motor vehicles and car bodies (12/75 = 100)	115.9	124.8	125.1	122.1	122.5	130.2	130.1	130.4	132.7	131.6	131.6	135.0	133.2	134.1
3942	Dolls (12/75 = 100)	103.2	109.3	111.8	112.6	112.6	112.9	112.9	113.0	122.7	125.4	123.9	126.0	126.7	126.7
3944	Games, toys, and children's vehicles	172.3	183.1	183.5	184.4	185.1	186.2	186.3	186.6	196.7	203.8	202.0	202.6	203.5	204.0
3955	Carbon paper and inked ribbons (12/75 = 100)	105.1	116.7	117.1	118.3	118.7	123.1	125.2	125.2	128.2	128.2	128.3	131.5	133.3	136.4
3995	Burial caskets (6/76 = 100)	113.0	121.7	123.3	123.8	124.8	123.1	124.8	124.8	128.3	128.3	128.3	128.1	130.0	132.2
3996	Hard surface floor coverings (12/75 = 100)	116.3	124.5	128.3	128.3	128.3	131.0	134.1	134.1	138.6	138.7	138.7	143.2	143.3	143.3

[1] Data for February 1980 have been revised to reflect the availability of late reports and corrections by respondents. All data are subject to revision 4 months after original publication.

[2] Not available.

PRODUCTIVITY DATA

PRODUCTIVITY DATA are compiled by the Bureau of Labor Statistics from establishment data and from estimates of compensation and output supplied by the U.S. Department of Commerce and the Federal Reserve Board.

Definitions

Output is the constant dollar gross domestic product produced in a given period. Indexes of **output per hour of labor input,** or labor productivity, measure the value of goods and services produced per hour of labor. **Compensation per hour** includes wages and salaries of employees plus employers' contributions for social insurance and private benefit plans. The data also include an estimate of wages, salaries, and supplementary payments for the self-employed, except for nonfinancial corporations, in which there are no self-employed. **Real compensation per hour** is compensation per hour adjusted by the Consumer Price Index for All Urban Consumers.

Unit labor cost measures the labor compensation cost required to produce one unit of output and is derived by dividing compensation by output. **Unit nonlabor payments** include profits, depreciation, interest, and indirect taxes per unit of output. They are computed by subtracting compensation of all persons from the current dollar gross domestic product and dividing by output. In these tables, **Unit nonlabor costs** contain all the components of unit nonlabor payments except unit profits. **Unit profits** include corporate profits and inventory valuation adjustments per unit of output.

The **implicit price deflator** is derived by dividing the current dollar estimate of gross product by the constant dollar estimate, making the deflator, in effect, a price index for gross product of the sector reported.

The use of the term "man-hours" to identify the labor component of productivity and costs, in tables 31 through 34, has been discontinued. **Hours of all persons** is now used to describe the labor input of payroll workers, self-employed persons, and unpaid family workers. **Output per all-employee hour** is now used to describe labor productivity in nonfinancial corporations where there are no self-employed.

Notes on the data

In the private business sector and the nonfarm business sector, the basis for the output measure employed in the computation of output per hour is Gross Domestic Product rather than Gross National Product. Computation of hours includes estimates of nonfarm and farm proprietor hours.

Output data are supplied by the Bureau of Economic Analysis, U.S. Department of Commerce, and the Federal Reserve Board. Quarterly manufacturing output indexes are adjusted by the Bureau of Labor Statistics to annual estimates of output (gross product originating) from the Bureau of Economic Analysis. Compensation and hours data are from the Bureau of Economic Analysis and the Bureau of Labor Statistics.

Beginning with the September 1976 issue of the *Review*, tables 31–34 were revised to reflect changeover to the new series—private business sector and nonfarm business sector—which differ from the previously published total private economy and nonfarm sector in that output imputed for owner-occupied dwellings and the household and institutions sectors, as well as the statistical discrepancy, are omitted. For a detailed explanation, see J. R. Norsworthy and L. J. Fulco, "New sector definitions for productivity series," *Monthly Labor Review*, October 1976, pages 40–42.

31. Annual indexes of productivity, hourly compensation, unit costs, and prices, 1950–79

[1967 = 100]

Item	1950	1955	1960	1965	1970	1972	1973	1974	1975	1976	1977	1978	1979
Private business sector:													
Output per hour of all persons	61.2	70.6	79.0	95.1	104.4	111.5	113.6	110.2	112.6	116.6	118.7	119.3	118.3
Compensation per hour	42.6	56.1	72.2	88.7	123.3	139.8	151.3	165.2	181.7	197.6	213.3	231.5	253.2
Real compensation per hour	59.2	69.9	81.4	93.9	106.0	111.6	113.6	111.8	112.7	115.9	117.5	118.5	116.4
Unit labor cost	69.6	79.4	91.4	93.3	118.2	125.4	133.2	149.8	161.3	169.5	179.7	194.0	214.0
Unit nonlabor payments	73.1	80.4	85.4	95.9	105.8	118.9	124.9	130.3	150.3	157.9	165.5	174.3	184.4
Implicit price deflator	70.8	79.8	89.3	94.2	113.9	123.2	130.3	143.1	157.5	165.5	174.8	187.2	203.8
Nonfarm business sector:													
Output per hour of all persons	67.2	74.6	81.2	96.0	103.2	110.1	112.0	108.6	110.7	114.6	116.4	117.0	115.7
Compensation per hour	45.6	59.0	74.5	89.4	121.9	138.4	149.2	163.0	179.3	194.2	209.6	227.6	248.0
Real compensation per hour	63.3	73.6	84.1	94.6	104.8	110.5	112.1	110.4	111.2	113.9	115.5	116.5	114.1
Unit labor cost	68.0	79.1	91.7	93.2	118.1	125.7	133.2	150.1	161.9	169.5	180.1	194.6	214.4
Unit nonlabor payments	71.4	[illegible]	84.4	95.8	106.0	117.4	117.8	124.7	145.9	156.0	163.8	169.9	178.6
Implicit price deflator	69.1	79.4	89.2	94.1	114.0	122.9	127.9	141.4	156.4	164.8	174.5	186.1	202.1
Nonfinancial corporations:													
Output per hour of all employees	([1])	([1])	80.6	96.9	103.7	110.6	112.9	108.7	112.2	115.8	117.0	118.1	117.7
Compensation per hour	([1])	([1])	76.0	90.1	121.8	136.7	147.6	161.7	177.9	192.7	208.0	225.2	245.2
Real compensation per hour	([1])	([1])	85.7	95.3	104.7	109.1	110.9	109.5	110.4	113.0	114.6	115.3	112.8
Unit labor cost	([1])	([1])	94.3	93.0	117.4	123.7	130.7	148.8	158.6	166.4	177.7	190.6	208.4
Unit nonlabor payments	([1])	([1])	90.8	100.1	103.5	114.8	116.8	124.8	148.1	156.8	164.4	170.6	179.5
Implicit price deflator	([1])	([1])	93.1	95.5	112.5	120.5	125.8	140.2	154.9	163.0	173.0	183.5	198.1
Manufacturing:													
Output per hour of all persons	65.8	75.0	79.8	98.4	105.0	115.7	118.9	113.0	118.8	124.0	127.7	128.3	129.5
Compensation per hour	45.6	61.2	78.0	91.1	122.3	136.6	146.5	161.7	181.1	196.1	212.7	230.2	251.3
Real compensation per hour	63.3	76.3	88.0	96.4	105.1	109.0	110.1	109.5	112.3	115.0	117.2	117.8	115.6
Unit labor cost	69.4	81.6	97.7	92.5	116.5	118.1	123.2	143.1	152.4	158.2	166.6	179.4	194.1
Unit nonlabor payments	82.3	88.6	92.3	103.3	96.2	107.4	106.4	105.6	128.4	139.6	147.4	152.4	([1])
Implicit price deflator	73.3	83.8	96.1	95.9	110.3	114.8	118.0	131.6	145.1	152.5	160.7	171.1	([1])

[1] Not available

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32. Annual changes in productivity, hourly compensation, unit costs, and prices, 1969–79

Item	Year											Annual rate of change	
	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1950-79	1960-79
Private business sector:													
Output per hour of all persons	0.2	0.7	3.3	3.4	1.9	−3.0	2.1	3.5	1.8	0.5	−0.9	2.5	2.1
Compensation per hour	6.9	7.2	6.7	6.2	8.2	9.2	10.0	8.8	8.0	8.5	9.3	5.9	6.9
Real compensation per hour	1.4	1.2	2.3	2.8	1.9	−1.6	.8	2.8	1.4	0.8	−1.7	2.5	2.0
Unit labor cost	6.6	6.4	3.3	2.8	6.2	12.5	7.7	5.0	6.0	8.0	10.3	3.3	4.7
Unit nonlabor payments	1.0	1.2	6.8	5.3	5.0	4.4	15.3	5.1	4.8	5.3	5.8	3.0	4.2
Implicit price deflator	4.7	4.7	4.4	3.6	5.8	9.8	10.1	5.0	5.6	7.1	8.9	3.2	4.5
Nonfarm business sector:													
Output per hour of all persons	−.2	.2	3.0	3.6	1.7	−3.1	2.0	3.5	1.5	.5	−1.1	2.1	1.9
Compensation per hour	6.4	6.8	6.7	6.4	7.8	9.2	10.0	8.3	7.9	8.6	8.9	5.6	6.7
Real compensation per hour	1.0	.8	2.3	3.0	1.5	−1.6	.8	2.4	1.4	.9	−2.1	2.2	1.7
Unit labor cost	6.7	6.5	3.5	2.7	6.0	12.7	7.9	4.7	6.3	8.0	10.2	3.4	4.7
Unit nonlabor payments	.4	1.6	6.7	3.8	.3	5.9	17.0	6.9	5.0	3.7	5.1	2.9	4.0
Implicit price deflator	4.5	4.9	4.5	3.1	4.1	10.5	10.6	5.4	5.9	6.6	8.6	3.3	4.5
Nonfinancial corporations:													
Output per hour of all employees	.4	−.0	3.3	'3.1	2.1	−3.7	3.2	3.2	1.1	1.0	−.4	(1)	1.9
Compensation per hour	6.8	6.8	6.2	5.7	7.9	9.6	10.0	8.3	7.9	8.3	8.9	(1)	6.5
Real compensation per hour	1.3	.8	1.8	2.4	1.6	−1.3	.8	2.4	1.4	.6	−2.1	(1)	1.6
Unit labor cost	6.3	6.8	2.7	2.5	5.7	13.8	6.6	4.9	6.8	7.3	9.3	(1)	4.5
Unit nonlabor payments	0	.5	7.3	3.3	1.8	6.8	18.7	5.8	4.9	3.8	5.2	(1)	3.6
Implicit price deflator	4.1	4.6	4.2	2.8	4.4	11.5	10.5	5.2	6.1	6.1	7.9	(1)	4.2
Manufacturing:													
Output per hour of all persons	1.3	−.1	5.2	4.8	2.8	−5.0	5.1	4.4	3.0	.5	0.9	'2.5	2.5
Compensation per hour	6.6	7.1	6.2	5.2	7.2	10.4	12.0	8.3	8.5	8.2	9.2	5.5	6.5
Real compensation per hour	1.2	1.1	1.9	1.8	.9	−.5	2.6	2.4	1.9	.5	−1.9	2.1	1.6
Unit labor cost	5.2	7.2	.9	.4	4.3	16.1	6.6	3.8	5.3	7.7	8.2	2.9	'3.9
Unit nonlabor payments	−4.4	−3.2	9.2	2.3	−1.0	−.7	21.6	8.8	5.5	3.4	(1)	'2.5	'2.5
Implicit price deflator	2.3	4.2	3.1	1.0	2.8	11.5	10.2	5.1	5.4	6.5	(1)	2.6	'3.5

[1] Not available.

33. Quarterly indexes of productivity, hourly compensation, unit costs, and prices, seasonally adjusted

[1967 = 100]

Item	Annual average		Quarterly indexes										
			1977		1978				1979				1980
	1978	1979	III	IV	I	II	III	IV	I	II	III	IV	I
Private business sector:													
Output per hour of all persons	119.3	118.3	119.6	119.0	118.5	119.1	119.8	119.9	119.0	118.4	118.0	117.9	117.6
Compensation per hour	231.5	253.2	215.6	218.8	224.5	228.8	233.9	238.7	245.1	250.6	256.0	260.6	267.6
Real compensation per hour	118.5	116.4	117.8	117.9	118.8	118.3	118.3	118.1	118.0	117.1	115.9	114.3	112.9
Unit labor cost	194.0	214.0	180.2	183.9	189.4	192.1	195.2	199.0	205.9	211.7	217.0	221.1	227.5
Unit nonlabor payments	174.3	184.4	167.9	168.5	164.8	173.9	177.0	181.2	180.8	183.6	185.5	188.2	189.8
Implicit price deflator	187.2	203.8	176.0	178.6	180.9	185.8	188.9	192.9	197.2	202.0	206.1	209.7	214.5
Nonfarm business sector:													
Output per hour of all persons	117.0	115.7	116.9	116.4	116.1	116.7	117.5	117.7	116.8	115.5	115.1	115.4	114.9
Compensation per hour	227.6	248.0	211.5	215.1	220.9	225.0	229.8	234.7	240.5	245.1	250.2	255.9	262.2
Real compensation per hour	116.5	114.1	115.6	115.9	116.9	116.3	116.2	116.1	115.8	114.6	113.3	112.3	110.6
Unit labor cost	194.6	214.4	181.0	184.8	190.2	192.8	195.6	199.4	206.0	212.2	217.3	221.8	228.1
Unit nonlabor payments	169.9	178.6	167.1	165.9	161.1	169.1	173.0	176.0	174.3	177.6	180.4	182.5	185.5
Implicit price deflator	186.1	202.1	176.2	178.3	180.2	184.7	187.8	191.4	195.1	200.3	204.7	208.4	213.5
Nonfinancial corporations:													
Output per hour of all employees	118.1	117.7	117.7	116.9	116.9	118.1	118.7	119.0	118.4	117.5	117.4	117.3	117.1
Compensation per hour	225.2	245.2	209.9	213.2	218.9	222.8	227.3	231.7	237.9	242.5	247.6	252.6	258.9
Real compensation per hour	115.3	112.8	114.7	114.9	115.8	115.2	115.0	114.6	114.6	113.3	112.1	110.8	109.2
Total unit costs	193.3	210.4	182.4	186.3	190.8	191.6	194.0	196.8	202.3	208.0	213.2	218.0	224.6
Unit labor cost	190.6	208.4	178.4	182.3	187.3	188.7	191.5	194.8	201.0	206.4	210.8	215.3	221.1
Unit nonlabor costs	201.8	216.6	194.8	198.7	201.5	200.8	201.6	203.1	206.5	213.2	220.5	226.1	235.4
Unit profits	127.2	127.8	130.8	122.2	107.1	129.2	132.7	139.7	130.3	129.2	127.5	124.0	118.6
Implicit price deflator	183.5	198.1	174.7	176.8	178.3	182.3	184.9	188.2	191.6	196.3	200.4	204.0	208.8
Manufacturing:													
Output per hour for all persons	128.3	129.5	128.9	128.3	126.3	127.8	129.5	129.9	128.7	129.2	130.1	129.6	128.9
Compensation per hour	230.2	251.3	214.8	218.3	223.8	227.3	232.0	237.2	243.2	248.9	253.7	259.0	265.1
Real compensation per hour	117.8	115.6	117.4	117.6	118.4	117.5	117.4	117.3	117.1	116.3	114.9	113.6	111.8
Unit labor cost	179.4	194.1	166.7	170.1	177.2	177.9	179.1	182.7	189.0	192.6	195.0	199.8	205.8

34. Percent change from preceding quarter and year in productivity, hourly compensation, unit costs, and prices, seasonally adjusted at annual rate

[1967 = 100]

Item	Quarterly percent change at annual rate						Percent change from same quarter a year ago					
	III 1978 to IV 1978	IV 1978 to I 1979	I 1979 to II 1979	II 1979 to III 1979	III 1979 to IV 1979	IV 1979 to I 1980^{p}	IV 1977 to IV 1978	I 1978 to I 1979	II 1978 to II 1979	III 1978 to III 1979	IV 1978 to IV 1979	I 1979 to I 1980^{p}
Private business sector:												
Output per hour of all persons	0.3	−3.0	−2.2	−1.4	−0.3	−0.7	0.8	0.4	−0.6	−1.6	−1.7	−1.2
Compensation per hour	8.5	11.1	9.3	8.8	7.4	11.2	9.1	9.2	9.5	9.4	9.2	9.2
Real compensation per hour	−.9	−.1	−3.1	−4.0	−5.4	−4.9	.1	−.6	−1.0	−2.0	−3.2	−4.4
Unit labor cost	8.1	14.6	11.8	10.3	7.8	12.0	8.3	8.7	10.2	11.2	11.1	10.5
Unit nonlabor payments	9.9	−1.0	6.6	4.2	6.0	3.4	7.5	9.7	5.6	4.8	3.9	5.0
Implicit price deflator	8.7	9.3	10.1	8.3	7.2	9.3	8.0	9.0	8.7	9.1	8.7	8.7
Nonfarm business sector:												
Output per hour of all persons	.8	−3.2	−4.1	−1.4	.7	−1.4	1.1	.5	−1.6	−2.0	−2.0	−1.5
Compensation per hour	8.8	10.4	7.9	8.5	9.4	10.2	9.1	8.9	9.0	8.9	9.0	9.0
Real compensation per hour	−.6	−.7	−4.4	−4.3	−3.7	−5.8	.1	−.9	−1.5	−2.5	−3.3	−4.5
Unit labor cost	8.0	14.0	12.5	10.1	8.6	11.8	7.9	8.3	10.1	11.1	11.3	10.7
Unit nonlabor payments	7.3	−3.9	7.8	6.6	4.6	6.8	6.1	8.2	5.0	4.3	3.7	6.5
Implicit price deflator	7.8	8.1	11.0	9.0	7.4	10.3	7.3	8.3	8.5	9.0	8.9	9.4
Nonfinancial corporations:												
Output per hour of all employees	1.1	−2.1	−2.9	−0.2	−0.5	0.7	1.8	1.3	−.5	−1.0	−1.4	−1.1
Compensation per hour	8.1	11.0	8.0	8.6	8.3	10.4	8.7	8.7	8.9	8.9	9.0	8.8
Real compensation per hour	−1.3	−.1	−4.3	−4.3	−4.6	−5.6	−.2	−1.1	−1.6	−2.5	−3.3	−4.7
Total unit costs	5.9	11.7	11.8	10.2	9.3	12.7	5.6	6.1	8.6	9.9	10.8	11.0
Unit labor costs	6.9	13.4	11.2	8.8	8.9	11.1	6.8	7.3	9.4	10.1	10.6	10.0
Unit nonlabor costs	2.9	6.8	13.5	14.6	10.6	17.3	2.2	2.5	6.2	9.4	11.3	14.0
Unit profits	19.5	−22.1	−3.4	−5.3	−10.4	−16.3	13.6	21.7	0	−3.9	−10.6	−9.0
Implicit price deflator	7.3	7.6	10.2	8.6	7.3	9.8	6.4	7.5	7.7	8.4	8.4	9.0
Manufacturing:												
Output per hour of all persons	1.0	−3.6	1.8	2.7	−1.5	−2.3	1.2	1.9	1.2	0.4	0.2	0.1
Compensation per hour	9.3	10.4	9.8	8.0	8.6	9.8	8.7	8.6	9.5	9.3	9.2	9.0
Real compensation per hour	−.2	−.7	−2.7	−4.8	−4.4	−6.1	−.3	−1.1	−1.1	−2.1	−3.2	−4.5
Unit labor cost	8.2	14.5	7.9	5.2	10.3	12.4	7.4	6.6	8.2	8.9	9.4	8.9

LABOR-MANAGEMENT DATA

MAJOR COLLECTIVE BARGAINING DATA are obtained from contracts on file at the Bureau of Labor Statistics, direct contact with the parties, and from secondary sources. Additional detail is published in *Current Wage Developments*, a monthly periodical of the Bureau. Data on work stoppages are based on confidential responses to questionnaires mailed by the Bureau of Labor Statistics to parties involved in work stoppages. Stoppages initially come to the attention of the Bureau from reports of Federal and State mediation agencies, newspapers, and union and industry publications.

Definitions

Data on wage changes apply to private nonfarm industry agreements covering 1,000 workers or more. Data on wage and benefit changes *combined* apply only to those agreements covering 5,000 workers or more. **First-year wage settlements** refer to pay changes going into effect within the first 12 months after the effective date of the agreement. **Changes over the life of the agreement** refer to total agreed upon settlements (exclusive of potential cost-of-living escalator adjustments) expressed at an average annual rate. **Wage-rate changes** are expressed as a percent of straight-time hourly earnings, while **wage and benefit changes** are expressed as a percent of total compensation.

Effective wage-rate adjustments going into effect in major bargaining units measure changes actually placed into effect during the reference period, whether the result of a newly negotiated increase, a deferred increase negotiated in an earlier year, or as a result of a cost-of-living escalator adjustment. Average adjustments are affected by workers receiving no adjustment, as well as by those receiving increases or decreases.

Work stoppages include all known strikes or lockouts involving six workers or more and lasting a full shift or longer. Data cover all workers idle one shift or more in establishments directly involved in a stoppage. They do not measure the indirect or secondary effect on other establishments whose employees are idle owing to material or service shortages.

35. Wage and benefit settlements in major collective bargaining units, 1975 to date

[In percent]

Sector and measure	Annual average					Quarterly average						
	1975	1976	1977	1978	1979	1978		1979				1980 p
						III	IV	I	II	III	IV	I
Wage and benefit settlements, all industries:												
First-year settlements	11.4	8.5	9.6	8.3	9.0	7.2	6.1	2.8	10.5	9.0	8.5	8.6
Annual rate over life of contract	8.1	6.6	6.2	6.3	6.6	5.9	5.2	5.3	7.8	6.1	6.0	6.4
Wage rate settlements, all industries:												
First-year settlements	10.2	8.4	7.8	7.6	7.4	7.5	7.4	5.7	8.9	6.8	6.3	7.8
Annual rate over life of contract	7.8	6.4	5.8	6.4	6.0	6.4	5.9	6.6	7.2	5.1	5.3	6.3
Manufacturing:												
First-year settlements	9.8	8.9	8.4	8.3	6.9	8.4	9.5	8.7	9.7	6.3	5.6	7.0
Annual rate over life of contract	8.0	6.0	5.5	6.6	5.4	7.2	7.4	7.7	8.1	4.7	4.2	5.6
Nonmanufacturing (excluding construction):												
First-year settlements	11.9	8.6	8.0	8.0	7.6	7.4	6.4	3.2	8.5	9.4	7.8	9.1
Annual rate over life of contract	8.0	7.2	5.9	6.5	6.2	5.9	5.1	5.6	5.8	6.5	7.4	7.1
Construction:												
First-year settlements	8.0	6.1	6.3	6.5	8.8	7.0	8.4	9.7	8.7	9.7	7.5	9.6
Annual rate over life of contract	7.5	6.2	6.3	6.2	8.3	7.2	7.1	8.2	8.3	8.5	7.6	9.3

36. Effective wage adjustments going into effect in major collective bargaining units, 1975 to date

[In percent]

Sector and measure	Average annual changes					Average quarterly changes								
	1975	1976	1977	1978	1979	1978				1979				1980 p
						I	II	III	IV	I	II	III	IV	I
Total effective wage rate adjustment, all industries	8.7	8.1	8.0	8.2	9.1	1.3	2.6	2.7	1.4	1.4	2.6	3.3	1.6	1.3
Change resulting from —														
Current settlement	2.8	3.2	3.0	2.0	3.0	.5	.6	.5	.4	.2	1.1	1.0	.5	.3
Prior settlement	3.7	3.2	3.2	3.7	3.0	.6	1.4	1.2	.5	.6	1.0	1.0	.4	.5
Escalator provision	2.2	1.6	1.7	2.4	3.1	.3	.6	1.0	.5	.6	.5	1.2	.7	.6
Manufacturing	8.5	8.5	8.4	8.6	9.6	1.4	2.2	2.9	1.9	1.5	2.3	3.2	2.4	1.6
Nonmanufacturing	8.9	7.7	7.6	7.9	8.8	1.3	2.9	2.5	1.1	1.4	2.8	3.4	1.0	1.1

NOTE: Because of rounding and compounding, the sums of individual items may not equal totals.

37. Work stoppages, 1947 to date

Month and year		Number of stoppages		Workers involved		Days idle	
		Beginning in month or year	In effect during month	Beginning in month or year (thousands)	In effect during month (thousands)	Number (thousands)	Percent of estimated working time
1947		3,693	...	2,170	...	34,600	.30
1948		3,419	...	1,960	...	34,100	.28
1949		3,606	...	3,030	...	50,500	.44
1950		4,843	...	2,410	...	38,800	.33
1951		4,737	...	2,220	...	22,900	.18
1952		5,117	...	3,540	...	59,100	.48
1953		5,091	...	2,400	...	28,300	.22
1954		3,468	...	1,530	...	22,600	.18
1955		4,320	...	2,650	...	28,200	.22
1956		3,825	...	1,900	...	33,100	.24
1957		3,673	...	1,390	...	16,500	.12
1958		3,694	...	2,060	...	23,900	.18
1959		3,708	...	1,880	...	69,000	.50
1960		3,333	...	1,320	...	19,100	.14
1961		3,367	...	1,450	...	16,300	.11
1962		3,614	...	1,230	...	18,600	.13
1963		3,362	...	941	...	16,100	.11
1964		3,655	...	1,640	...	22,900	.15
1965		3,963	...	1,550	...	23,300	.15
1966		4,405	...	1,960	...	25,400	.15
1967		4,595	...	2,870	...	42,100	.25
1968		5,045	...	2,649	...	49,018	.28
1969		5,700	...	2,481	...	42,869	.24
1970		5,716	...	3,305	...	66,414	.37
1971		5,138	...	3,280	...	47,589	.26
1972		5,010	...	1,714	...	27,066	.15
1973		5,353	...	2,251	...	27,948	.14
1974		6,074	...	2,778	...	47,991	.24
1975		5,031	...	1,746	...	31,237	.16
1976		5,648	...	2,420	...	37,859	.19
1977		5,506	...	2,040	...	35,822	.17
1978		4,230	...	1,623	...	36,922	.17
1979:	May	556	...	132	...	3,682	.19
	June	536	...	137	...	2,980	.16
	July	471	...	168	...	3,001	.16
	August	463	...	119	...	3,152	.15
	September	464	...	135	...	2,819	.13
	October	443	...	230	...	2,958	.15
	November	257	...	91	...	2,720	.15
	December	134	...	42	...	1,976	.11
1980:	January p	352	441	207	202	3,142	.16
	February p	354	590	114	332	3,025	.17
	March p	398	631	123	310	2,705	.14
	April	425	663	118	231	2,786	.14
	May	525	752	139	214	2,464	.13

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U.S. Department of Labor
Bureau of Labor Statistics
September 1980

In this issue:

Job-related injuries and illnesses of women
Worker perceptions of occupational hazards
Geographic wage indexing for CETA and Medicare

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Henry Lowenstern, Editor-in-Chief
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Labor Month In Review

STATE AND LOCAL PAY. The Bureau of Labor Statistics issued the first of a new series of releases on wages and benefits of State and local government employees in collective bargaining units of 5,000 workers or more. About one-fourth of all workers covered by collective bargaining agreements in State and local government were in such units in 1979. The release includes data on both first-year changes and annual rates of change over the life of multiyear settlements negotiated in 1979.

Wages and benefits. First-year wage and benefit adjustments averaged 7 percent under 1979 settlements covering 5,000 or more State and local government workers. Major settlements in the private economy brought wage and benefit changes of 9 percent in 1979, but were not entirely comparable because they included pensions and other benefits not subject to collective bargaining in the public sector.

Contracts which offered the prospect of additional adjustments under automatic cost-of-living escalator (COLA) clauses provided smaller (6.5 percent) first-year settlements than contracts without such clauses (7.2 percent). First-year changes were slightly higher (7.0 percent) for State government workers than for workers in local government (6.8 percent).

Over the life of multiyear contracts, wage and benefit adjustments averaged 6.3 percent a year for both State and local government workers. Contracts with COLA clauses provided wage and benefit changes of 5.1 percent, while those without such clauses averaged 7.0 percent.

Wages only. Data on wage settlements alone show average first-year changes of 6.8 percent for workers in large State and local government units, with local government workers holding a slight edge (7.0 percent) over State government employees (6.7 percent). Similarly, over the life of multiyear contracts, local government workers won slightly higher settlements (6.5 percent) than State government employees (6.2 percent).

Groups covered. Agreements reached in 1979 affected 568,000 workers in 45 State and local government bargaining units of 5,000 or more employees. Teacher units accounted for about 25 percent of the workers covered, with general government or administrative units accounting for another 20 percent. The rest were in clerical, blue-collar, health, and other units.

About 48 percent were in the Northeast region, 22 percent in the North Central States, 21 percent in the West, and 9 percent in the South.

Two-year agreements covered about 43 percent of the workers under the 1979 agreements. About 23 percent were under 1-year pacts and 34 percent under 3-year agreements.

Escalator provisions. Nine of the 1979 settlements included COLA provisions. Eight other COLA clauses were in effect from bargaining in prior years. A total of 309,000 workers were covered by escalator provisions in 1979. Mainly because 1979 agreements deferred escalator reviews until 1980 or later, cost-of-living clauses triggered permanent wage-rate adjustments in only seven agreements, covering 76,000 workers. Of these, 71,000 were employed by local governments, largely as transit workers(43,000).

Effective changes. In addition to reporting on 1979 settlements, the new BLS release also reports on the wage increases actually paid during the year to State and local government workers in units of 5,000 or more. A total of 884,000 workers in 69 public sector collective bargaining units collected increases averaging 6.2 percent. About 73,000 workers in 10 bargaining units received no increases. When prorated over all 957,000 workers in major bargaining units, the effective wage adjustment averaged 5.8 percent in 1979, with 4.0 percent coming from new settlements, 1.2 percent from deferred increases paid under agreements negotiated in prior years, and 0.5 percent from COLA clauses.

More complete data. Information in the new BLS release is based on preliminary data. A revised report, based on more complete data, will appear in a forthcoming issue of *Current Wage Developments,* a monthly periodical published by BLS.

Meanwhile, single copies of the release, USDL: 80-501, are available from the Inquiries and Correspondence Section, BLS, Washington, D.C. 20212. □

Are women safer workers? a new look at the data

The overall better record of women may reflect the fact that relatively few are in hazardous jobs; data from 26 States suggest that men and women doing the same kind of work incur similar injuries with about the same frequency

NORMAN ROOT AND JUDY R. DALEY

Women have a relatively better work injury record than do men, much of which may be attributed to the kinds of work in which women are engaged. They are underrepresented in the crafts and kindred occupations, in which very large numbers of injuries occur. A large proportion of on-the-job injuries among women occurs in traditionally female-dominated occupations—teaching, nursing, clerical jobs, assembling, and retail sales, for example.

The characteristics of occupational injuries and illnesses are similar for women and men. There are a few noteworthy exceptions: women suffer relatively more "falls on the same level" than do men, which may be the result of wearing shoes with higher heels; women also appear to experience relatively more illnesses related to occupations, particularly inflammation of joints, tendons, and muscles.

This article provides the first comprehensive look at female work-related injuries and illnesses by occupation, industry, and by specific characteristic of the injury (for example, nature of the injury or illness, part of body affected, source of the injury, and type of accident or exposure causing the injury). In this analysis, the term "injury" includes both injuries and illnesses.

The data are from reports made to State workers compensation agencies. The Bureau of Labor Statistics developed the Supplementary Data System to assist States in uniformly classifying and coding data obtained in connection with administration of State workers' compensation laws. The State agencies, in turn, provide the Bureau with information about the industrial classification of the establishment in which the injured was employed, occupation, age, and sex of the injured employee, nature of injury, part of body affected, source of the injury, and type of accident or exposure which produced the injury.[1] Although classification and processing are uniform, the injury data are subject to a number of limitations because reporting and coverage requirements for workers' compensation differ among States.[2]

This report compares the proportionate values of injuries and employment within a given universe (for example, female workers, manufacturing). Employment

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data for industry and occupation are from *Employment and Earnings*, a monthly publication of the Bureau of Labor Statistics.[3] Data limitations do not permit computation of rates. The 26 States, whose data are used in this analysis, accounted for about 40 percent of wage and salary employment and are considered representative of the industrial activity in the Nation. These States provided information on cases that either occurred or were reported to workers' compensation agencies in 1977.

Young workers susceptible

About 1.5 million injuries,[4] or 21 percent of all occupational injuries, occur to women. The proportion of work-related injuries ranged from 10 percent of all such injuries in Wyoming to 25 percent in Minnesota. Employment of women in these States ranged from 37 percent to 45 percent of all employed workers.[5] (See table 1.) Wyoming, Alaska, New Mexico, and Utah had noticeably low percentages of injuries, probably because of the industrial mix of jobs in these States. They have large numbers of traditionally male-dominated hazardous jobs, such as mining, ranching, construction, and oil-well drilling.

The largest percentage of female injury cases was accounted for by younger workers. The injury-to-employment ratio for women was relatively consistent for all age groups. However, compared with men, younger women (16 to 34 years) had lower injury-to-employment ratios and older women (35 to 64 years), higher ratios. For men, the injury-to-employment ratio was higher for those age 16–34 and lower for the succeeding age groups.

Table 1. Employment and work-related injuries and illnesses among women, selected States, 1977

State	Female employment as percent of total employment[1]	Injuries and illnesses	
		Total cases	Percent incurred by women
Total	40.6	1,250,284	21.1
Alaska	41.8	8,841	14.9
California	41.1	327,868	22.5
Colorado	40.4	33,054	19.9
Connecticut	42.2	[2]11,441	17.4
Hawaii	44.5	36,603	22.5
Idaho	39.0	38,290	17.9
Indiana	40.2	38,398	21.8
Iowa	40.0	18,510	19.8
Kentucky	39.8	51,015	18.9
Maine	40.5	43,828	21.0
Maryland	40.8	30,551	20.7
Michigan	38.6	70,537	23.0
Minnesota	39.9	50,802	25.0
Missouri	42.4	128,590	20.4
Montana	38.8	32,281	18.0
Nebraska	41.4	35,249	20.6
New Jersey	40.7	84,753	21.8
New Mexico	40.9	4,046	15.4
Oregon	39.9	43,777	21.0
South Dakota	39.4	17,397	21.4
Tennessee	41.6	25,649	19.9
Utah	38.6	20,491	16.6
Vermont	40.3	17,952	21.8
Virgin Islands	([3])	1,531	18.0
Wisconsin	40.5	60,626	21.5
Wyoming	37.6	17,204	10.3

[1] *State Profile of Employment and Unemployment, 1977*, Report 539 (Bureau of Labor Statistics, October 1978). The total is for the 25 States for which data were available.

[2] In 1977, Connecticut provided injury and illness information only for manufacturing industries, excluding boat building and repair.

[3] Not available.

Because a high proportion (about 40 percent) of all occupational injuries are sustained during a worker's first year on the job, the relatively high injury-to-employment ratio experienced by younger men can be expected.[6] The consistent injury to employment ratio of women, therefore, could indicate that they, perhaps, are "safer" workers in the sense that their injury experience remains proportionate to their exposure; that, perhaps, women are experiencing more turnover in employment, (that is, continue to enter and leave the work force throughout their working years); or that the low level of upward mobility in the "female jobs" (such as charwomen, nursing aides, and assemblers) keeps women exposed to the same hazards of the work environment throughout their working years.

Injuries more frequent in manufacturing

Despite some changes in their employment patterns, women remain concentrated in the same industry groups as in previous years.[7] And, significant numbers of injuries continued to occur in those industries. Manufacturing industries accounted for 30 percent of all injuries to female workers, followed by 24 percent in services, 19 percent in retail trade, and 17 percent in the public sector. The following tabulation shows the distribution of female work injuries by industry, 1977:

	Percent
Private sector	82.9
Agriculture, forestry, and fishing	1.3
Mining	.2
Construction	.6
Manufacturing	30.0
Transportation and public utilities	2.5
Wholesale trade	2.9
Retail trade	19.4
Finance, insurance and real estate	2.3
Services	23.7
Public sector	17.1
State government	5.5
Local government	11.6

Among manufacturing industries with significant numbers of female work-related injuries, food and kindred products accounted for the most, followed by electric and electronic equipment, fabricated metals products, transportation equipment, apparel and other textile products, rubber and miscellaneous plastics products, and machinery (except electrical) products. About two-thirds of the female work-related injuries in the private sector of the services industry occurred in hospitals and health care facilities. In retail trade, the largest components of female work-related injuries occurred in eating

Table 2. Employment and work-related injuries and illnesses among women in selected industries, 1977

Industry	Female employment as percent of total employment	Injuries and illnesses	
		Total cases	Percent incurred by women
Total	40	1,250,284	21.1
Private sector—all industries	39	1,085,223	20.2
Agriculture, forestry, and fishing	(1)	29,403	11.5
Mining	8	27,266	1.6
Construction	7	117,474	1.3
Manufacturing	30	429,075	18.4
Durable goods	23	271,467	15.5
Lumber and wood products	13	47,046	9.1
Millwork, plywood structural members	15	10,668	14.7
Furniture and fixtures	28	12,449	19.9
Household furniture	31	7,970	22.0
Stone, clay, and glass products	18	19,065	11.3
Primary metals industries	9	26,906	6.6
Fabricated metal products	20	47,921	14.6
Metal forgings and stampings	21	8,012	19.1
Machinery, except electrical	17	43,980	11.6
Electric and electronic equipment	42	22,831	38.0
Electronic components and accessories	53	4,554	51.6
Transportation equipment	13	38,091	14.2
Motor vehicles and equipment	12	24,033	14.6
Instruments and related products	40	6,239	43.5
Miscellaneous manufacturing industries	46	6,939	35.2
Nondurable goods	40	157,608	23.5
Food and kindred products	28	69,238	18.2
Meat products	31	22,501	15.7
Preserved fruits and vegetables	43	11,231	34.2
Miscellaneous foods and kindred products	28	4,900	30.0
Tobacco manufacturers	38	661	38.6
Textile mill products	47	6,208	29.1
Apparel and other textile products	81	8,716	64.1
Men's and boys' furnishings	84	2,867	71.9
Paper and allied products	21	17,653	16.8
Miscellaneous converted paper products	33	5,479	24.9
Printing and publishing	36	11,564	21.9
Chemical and allied products	22	14,254	16.6
Petroleum and coal products	11	2,379	5.0
Rubber and miscellaneous plastics products	34	19,645	28.8
Miscellaneous plastics products	41	11,999	35.5
Leather and leather products	60	7,287	42.8
Footwear, except rubber	66	4,360	54.7
Transportation and public utilities	23	80,942	8.1
Local and interurban passenger transit	20	4,817	15.5
Trucking and warehousing	11	45,260	3.0
Trucking, local and long distance	10	42,512	2.7
Water transportation	11	1,017	2.5
Air transportation	30	8,774	26.0
Certificated and noncertificated air transportation	31	8,134	27.6
Pipelines, except natural gas	9	98	(1)
Transportation services	30	1,323	11.4
Communication	45	5,951	25.1
Electric, gas, and sanitary services	17	13,799	4.0
Wholesale trade	25	60,080	9.5
Retail trade	47	171,561	29.9
Building materials and garden supplies	20	12,675	5.9
General merchandise stores	67	25,510	47.0
Department stores	67	21,541	45.8
Variety stores	75	3,156	56.9
Food stores	40	36,925	25.6
Grocery stores	(1)	34,230	24.9
Automotive dealers and service stations	15	29,265	4.5
Apparel and accessory stores	67	2,653	58.8
Furniture and home furnishings stores	30	6,149	10.5
Eating and drinking places	57	47,084	46.8
Miscellaneous retail	47	11,300	31.4
Finance, insurance, and real estate	56	15,897	38.8
Banking	68	3,058	67.2
Credit agencies other than banks	63	1,494	41.2
Security, commodity brokers and services	36	169	37.9
Insurance carriers	56	2,595	50.7
Insurance agents, brokers and service	58	637	46.0
Real estate	36	7,222	20.5
Combined real estate, insurance, etc.	52	512	49.4
Services	56	131,635	47.6
Hotels and other lodging places	(1)	14,693	46.8
Personal services	63	4,526	39.8
Business services	38	19,013	24.0
Auto repair, services and garages	(1)	10,110	5.3
Miscellaneous repair services	18	4,804	4.7
Motion pictures	37	1,690	16.4
Health service	81	46,587	78.9
Hospitals	80	26,561	74.2
Legal services	65	520	59.2
Educational services	52	5,548	40.7
Miscellaneous services	29	3,035	18.6
Public sector	49	165,031	27.4
State government	45	37,819	38.5
Local government	50	127,212	24.0

[1] Data are not available.

and drinking places, general merchandise stores, and food stores. In the public sector, local government accounted for two-thirds of the work-related injuries sustained by women, many of whom were in education.

Relative to their employment, work-related injuries among women varied widely by industries. (See table 2.) In manufacturing industries, their relative injury experience was greater than or close to their relative employment in these industries: lumber and wood products, primary metals, metal forgings and stampings, electric and electronic equipment, transportation equipment, instruments and related products, miscellaneous foods and kindred products, and tobacco manufacturing. In air transportation, banking, and health services, similar relative positions occurred. The work-related injury rates for women in these industries would be at least comparable to those of men.

In contrast, the following industries with a significantly large number of cases show a much higher proportion of employment than of injuries incurred by women: miscellaneous manufacturing, food and kindred products, textile mill products, apparel and other textile products, printing and publishing, leather and leather products, transportation and public utilities generally, wholesale and retail trade generally, real estate, services generally and local government.

Service workers—most cases

Two occupational groups—service workers and operatives, except transport—accounted for slightly more than 50 percent of total injuries to women. Clerical occupations made up 12 percent of the cases, followed by laborers (except farm) and professional, technical and kindred workers with 9 and 8 percent. Following are

Table 3. Employment and work-related injuries and illnesses among women in selected occupations, 1977

Occupation	Female employment as percent of total employment	Injuries and illnesses	
		Total cases	Percent incurred by women
Total	40.5	1,250,284	21.1
Professional, technical and kindred workers	42.6	43,738	49.3
Registered nurses	96.7	6,564	94.8
Teachers, excluding college and university	70.9	10,216	62.3
Elementary school teachers	84.2	3,804	76.3
Secondary school teachers	51.2	3,558	45.7
Teachers, nec	75.2	2,346	60.7
Managers and administrators, except farm	22.3	33,915	22.3
Restaurant, bar managers	34.7	3,416	41.8
Sales managers and department heads, retail trade	36.2	5,242	26.2
Salesworkers	43.3	22,430	42.3
Salesworkers, nec	45.0	17,020	42.7
Sales clerks, retail trade	70.4	2,516	60.0
Clerical and kindred workers	78.9	56,474	55.3
Bookkeepers	90.0	2,133	85.9
Cashiers	87.0	5,393	77.7
Secretaries, nec	99.1	3,721	98.3
Stock clerks, storekeepers	30.8	8,748	20.9
Teacher aides	93.4	2,257	87.0
Typists	96.3	1,964	94.1
Miscellaneous clerical workers	(1)	6,692	73.7
Not specified clerical	(1)	2,079	74.3
Crafts and kindred workers	5.0	230,306	3.0
Operatives, except transport	39.6	255,123	22.5
Assemblers	50.3	31,312	37.9
Checkers, examiners, inspectors, manufacturing	(1)	4,912	45.1
Meatcutters, butchers, manufacturing	35.2	9,007	15.5
Packers, wrappers, except retail	63.6	10,322	54.9
Sewers and stitchers	95.2	4,412	90.6
Machine operatives, miscellaneous	(1)	11,420	23.4
Not specified operatives	(1)	6,709	16.8
Transport equipment operatives	6.8	87,328	4.7
Bus drivers	42.2	5,366	34.6
Laborers, except farm	9.4	237,161	9.6
Freight, material handlers	7.9	26,253	8.0
Stock handlers	22.7	17,852	19.2
Miscellaneous laborers	(1)	83,644	13.7
Not specified laborers	(1)	26,683	10.0
Farmers and farm managers	6.4	517	2.5
Farm laborers and foremen	29.4	20,838	11.9
Farm laborers, wage workers	17.0	19,800	12.4
Service workers, except private household	56.3	175,556	46.0
Chambermaids and maids	(1)	3,807	89.6
Cleaners and charwomen	96.1	7,412	41.5
Janitors and sextons	15.4	26,064	15.5
Cooks	56.3	17,815	44.3
Food counter and fountain workers	85.7	3,449	78.3
Waiters and waitresses	90.4	10,704	90.3
Food service workers, nec	74.3	18,804	61.9
Health aides, except nursing	84.5	2,984	65.6
Nursing aides, orderlies and attendants	86.3	24,536	84.7
Practical nurses	96.8	4,891	93.3
Airline stewardesses	(1)	1,743	90.1
Housekeepers	64.6	2,517	73.4
Private household workers	97.0	469	86.6

[1] Data not available.

NOTE: nec = Not elsewhere classified.

the occupational distribution of female work-related injuries, 1977:

	Percent
Professional, technical and kindred workers	8.2
Managers and administrators, except farm	2.9
Salesworkers	3.6
Clerical and kindred workers	11.8
Crafts and kindred workers	2.6
Operatives, except transport	21.8
Transport equipment operatives	1.6
Laborers except farm	8.6
Farm laborers and foremen	.9
Service workers, except private household	30.6
Private household workers	.2

The occupational distribution of work-related injuries indicates one reason for the relatively low numbers of injuries to women. Men accounted for 95 percent of employment and experienced 97 percent of the work injuries in the crafts and kindred workers group. The injuries in this occupational group accounted for 22 percent of all work injuries to men. For women, on-the-job injuries in this occupational group made up only 3 percent of all work injuries. (See table 3.) Thus, women had very little exposure to one of the most hazardous occupations.

Work-related injuries among women generally reflected their concentrations of employment. In the following occupations, women made up 60 percent or more of employment and injuries: nursing and other health related occupations, teaching, retail sales, bookkeeping, clerical jobs, sewing and stitching, and several food-related occupations. Women employed as managers and administrators, sales workers, operatives (such as assemblers, and packers and wrappers), and laborers experienced significant percentages of injuries relative to their employment.

Profile of occupational injuries

The characteristics of the work-related injuries that occurred to women were generally similar to those affecting men. For example, sprains and strains were the most frequently occurring injuries for both groups; the back and fingers were the body parts affected more than one-third of the time; and overexertion resulted in about 1 of 5 injuries. However, the sources of the injuries varied markedly for the two groups, reflecting the different work environments and, therefore, different potentials for producing injuries. Working surfaces caused 19 percent of all female work-related injuries, but only 12 percent of the male injuries. Conversely, metal items were responsible for 15 percent of male injuries, but only 5 percent of injuries to women. A person as a source of injury (primarily the lifting and handling of them) was responsible for 9 percent of the female injuries, but for only 2 percent of the men's.

As noted, sprains and strains accounted for more than one-third of the injuries occurring to women, followed by contusions and bruises, cuts, lacerations, and punctures, fractures, and burns. Other frequent injuries included scratches and abrasions and inflammation of joints, tendons, and muscles. (See table 4.)

About 30 percent of the injuries involved the upper extremities and about half of the time included the fingers. An additional 30 percent of injuries involved the trunk, largely the back. (See table 5.) The lower extremities frequently involving the toes, accounted for 19 percent of the injuries; the head and multiple body parts each accounted for about 8 percent; and injuries to the eyes accounted for 3 percent.

Data on the sources of work injuries generally reflect the work environment more closely than any other classification because many of the individual categories are peculiar to specific industries, each with special machines, equipment, or exposures. Thus, the source classification has many more categories than other classifications. (See table 6.) Two categories—working surfaces and boxes, barrels and containers—common to all industries, accounted for nearly one-third of all the injuries occurring to women, and for 22 percent of injuries occurring to men. Three other categories combined made up nearly 1 of 4 female work-related injuries—person, bodily motion, and machines. Again, these sources reflect the fact that women are heavily employed as nurses, teachers, wrappers and packers, assemblers, and health and food service workers.

A look at accidents which cause injuries on the job can provide clues for targeting safety programs.[8] Among women, the most frequent accidents were struck against or struck by, overexertion, and fall on the same level. (See table 7.) Nearly 1 of 5 injuries were caused by the combined accidents, bodily reaction, caught in-under-between, and fall from elevation. Similar types of accidents caused injuries to women and men. The only significant differences were for fall from the same level, which accounted for 1 of 6 injuries to female workers, compared with 1 of 13 for men, and for struck against or struck by which accounted for one-fourth of the injuries incurred by women and one-third of those incurred by men.

Table 4. Nature of work-related injury

Nature	Women		Men	
	Number	Percent	Number	Percent
Total cases	264,136	100.0	986,147	100.0
Amputation or enucleation	1,337	.5	8,227	.8
Burns:				
Heat	8,520	3.2	26,315	2.7
Chemical	1,548	.6	8,778	.9
Infective or parasitic disease	1,259	.5	1,256	.1
Contusion, crushing, bruise	42,277	16.0	134,306	13.6
Cut, laceration, puncture	38,014	14.4	180,069	18.3
Dermatitis	4,322	1.6	9,191	.9
Dislocation	2,498	1.0	11,936	1.2
Fracture	16,632	6.3	79,718	8.1
Hernia	866	.3	15,581	1.6
Inflammation or irritation of joints, tendons, or muscles	4,550	1.7	8,478	.9
Systemic poisoning	2,630	1.0	8,656	.9
Scratches, abrasions	5,543	2.1	40,825	4.1
Sprains, strains	99,523	37.7	326,746	33.1
Multiple injuries	3,509	1.3	13,940	1.4
All other	31,109	11.8	112,125	11.4

Table 5. Selected parts of body affected by work-related injury

Part of body affected	Women		Men	
	Number	Percent	Number	Percent
Total cases	264,136	100.0	986,147	100.0
Head	19,957	7.6	111,957	11.4
Eyes	7,332	2.8	65,275	6.6
Face	4,896	1.9	22,516	2.3
Neck	3,652	1.4	11,133	1.1
Upper extremities	81,759	31.0	285,567	29.0
Arms	14,494	5.5	47,667	4.8
Elbow	3,671	1.4	14,440	1.5
Wrist	10,174	3.9	25,073	2.5
Hand	14,995	5.7	58,418	5.9
Finger(s)	38,687	14.7	145,558	14.8
Trunk	78,318	29.7	292,509	29.7
Abdomen	2,987	1.1	21,648	2.2
Back	56,051	21.2	195,449	19.8
Chest	4,444	1.7	22,123	2.2
Hips	4,263	1.6	14,727	1.5
Shoulders	6,778	2.6	26,959	2.7
Lower extremities	48,864	18.5	200,937	20.4
Legs	19,702	7.5	87,092	8.8
Knee	10,921	4.1	48,164	4.9
Ankle	13,127	5.0	40,951	4.2
Foot	9,773	3.7	45,614	4.6
Toes	4,013	1.5	20,707	2.1
Multiple parts	21,653	8.2	52,623	5.3
Body system	5,897	2.2	19,526	2.0

Table 6. Selected sources of work-related injury

Source	Women		Men	
	Number	Percent	Number	Percent
Total cases	264,136	100.0	986,147	100.0
Animals, insects, etc.	2,045	.8	7,880	.8
Bodily motion	21,306	8.1	63,894	6.5
Boxes, barrels, containers	31,637	12.0	98,767	10.0
Buildings and structures	7,154	2.7	20,733	2.1
Doors and gates	4,233	1.6	8,979	.9
Chemicals, chemical compounds	4,615	1.8	17,151	1.7
Food products	4,000	1.5	7,593	.8
Furniture, fixtures, etc.	13,893	5.3	22,631	2.3
Glass items, nec	2,996	1.1	10,164	1.0
Hand tools, not powered	11,341	4.3	59,589	6.0
Knife	6,021	2.3	21,220	2.2
Hand tools, powered	1,888	.7	19,185	2.0
Liquids, nec	3,205	1.2	5,813	.6
Machines	19,703	7.5	62,906	6.4
Shears, slitters, slicers	3,921	1.5	6,369	.7
Metal items	14,361	5.4	148,837	15.1
Vehicles	11,585	4.4	78,674	8.0
Highway vehicles, powered	5,463	2.1	43,457	4.4
Plant or industrial vehicles	4,670	1.8	26,691	2.7
Nonpowered vehicles	3,907	1.5	12,507	1.3
Powered carriers	699	.3	11,166	1.1
Wood items	5,125	1.9	46,684	4.7
Working surfaces	50,503	19.1	118,939	12.1
Floor	26,189	9.9	40,222	4.1
Ground	5,336	2.0	32,901	3.3
Stairs, steps	5,343	2.0	7,994	.8
Person	22,519	8.5	15,591	1.6
Person, other than injured	19,645	7.4	10,984	1.1

NOTE: nec = Not elsewhere classified.

Table 7. Selected types of accident or exposure resulting in work-related injury

Accident or exposure	Women		Men	
	Number	Percent	Number	Percent
Total cases	264,136	100.0	986,147	100.0
Struck against	27,203	10.3	107,745	10.9
Struck by	41,637	15.8	217,720	22.1
Fall from elevation	12,580	4.8	65,385	6.6
Fall on stairs	6,805	2.6	10,116	1.0
Fall on same level	44,271	16.8	77,728	7.9
Caught in, under, between	17,402	6.6	75,364	7.6
Rubbed or abraded	8,126	3.1	48,180	4.9
Bodily reaction	21,012	8.0	65,473	6.6
Overexertion	59,162	22.4	211,653	21.5
Lifting objects	36,268	13.7	124,171	12.6
Contact with temperature extremes	8,674	3.3	26,570	2.7
Contact with radiation, caustics, etc.	10,115	3.8	32,989	3.4
By absorption	5,966	2.3	19,309	2.0
Motor vehicle accidents	3,478	1.3	21,925	2.2

Illness a greater problem. Illnesses peculiar to one's occupation were a relatively greater problem for women than men. Occupational illnesses accounted for nearly 7 percent of all injuries and illnesses of women, but less than 5 percent of the men's.[9]

Three categories made up two-thirds of the occupational illnesses of women—inflammation or irritation of joints, tendons, and muscles, dermatitis, and systemic poisoning. (See table 8.) These accounted for 59 percent of the illnesses occurring to men. Other significant categories of female occupational illnesses were infective or parasitic diseases, mental disorders, and effects of changes in atmospheric pressure (limited almost exclusively to stewardesses in the air transportation industry).

The frequency and types of illnesses reflect employment and exposures (as indicated, for example, by the experience of airline stewardesses). Nearly a third of all female work-related illnesses occurred in manufacturing industries; 62 percent of the illnesses involved inflammation of joints, tendons, and muscles; 53 percent, dermatitis, and 39 percent, systemic poisoning. Five industries combined—food, fabricated metals, machinery (electric and nonelectric) and transportation equipment—had more than 50 percent of each of these illnesses. Inflammation of joints, tendons and muscles were particularly associated with the repetitive movements of assembly-type activities, and women appeared to be more prone to this illness than men. Services accounted for 24 percent of all female occupational illnesses, with a large concentration in health services, reflecting among other things, exposures to infective and parasitic diseases. Retail trade, especially eating and drinking places, accounted for 19 percent of female occupational diseases. The public sector accounted for 17 percent of female occupational illnesses and included high proportions of infective and parasitic diseases, mental disorders, and circulatory conditions. Many of these conditions are associated with occupations in health, education, and social services provided by State and local governments.

Are women safer workers than men?

Given the same job will women suffer the same injuries as do men? Comparisons of the relative frequency and kinds of injuries occurring to both women and men in the same occupations and industries indicate that work activity, not the worker, is a more important determinant of injuries. The data show that women in traditionally male-dominated jobs will suffer the same kinds of injuries and generally with the same relative frequency as their male counterparts. Also men in traditionally female-dominated occupations will suffer injuries common to their female counterparts and with the same frequency.

Table 9 presents some injuries and illnesses frequently occurring in selected occupations. The similarities of characteristic clusters which reflect exposures to the work environment are the main features of the data. For example, if the category "strains and sprains" among female nursing aides is larger than the national average for women, it is also larger than the average for men; or if a "person" as a source of injury among female laborers is smaller than the national average for women, it is also markedly smaller for men. Other significant clusters which reflect the exposures of the working environment include: dermatitis and inflammation of joints, tendons, and muscles among assemblers; bodily

Table 8. Frequency of occupational illness

Illness	All workers		Women		Men	
	Number	Percent	Number	Percent	Number	Percent
All occupational illnesses	62,366	100.0	17,455	100.0	44,911	100.0
Infective or parasitic disease	2,515	4.0	1,259	7.2	1,256	2.8
Dermatitis	13,513	21.7	4,322	24.8	9,191	20.5
Effects of exposure to low temperature	773	1.2	133	.8	640	1.4
Effects of environmental heat	790	1.3	109	.6	681	1.5
Inflammation of joints, tendons, or muscles	13,028	20.9	4,550	26.1	8,478	18.9
Poisoning, systemic	11,286	18.1	2,630	15.1	8,656	19.3
Pneumoconiosis	822	1.3	24	.1	798	1.8
Radiation effects	4,292	6.9	116	.7	4,176	9.3
Hemorrhoids	334	.5	28	.2	306	.7
Effects of changes in atmospheric pressure	431	.7	351	2.0	80	.2
Conditions of circulatory system	1,121	1.8	339	1.9	782	1.7
Complications peculiar to medical care	351	.6	213	1.2	138	.3
Diseases of the eye	274	.4	52	.3	222	.5
Mental disorders	1,171	1.9	594	3.4	577	1.3
Neoplasm, tumor	243	.4	79	.5	164	.4
Conditions of nervous system	821	1.3	286	1.6	535	1.2
Conditions of respiratory system	1,223	2.0	275	1.6	948	2.1
Symptoms and ill-defined conditions	3,578	5.7	1,188	6.8	2,390	5.3
Occupational disease, nec	1,716	2.8	585	3.4	1,131	2.5
Heart conditions (includes heart attack)	4,084	6.5	322	1.8	3,762	8.4

NOTE: nec = Not elsewhere classified.

Table 9. Characteristics of injuries and illnesses and proportion occurring in selected occupations, 1977

Selected characteristics of the injury or illness	All industries [1]		Food and kindred products				Fabricated metals		Electrical machinery					
			Laborers		Operatives except transport		Machine operatives		Machine operatives		Laborers		Assemblers	
	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men
Nature of injury or illness	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Amputations	.5	.8	.7	.7	1.0	.9	2.1	2.0	.9	2.2	.8	1.0	.1	.7
Burns	3.8	3.6	3.2	4.4	2.0	4.4	1.9	3.7	6.1	5.6	2.9	3.6	5.7	3.1
Contusions, crushing, bruise	16.0	13.6	19.5	16.5	17.5	13.2	16.3	15.9	15.4	12.7	16.9	15.1	13.5	12.0
Cut, laceration, puncture	14.4	18.3	14.8	18.1	18.6	29.0	19.9	22.5	13.8	18.6	13.2	16.1	14.4	19.8
Dermatitis	1.6	.9	4.0	1.4	3.8	1.5	1.9	1.0	4.3	2.4	7.4	1.7	4.0	1.7
Fractures	6.3	8.1	5.1	5.5	4.7	4.3	6.4	7.6	8.4	7.3	4.8	6.1	5.0	5.3
Inflammation or irritation of joints, tendons, or muscles	1.7	.9	4.8	1.8	4.2	1.8	2.3	.6	3.4	1.0	2.0	1.5	3.8	1.7
Scratches, abrasions	2.1	4.1	1.8	2.0	2.1	2.8	3.6	4.9	4.9	4.7	1.3	1.6	4.6	4.8
Sprains, strains	37.7	33.1	33.3	36.7	34.1	30.7	33.2	29.6	29.9	30.6	32.0	37.4	32.8	37.0
Source of injury or illness	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Bodily motion	8.1	6.5	10.0	7.1	10.5	6.3	6.4	5.2	7.3	5.3	7.5	4.6	9.2	5.8
Boxes, barrels, containers	12.0	10.0	15.8	19.7	15.2	14.3	13.8	9.8	10.9	11.2	16.8	19.3	9.9	11.3
Chemicals, chemical compounds	1.8	1.7	2.3	2.3	1.7	1.9	2.1	2.2	9.9	5.2	7.8	5.1	8.7	4.5
Furniture, fixtures, etc.	5.3	2.3	1.7	1.0	2.0	1.0	1.5	1.2	2.4	1.7	1.8	2.5	3.8	4.1
Hand tools, not powered	4.3	6.0	6.8	7.7	9.6	18.1	4.0	4.6	3.6	3.5	3.6	3.1	5.7	4.7
Machines	7.5	6.4	7.9	4.9	11.3	8.1	23.0	17.0	17.2	14.9	8.7	6.4	9.2	9.1
Metal items	5.4	15.1	4.7	7.5	3.6	6.1	21.8	33.2	13.2	24.5	13.8	17.0	13.8	20.8
Vehicles	4.4	8.0	3.2	7.0	2.0	3.3	1.2	2.3	1.3	3.3	2.5	8.0	1.8	2.7
Working surfaces	19.1	12.1	17.6	11.4	16.2	9.4	7.4	5.3	10.1	5.2	7.0	7.7	11.3	5.3
Person	8.5	1.6	.3	.2	.4	.2	.3	.3	.5	.5	.2	.1	.6	.7
Type of accident or exposure	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Struck by or against	25.8	33.0	25.0	31.6	26.0	38.2	29.6	36.8	22.5	31.7	28.0	31.9	23.8	33.4
Fall from elevation	4.8	6.6	3.9	4.7	4.1	3.7	1.8	2.0	1.5	1.2	1.3	3.1	1.7	1.7
Fall on same level	16.8	7.9	16.1	9.5	14.1	7.7	8.0	4.9	10.1	5.6	8.1	6.2	11.2	5.3
Caught in, under, between	6.6	7.6	9.6	9.3	10.1	9.1	17.8	14.3	14.0	14.2	9.2	10.1	8.2	8.4
Bodily reaction	8.0	6.6	8.7	7.4	9.7	6.2	6.1	5.3	6.7	5.3	6.7	4.5	8.0	6.2
Overexertion	22.4	21.5	18.9	23.8	19.7	20.9	23.9	22.0	19.8	23.6	22.6	29.5	20.8	28.7
Contact with radiations, caustics, etc.	3.8	3.4	6.2	3.8	5.7	3.6	3.7	3.8	12.2	6.7	9.4	4.8	10.8	4.8
Motor vehicle accidents	1.3	2.2	.1	.2	.1	.1	.0	.0	.1	.0	.1	.3	.1	.1

Selected characteristics of the injury or illness	Retail trade				Medical services				Local government			
	Sales workers		Clerical workers		Registered nurses		Nursing aides, orderlies, etc.		Teachers		Police and fire protection	
	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men
Nature of injury or illness	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Amputations	.1	.2	.2	.3	.0	.0	.1	.2	.2	.4	.0	.0
Burns	1.2	.8	1.5	.8	1.8	1.4	1.5	1.2	.8	1.4	.5	2.6
Contusions, crushing, bruise	17.7	11.7	17.2	14.2	12.8	9.1	13.6	13.3	18.9	10.6	15.0	12.2
Cut, laceration, puncture	18.7	22.1	15.8	25.1	12.1	13.5	5.5	7.8	7.0	10.3	6.1	9.8
Dermatitis	.4	.2	.3	.4	1.1	.0	.8	1.0	.3	.3	.6	.9
Fractures	6.2	6.2	6.7	5.9	3.8	2.0	2.3	2.4	11.4	8.4	8.7	6.1
Inflammation or irritation of joints, tendons, or muscles	.9	.4	1.1	.5	.7	1.0	.7	.6	.4	.9	1.1	.5
Scratches, abrasions	2.1	2.9	1.9	2.2	2.2	2.0	1.7	1.7	1.6	2.3	1.4	3.0
Sprains, strains	36.8	38.6	38.1	36.9	49.4	53.5	60.5	56.8	35.8	41.9	41.2	39.9
Source of injury or illness	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Bodily motion	8.4	7.7	7.6	5.0	8.2	6.1	6.3	6.5	13.3	19.5	14.3	13.2
Boxes, barrels, containers	20.8	16.7	25.4	25.2	2.8	2.0	2.3	4.2	4.0	4.2	1.7	1.7
Chemicals, chemical compounds	.7	.4	.5	.6	.9	.7	.5	.6	.4	1.2	.9	1.6
Furniture, fixtures, etc.	8.5	7.5	6.5	5.3	6.0	3.4	6.1	6.2	6.5	5.7	2.5	1.5
Hand tools, not powered	5.1	7.2	6.0	9.8	5.1	4.7	1.3	1.2	1.7	1.7	.7	3.0
Machines	6.9	6.0	4.8	3.2	.8	1.4	.4	.8	1.3	3.0	.2	.4
Metal items	4.5	6.7	4.5	8.8	3.3	2.0	1.7	1.6	1.3	4.3	1.1	4.0
Vehicles	2.8	9.9	4.0	7.7	3.3	3.4	2.7	3.2	2.2	2.6	14.7	14.3
Working surfaces	20.8	12.0	20.5	11.1	14.9	12.5	14.2	10.9	33.6	18.3	28.3	16.2
Person	1.0	2.1	1.5	1.0	36.1	45.8	48.9	44.5	11.7	14.1	15.1	14.8
Type of accident or exposure	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Struck by or against	34.3	34.2	30.7	38.7	21.1	21.6	18.6	25.6	20.2	31.1	18.8	24.0
Fall from elevation	8.3	5.9	5.8	5.1	1.5	2.4	1.5	1.6	8.2	5.1	7.5	6.3
Fall on same level	15.3	8.6	17.5	7.8	15.0	11.5	14.4	10.0	26.7	14.7	21.8	10.7
Caught in, under, between	3.5	4.4	5.2	6.3	2.9	1.0	2.9	3.0	2.3	1.8	2.5	2.4
Bodily reaction	8.4	7.7	7.8	5.2	8.0	6.1	6.5	7.0	13.4	19.4	14.4	13.3
Overexertion	22.2	28.1	24.3	28.6	35.2	42.4	47.9	43.6	11.8	15.9	14.0	15.3
Contact with radiations, caustics, etc.	1.3	1.0	1.1	1.3	5.5	7.1	2.6	3.7	3.0	2.4	3.7	6.1
Motor vehicle accidents	.8	3.3	.7	1.0	1.4	.7	.3	.3	.7	1.2	7.0	6.1

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[1] Includes occupations other than those shown separately.

motion and working surfaces as sources of injuries among teachers in local government; boxes and containers as sources of injuries among laborers and clerical workers; metal items as a source of injury among machine operatives and laborers and assemblers; person as a source among nurses and nurses aides, and teachers, and in police and fire departments in local government; struck by or against among clerical workers; caught in-under, between and fall from elevation among operatives. □

FOOTNOTES

[1] The industry codes are based on the Office of Management and Budget's *Standard Industrial Classification Manual, 1972*, occupation codes are based on the *Bureau of the Census Occupational Classification Manual, 1970*; and the nature, part, source, and type codes are based on the American National Standards Institute's *American National Standard Method of Recording Basic Facts Relating to the Nature and Occurrence of Work Injuries*, ANSI Z16.2-1962.

[2] See Norman Root and David McCaffrey, "Providing more information on work injury and illness," *Monthly Labor Review*, April 1978, pp. 16-21.

[3] The industry and occupational employment series are not comparable but are the most reliable data available on national employment by sex. The occupational employment series also contains significant numbers of workers not covered by State workers' compensation (for example, self-employed and unpaid family workers) and to this extent, relative employment ratios are overstated. The major factors which have a differential effect on the two series are detailed in *Employment and Earnings*, March 1978, pp. 139-59.

[4] The estimate was derived by applying the percentage of female work injuries in the Supplementary Data System data base to the 1977 national total of injuries and illnesses—approximately 5.5 million—obtained through the Bureau's annual survey of occupational injuries and illnesses. Because the annual survey does not include public sector employment injuries, the estimate includes an upward adjustment to account for such injuries. Public sector injuries accounted for 17 percent of all injuries in the Supplementary Data System; of these, women accounted for 27 percent.

[5] See *State Profile of Employment and Unemployment, 1977*, Report 539 (Bureau of Labor Statistics, October 1978).

[6] Norman Root and Michael Hoefer, "The first work-injury data available from new BLS study," *Monthly Labor Review*, January 1979, pp. 3-8.

[7] Elizabeth Waldman and Beverly McEaddy, "Where women work—an analysis by industry and occupation," *Monthly Labor Review*, May 1974, pp. 3-13.

[8] For details on this subject, see Norman Root and David McCaffrey, "Targeting worker safety programs: weighing incidence against expense," *Monthly Labor Review*, January 1980, pp. 16-21.

[9] It should be noted that occupational illnesses among all workers are reputed to be understated because of difficulties in diagnosis and in associating an illness with the workplace. To this extent, occupational illnesses as a proportion of all injury and illness cases may be larger than that identified.

Occupational disease—difficult diagnosis

The primary difficulty in identifying diseases as occupational in origin occurs when the cause of disease is not known, as in mental illness. In 1970 over 800,000 persons had their activities limited to some degree due to mental and nervous conditions. Even though psychological, chemical, physical injuries, heredity, or other causes of some mental disorders may be identified, we have no idea how the bulk of such illnesses originate. Because the cause of many such disturbances is not known, the contributing role of the workplace cannot readily be evaluated. Due to the large number of potential cases involved, however, the handling of such conditions would substantially affect the number of occupational disease cases estimated. The problem involves more than simply the absence of medical certainty about cause. Even if it were known that the stresses of life can cause such illnesses, what contributive role do job-related pressures play in the development of the disorder? If job loss began the process that led to an emotional disturbance, could this be termed an occupational disease? If so, one probably should also consider as an occupational disease an illness resulting from the frustration of an unsuccessful job search even if the individual in question had never previously been employed.

If stress-induced emotional disabilities can be considered occupational diseases, so can similarly caused cardiovascular illnesses and alcoholism. Workers' compensation practitioners are aware that some heart disease cases are currently being compensated as job related, but few if any cases of alcoholism are being seen by the system.

—PETER S. BARTH WITH H. ALLAN HUNT
Workers' Compensation and Work-Related Illnesses and Diseases
(Cambridge, Mass., The MIT Press, 1980),
pp. 11-12.

Occupational safety and health: a report on worker perceptions

Hazardous working conditions erode job satisfaction, say increasing numbers of workers; especially threatened is the inexperienced employee, who is the most likely to be injured on the job but least willing to bring potential dangers to the attention of management

RICHARD L. FRENKEL, W. CURTISS PRIEST,
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In 1969, 1972, and most recently in 1977, the Institute for Social Research at the University of Michigan conducted opinion surveys of production workers, under U.S. Department of Labor sponsorship. These studies, known as the "Quality of Employment Surveys," gather data on numerous characteristics of the worker and his job, and perhaps most importantly, on the worker's subjective assessment of his worklife.[1] For the analyst, the surveys provide information about worker opinions and job satisfaction not readily available elsewhere. And, because many of the questions asked remain essentially unchanged from one survey to the next, the data may be used to chart major changes in attitudes toward various aspects of work over time.

Certain questions relate to job safety and health, or to workers' evaluation of safety as a job attribute. Under contract to the Department of Labor, the Center for Policy Alternatives at the Massachusetts Institute of Technology has examined data pertaining to a number of these safety- and health-related questions.[2] This article summarizes some salient results of that study.

Time trends in injury rates

Over the 8 years spanned by the Quality of Employment Surveys, work-injury rates reported by the Bureau of Labor Statistics have fallen.[3] Similarly, results from the Quality of Employment Surveys also indicate that the number of injuries clearly related to job activities, such as fractures and cuts, has declined. It is surprising then, that when asked generally about "work-related" injuries, survey respondents note a slight increase between 1969 and 1977.[4] A detailed breakdown of the types of injuries reported by the workers suggests the cause of this apparent paradox: health problems of various kinds are increasingly perceived as due to workplace exposures. Because of the difficulty in proving the work-relatedness of many of these health problems, such "injuries" are not reflected in government statistics.

It is likely that the increase in perceived injuries results from greater worker sensitivity to a variety of occupational hazards. In 1977, 78 percent of those surveyed noted one or more safety and health hazards in the workplace, compared with only 38 percent in 1969. Respondents in the most recent study were asked to be more specific about the types of dangers they encountered on the job. Seventy-two percent of the men reported exposure to "fumes, dust, or other air pollution," as did 52 percent of the women. Similarly, 45 percent of the men and 21 percent of the women felt themselves exposed to "dangerous chemicals." Other significant workplace hazards, and the percentage of workers reporting each are shown below:

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Hazard	*Men*	*Women*
Exposure to dangerous chemicals	45	21
Fire or electric shock	52	30
Fumes, dust or air pollution	72	52
Weather (outdoor)	52	10
Extremes of indoor temperature or humidity	35	47
Badly maintained or dirty workplace	37	26
Dangerously stored or misplaced items	24	13
Noise	45	54
Dangerous tools or equipment	55	37
Disease (contagious)	19	15
Traffic	38	13
Personal violence	21	11
Dangerous work methods	30	19
Other hazards	3	2

Another trend evident in the data is the increase in work-related injuries reported by women. Female production workers averaged over twice as many injuries in 1977 as in either 1972 or 1969, perhaps because by making inroads into traditionally male occupations, women are sharing the greater risks of these jobs as well.[5]

Job satisfaction and risk

In the 1977 Quality of Employment Survey, workers were also asked questions about their level of job satisfaction. Workers who reported exposure to a greater number of hazards, or who felt these hazards were more severe than average, were significantly less satisfied with their jobs.[6] However, while it is tempting to infer that hazard exposure leads to lower job satisfaction, it is also possible that workers who were generally dissatisfied with their jobs for other reasons noted a greater number of hazards.[7]

Worker preference for safety and health

In 1977, respondents were asked to decide whether they would prefer a 10-percent pay raise or various other job improvements. Among these other improvements was "a little safer or healthier working conditions." By this "revealed preference" method, it was determined that nearly a third of all production workers would be willing to trade the pay increase for more safety and health at work. Other compensating benefits, and the fraction of production workers willing to trade a pay raise for each one:

Benefit	*Percent of workers*
Increased retirement benefits	65.9
More medical insurance	58.1
More paid vacation	57.5
Shorter workweek	42.4
Greater chance for promotion	40.6
Greater job security	33.7
A little more safety and health	33.1
Greater comfort at work	28.7
More interesting work	27.5
Greater freedom to decide work	18.2

While retirement benefits and medical insurance are universal concerns, occupational safety and health is likely to be important chiefly to those significantly at risk. Consequently, the figures above may underrepresent the willingness of hazard-exposed workers to forgo pay increases for safety improvements. For example, the 1977 data show that previously injured workers are more concerned about safety and health improvements than other groups. The same is true of union members, perhaps reflecting the greater unionization of risky jobs. And, workers who note workplace hazards, or who have specific health symptoms, are also generally more willing to sacrifice increased pay for a little more safety and health.

Working conditions and injury rates

A number of possible working conditions were introduced in the 1977 Quality of Employment Survey questionnaire. Workers were asked to decide which of these conditions were characteristic of their jobs. Thus, a worker could describe his job as being repetitious or interesting, or as requiring a high level of skill, or much physical effort.

Workers who noted "negative" working conditions also reported, on average, a greater number of job-related injuries. In particular, "fast" or "hard" work, and work requiring "considerable physical effort," were frequently associated with injuries. Workers who felt that they did not have enough authority, information, or assistance to do their jobs properly also had higher injury rates than other workers.

Many of these job characteristics were likewise related to the number of health symptoms reported by workers. These symptoms include such problems as "trouble breathing" or "back pains," and do not have to be work related. A larger number of symptoms seems to be associated with generally "negative" job qualities, while fewer symptoms are associated with "positive" job qualities:

"Negative" job qualities	*"Positive" job qualities*
Fast work pace	Need to learn new things fast
Work hard	Job allows freedom
Repetitious work	Job requires high skill level
Not enough help	Job has variety of work
Not enough authority	
Not enough facts and information	
Not enough tools and equipment	
Not enough time to do the job right	

These results suggest a causal relationship between work characteristics and health problems. Again, however, subjective bias may influence the results, as workers who are "generally dissatisfied" may tend to report both more negative job characteristics and a greater number of health problems.

Tenure and perceived hazards

Other studies have found a significant relationship between a worker's tenure and the probability that he will have an accident.[8] The survey data illustrate this relationship dramatically: workers employed between 1 and 3 months report 3 times as many injuries as workers with from 1 to 3 years on the job, and 8 times as many as those employed for more than 20 years.[9]

Perceived hazard exposure is also related to tenure. Workers who note badly maintained or dirty workplaces, or dangerously stored items, stay significantly shorter periods than other workers. Only perceived noise exposure does not seem to bear much relationship to tenure; workers who report exposure to noise do not have shorter average tenures than others.[10]

While workers who have been on the job for a relatively short time often note exposure to a greater number of hazards than other workers, they do not generally feel endangered. On the other hand, workers with longer tenures cite fewer hazards, but are more apt to judge them as "severe." It would seem from these results, and the data on injuries, that workers relatively new to the job may in fact be exposed to a greater number of hazards, but that they may underestimate the danger from these hazards.

Reporting of hazards by workers

When workers noted a hazard they felt to be "great" or "sizable," they were asked if they had "reported" it to anyone. The rate at which workers reported such dangers is influenced by a number of factors, the most important of which is tenure: fewer than 30 percent of employees with less than 3 months' tenure reported a severe hazard, compared with nearly 70 percent of those with between 5 and 10 years on the job. Union membership, age, and education were not significantly related to the hazard report rate. However, women, and employees who felt that their employers would not keep them fully informed about potential dangers were more likely than others to report a severe hazard.

When workers did report a hazardous condition to someone, 8 out of 10 did so to an immediate supervisor or other management personnel. Reports to a Government agency at any level constituted about 7 percent of all complaints, and reports to union representatives, less than 6 percent.[11]

Priorities of union members

The 1977 Quality of Employment Survey provides considerable information about worker-perceived union performance in various areas of concern, including job safety and health. The following tabulation lists a number of possible areas of union activity, in the order in which workers feel effort should be expended. Thus, "handling grievances" is the area in which union workers want their unions to expend most effort, while "increasing worker input in business decisions" is the area in which they feel the least effort is needed:

Area of union concern	*Effort ranking*
Handling grievances	1
Keeping membership informed of union action	2
Improving fringe benefits	3
Increasing membership input in union direction	4
Increasing job security	5
Increasing wages	6
Increasing occupational safety and health	7
Increasing worker "say" in how the job is performed	8
Increasing job interest	9
Increasing worker input in business decisions	10

By and large, workers feel that their unions do pursue these goals in the correct order.[12] The greatest shortfalls between "desired effort" and "perceived performance" are in the areas of increasing membership input in union direction and handling of grievances. Monitoring of health and safety ranks seventh in shortfall of perceived union effort. However, it is noteworthy that union workers want almost as much effort spent on improving safety and health conditions as on increasing wages.

OSHA fines and survey data compared

The Occupational Safety and Health Administration (OSHA) collects data on inspection activity and fines as part of the Management Information System.[13] By combining these data with those from the Quality of Employment Survey, it was possible to explore the relationship of worker-perceived hazards to the level of OSHA fines in any industry. Dollars of proposed penalty per hour of inspection time was chosen as a measure of the severity of safety violations noted by OSHA inspectors. This measure was assumed to be fairly independent of total industry employment.

OSHA's proposed penalty per hour of inspection time was higher in industries in which workers themselves noted the hazards of "noise," "dangerous work methods," "fire or shock," or "dangerous equipment." Worker perception of these dangers would thus seem to agree with the findings of OSHA inspectors.

OSHA fines did not vary significantly with the mean age of surveyed workers in an industry, or with their sex, race, income, or willingness to pay for health and safety. On the other hand, proposed penalties were highest for industries represented predominantly by very small firms (those with under 10 employees) or very large firms (those with over 2,000 employees) on the Quality of Employment Surveys. While these differences are not large, they are unexpected, because medium-size firms have the highest reported injury rates.[14]

Conclusions

Information gathered in the Quality of Employment Surveys permits investigation of the relationship between various aspects of work, and worker satisfaction. The results of this study reveal that job safety and health are important concerns for most workers, and that such concerns are on the increase. While this conclusion should be encouraging to policymakers, certain problem areas in safety and health regulation were also identified.

The first of these involves the long recognized relationship between job tenure and injury probability. Stated simply, workers who are new on their jobs have several times the probability of injury of more experienced workers. At the same time, they are the least willing to report even severe perceived hazards to anyone, probably because hazard reports must usually be directed to management. Finally, union handling of safety-related grievances is often felt to be inadequate by union members, and, consequently, few reports of dangerous conditions are directed through union channels. Mechanisms are needed to encourage new workers to report what they feel are severe hazards, and to provide all workers with alternatives when appeals to management fail.

The results of this study have implications for employers as well. Unpleasant working conditions generally, and injury-causing hazards in particular seem to go hand in hand. It is likely that a concerned management acts to alleviate unpleasant working conditions, including hazards. On the other hand, it is possible that workers who report hazards tend to note unpleasant work conditions because of their general job dissatisfaction. Further investigations are needed to help pinpoint the relationship between inadequate job safety and health and individual firm management styles. Such studies could also clarify the role of hazard abatement in improving employee morale. □

FOOTNOTES

Data are based on personal interviews with members of a national household probability sample of employed persons 16 years or older who worked for pay 20 hours a week or more. Thus, the term "workers" is defined to include adults substantially engaged in remunerative employment.

The 1969 survey included all eligible respondents in each of the sample households. During the 1973 and 1977 surveys, only one worker per household was interviewed, but responses were appropriately weighted to compensate for the underrepresentation of workers in multiple-worker families.

[2] U.S. Department of Labor, Contract J-9-F-8-0131, funded by the Office of the Assistant Secretary for Policy, Evaluation and Research. See Richard L. Frenkel and W. Curtiss Priest, *Health, Safety, and the Worker: An In-Depth Consideration of Hazards and Effects as Revealed in Survey Data* (Massachusetts Institute of Technology, Center for Policy Alternatives, September 1979) for a detailed full report on the study.

[3] The following injury and illness rates for manufacturing have been computed by the Bureau of Labor Statistics:

1969, 14.8; 1970, 15.2; 1972, 15.6; 1973, 15.3; 1974, 14.6; 1975, 13.0; 1976, 13.2.

Rates for 1969 and 1970 are frequency rates, and are not strictly comparable with figures for later years, which are incidence rates. Although these data indicate a modest decline in work-related illness and injury, it should also be noted that the lost workday case rate rose steadily over the same period.

[4] Frenkel and Priest, *Health, Safety and the Worker*, p. 81. The following injury rates for production workers were computed:

Male	1969—.2177	1972—.2628	1977—.2882
Female	1969—.1212	1972—.1139	1977—.3179

These rates represent the total number of injuries experienced by workers in the 3 previous years, divided by the total number of workers. Thus, the annual injury rate equivalent may be computed by dividing by 3.

[5] In 1969, the 100 female production workers reported 12 injuries, and in 1972, there were 13 injuries for 115 women. But in 1977, the 101 female production workers reported 32 injuries.

[6] Significant at the 10 percent or better level.

[7] Others have noted the problem of subjective bias. See Daniel Hamermesh, "Economic Aspects of Job Satisfaction," *Essays in Labor Market Analysis*, Orley Ashenfelter and Wallace Oates, eds., (New York, John Wiley & Sons, 1978).

[8] See Nicholas A. Ashford, *Crisis in the Workplace: Occupational Disease and Injury* (Cambridge, Mass., The MIT Press, 1976), pp. 107–13, for a discussion of accident causation studies.

[9] The rate for low-tenured workers is biased upwards because they may have changed jobs subsequent to, and because of, injury.

[10] Corrected for age.

[11] The figure is approximately 5.6 percent when limited to union workers, and lower, of course, when all workers are considered.

[12] See also "On Trial: A Union's Fairness," *Business Week*, Aug. 13, 1979, p. 76.

[13] We wish to express our appreciation to the Office of Management Data Systems of the Occupational Safety and Health Administration for providing these data in machine readable form.

[14] The Quality of Employment Survey provided a convenient, but not very suitable, vehicle for investigating this relationship. The question is better suited to aggregate firm data. However, these results do contrast with the intent of the Schweiker Amendment to exempt establishments of 10 or fewer employees in selected SIC coded industries. The presumption in that amendment is that SIC coded industries with low injury rates should be exempted because their injury rates are low. However, this presumption ignores the possibility that although injury rates may be lower in some industries than others, the opportunity for improvement in reducing injuries and fatalities may be greater in some of the lower injury rate industries, especially if these industries are dominated by smaller firms.

Geographic wage indexing for CETA and Medicare

The tailoring of grants-in-aid to wage levels in the localities which receive them enjoys growing popularity among Federal policymakers; two ongoing programs illustrate the flexibility of this technique

RICHARD GREENE

During the 1970's, a goal of Federal domestic policy was the direction of aid packages to specific geographic areas and groups of people. Federal grants-in-aid to State and local governments rose from $10.9 billion in 1965 to an estimated $88.9 billion during fiscal 1980. This new approach to managing the economy considerably altered the relationship between the Federal government and State and local governments and created a strong demand for accurate and timely information on the economic conditions in States and smaller areas.

Local statistical indicators are vital to effective policy formulation and evaluation and, in a narrower sense, are the primary requisite for identifying and directing assistance to economically distressed areas. In fiscal 1979, more than $19 billion in Federal aid was allocated on the basis of the BLS program Local Area Unemployment Statistics, and an additional $20 billion was distributed through programs based on the Bureau of Economic Analysis' State and substate data on personal and per capita income. And, growing numbers of multi-establishment employers—both private and public—are using area wage determinations to establish appropriate pay structures for employees in diverse locations.

Recent congressional action on the Comprehensive Employment and Training Act reauthorization and the jobs component of welfare reform, regulations issued or under study by various Federal agencies, and the Administration push to tie Federal pay scales to local wage levels indicate acceptance of the concept of geographic wage indexing by national policymakers. Use of the procedure in Federal grant programs is largely the result of congressional interest in finetuning grant-in-aid allocation formulas. At the same time, the expansion and refinement of an important administrative record system—the ES–202 program—has made a body of data available to support index development.

Obviously, the amount of financial assistance needed to operate a given program varies by locality. The goal of geographic wage indexing is to produce a more efficient funds allocation system by accounting for differences in local labor-market conditions. According to the 1978 CETA reauthorization, wage indexing is a tool to "provide the maximum number of employment and training opportunities under this Act."

Proper construction is especially important for a geographic index used to distribute Federal funds. The chief problem in developing such an index arises from the fact that people travel to work across political boundaries; that is, labor markets do not conform to political boundaries. Consequently, for many jurisdictions, a place-of-residence index will differ substantially from a place-of-work index. Other major variables involved in index design are summarized as follows:

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Variable	*Examples*
Geographic area	Region, State, Standard Metropolitan Statistical Area, city, county, and prime sponsor
Type of worker	All employees, nongovernment, service producing, medical services, hospital
Type of data	Annual average wage, average weekly wage, average hourly earnings
Type of index	Place of work, place of residence
Reference period	Year, quarter, month, week

This article describes the procedures currently used to index the Federal CETA and Medicare programs, and their data source, the ES–202 system. The indexing techniques for both programs are very straightforward; each index is simply the ratio of a specific locality's wage level for a particular segment of the labor force to that segment's national wage average and is based on a place-of-work concept. An index value greater than 1 indicates that area wages generally exceed the national average, and the Federal program's disbursement level is adjusted accordingly.

The data source

The ES–202 program compiles information on the employment of, and total wage payments to, workers covered by unemployment insurance (UI). Each calendar quarter, all UI-covered employers submit mandatory reports of employment and wage data to the appropriate State Employment Security Agency. These reports are edited, summarized by county, State, and detailed industry, and forwarded to the Bureau of Labor Statistics, which computes national totals. Among the final products of the system are monthly employment and total quarterly wages by county, State, detailed industry, type of employer (Federal, State and local government or private sector), and (for the first quarter) employment size of establishment.

In 1978, UI coverage was extended to employees of State and local governments. Thus, the ES–202 program now provides a virtual quarterly census of the employment and wages of all nonagricultural sectors of the economy. (A significant portion of agriculture was also covered for the first time beginning in 1978.) Because of their broad scope, UI data provide a means to evaluate overall labor-market trends and industry developments for the Nation as a whole and for individual States, Standard Metropolitan Statistical Areas, and counties. The data are used in the construction of major statistical series, including the U.S. Department of Commerce's national income accounts and personal income estimates by State and county, and to benchmark employment information for Federal and State government surveys. The employer listings maintained by this system also serve as a sampling frame for most establishment studies conducted by BLS.

CETA wage adjustment index

The 1978 Comprehensive Employment and Training Act (CETA) Amendments require the calculation of an area wage adjustment index, showing the relationship between the local and national average wage rates. Specifically, this index is used to determine: (1) the average annual federally supported wage rate which must be maintained in each CETA prime sponsor area[1]; and, (2) the maximum wage payable to any Public Service Employee (PSE) from CETA funds.

Each year, BLS prepares the CETA wage adjustment index, in accordance with the requirements of the Employment and Training Administration. The index for fiscal 1980 was published in the *Federal Register* on September 28, 1979.

Index calculation. The first step in calculating the CETA wage adjustment index is computation of the average annual wage for each county. This is defined as the ratio of total wages paid during the previous calendar year to average monthly employment for that year. Approximately 6 percent of CETA prime sponsors represent combinations of counties or of portions of counties. In such cases, the sponsor's annual average wage is the mean of the component counties' annual wages after the latter have been weighted by the proportion of the sponsor's employment which they represent. In those instances in which more than one prime sponsor is contained entirely within a county (Los Angeles County, for example, wholly contains 5 prime sponsors), each prime sponsor is assigned the annual wage for the coun-

Exhibit 1. CETA index calculation[1] for Cleveland City prime sponsor (Cuyahoga county)

Annual average county employment (Emp) = 762,766

Total annual county wages (TW) = $10,846,322,430

County average annual wage = TW/Emp = $14,220

$$\text{CETA Index} = \frac{\text{Average annual wage}_{\text{county}}}{\text{Average annual wage}_{\text{United States}}}$$

$$= \frac{\$14{,}220}{\$12{,}144} = 1.171$$

[1] See table 1, footnote 1.

ty as a whole. The CETA index is then determined by comparing the prime sponsor's annual wage to the national average, which was $12,144 in 1978. Exhibit 1 illustrates the CETA index calculation for the Cleveland City prime sponsor, which is wholly contained in Cuyahoga county.

Index values are similarly computed for each prime sponsor, Standard Metropolitan Statistical Area (SMSA), and county with more than 50,000 inhabitants. Prime sponsors may use the index of a component SMSA or county, if higher than their overall index, for that portion of their jurisdiction which is in the higher index locality.

Application. The wage index is used to compute average and maximum wages payable to CETA employees by a prime sponsor. (The most recent index values are based on 1978 data, and are used for wage adjustments made during fiscal 1980.) The construction of a sponsor's average wage takes into account the 1978 legislated national average wage of $7,200, the over-the-year mean percentage change in wages nationwide, and the local area's current-year wage index. For the Cleveland City prime sponsor, the fiscal 1980 average wage would be computed as follows:

- Update the national average wage "base" by adjusting for the over-the-year wage change. The increase in annual wages nationwide averaged 6.3 percent during 1978.

Revised base = ($7,200) (1.063) = $7,654

- Determine the Cleveland City prime sponsor's average wage by adjusting the revised national base by Cleveland's current-year index. (The minimum average annual wage for any sponsor must be at least 10 percent above the annualized Federal minimum wage.)

Cleveland average wage =
(Revised national base) (Current-year index)
$8,963 = ($7,654) (1.171)

The prime sponsor's maximum wage is similarly constructed, except that the national base is $10,000, rather than $7,200. Thus, the maximum wage for Cleveland City was:

Cleveland maximum wage = ($10,000) (Current-year index)
$11,710 = ($10,000) (1.171)

The maximum wage for local areas has a ceiling of $12,000, except for prime sponsors whose average wages are at least 50 percent greater than the national mean—a situation occurring only in Alaska. This upper limit was established to ensure that CETA wages are compatible with the skill levels of the disadvantaged population which Congress intended the program to serve.

According to the current regulations, a prime sponsor's average wage is adjusted each year for overall wage level changes, but its maximum wage is left unadjusted. In the future, this anomaly could result in prime sponsor average wages which exceed corresponding maximum levels. Currently, the average CETA wage is approximately 63 percent of the average annual wage for all workers in an area; the mean potential maximum wage is about 88 percent of the all-worker figure.

Table 1. Average annual wage and CETA index levels,[1] selected SMSA's

SMSA	Average wage	Index
10 highest wage SMSA's:		
Anchorage	$20,363	1.677
Flint	16,917	1.393
Detroit	15,964	1.315
Saginaw	15,715	1.294
Gary-Hammond	15,254	1.256
Peoria	15,149	1.247
Steubenville-Weirton, Ohio	15,058	1.240
Ann Arbor	14,810	1.219
Kokomo	14,754	1.219
Richland-Kennewick, Wash.	14,736	1.213
10 largest SMSA's:		
New York	$14,511	1.195
Chicago	14,217	1.171
Los Angeles	13,604	1.120
Philadelphia	12,739	1.049
Detroit	15,964	1.315
San Francisco	14,135	1.164
Washington, D.C.	14,262	1.174
Boston	12,191	1.004
Nassau-Suffolk	12,134	.999
Dallas-Fort Worth	12,361	1.018

[1] The index determination, based on 1978 data, is used to adjust CETA wage levels during fiscal 1980.

An analysis of the variation among locality indexes is important, because these data directly determine CETA wages. Table 1 presents index levels for the 10 largest and 10 "highest average annual wage" SMSA's. Detroit is the only area appearing on both lists. All of the largest SMSA's are at or above the average annual wage for the United States, and six exceed the national mean by 12 percent or more. Eight of the highest wage SMSA's are located in areas dominated by high-paying steel and automobile manufacturing industries; four of these are located in Michigan.

As the following tabulation indicates, there is a

Table 2. Percent distribution of SMSA's by region and CETA index level[1]

Region	Total	Index value			
		Under .90	.90 to .99	1.00 to 1.09	1.10 and above
United States	100	34	32	20	15
Northeast	100	28	40	21	12
South	100	53	30	13	5
Midwest	100	16	26	29	30
West	100	26	40	19	14

[1] See table 1, footnote 1.
NOTE: Due to rounding, sums of individual items may not equal 100.

strong positive correlation between SMSA population and CETA index value:

SMSA population	*Average index value*
Under 250,000	.930
250,000 to 1,000,000	.974
Greater than 1,000,000	1.065

Larger cities generally have higher overall relative wages because of favorable industry and occupational mix, location factors, labor force composition, and other traditionally cited reasons for area wage differentials. Although only 35 percent of the SMSA's had index values greater than 1, these areas accounted for over 63 percent of the total population in SMSA's nationwide.

Table 2 presents the distribution of SMSA's by wage index and region. Note that in the Midwest a majority of the SMSA's had wages above the national mean. In contrast, averages for more than two-thirds of those in both the Northeast and South fell below the U.S. average.

Medicare

In 1974, the Health Care Financing Administration (HCFA) of the Department of Health, Education and Welfare established a schedule of limits on the hospital inpatient general routine operating costs which may be reimbursed by the Federal Government under Medicare. This procedure limits reimbursable costs to those recognized as reasonable for the efficient delivery of needed health services. Authority to set these reimbursement limits was established by the 1972 Social Security Amendments.

According to estimates of health care expenditures, wages and salaries account for about 60 percent of total inpatient general routine operating costs.[2] In recognition of the interarea differences in hospital labor costs, the Health Care Financing Administration developed a wage index from the ES-202 data to adjust the labor component of the reimbursement limit. In this way, the limit for an individual hospital will reflect the wage levels appropriate to the area in which the hospital is located. The most recent index, based on 1978 data, will be used to adjust limits for hospitals whose cost reporting periods begin on or after July 1, 1980.

As in the CETA program, the hospital wage index is used to adjust an established reimbursement level to the wage structure of the local labor market. But the CETA index is used to adjust the legislated $7,200 national average wage, while the hospital wage index is applied to a reimbursable schedule according to such factors as the location (urban or nonurban) and size of the hospital.

Calculation of the hospital labor cost index. The following discussion summarizes the Hospital Care Financing Administration's procedures described in the April 1, 1980 *Federal Register.* Because the level of reimbursement depends in part upon hospital location, separate indexes are calculated for urban and nonurban areas. Exhibit 2 shows the wage index calculation for a hospital in the Cleveland SMSA.

Exhibit 2. Hospital wage index calculation[1] for the Cleveland SMSA

- Calculate the average hospital wage for Cleveland (W_c):

$$W_c = \frac{\text{Total hospital wages}_{\text{Cleveland}}}{\text{Average annual hospital employment}_{\text{Cleveland}}} = \$11{,}612$$

- Calculate the national average hospital wage for urban areas (UW_{nat}):

$$UW_{nat} = \frac{\Sigma\ \text{(average annual hospital wage for each SMSA)}}{\text{Total number of SMSA's}} = \$9{,}912$$

- Calculate the hospital wage index for Cleveland (I_c):

$$I_c = \frac{W_c}{UW_{nat}} = 1.1715$$

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[1] See table 3, footnote 1.

There is a major difference between the CETA and health program procedures used to compute the national average wage. The CETA national average is weighted according to the employment size of the component areas, while the hospital wage mean is unweighted. This implies that a large city will have a greater proportional influence on the CETA national wage, but will have the same impact as a smaller-sized city on the health program index.

Exhibit 3. Cost reimbursement procedure for a 500-bed Cleveland hospital

- Determine the labor and nonlabor reimbursement limits: From the schedules appearing in the April 1, 1980 *Federal Register,* the labor and nonlabor reimbursement limits for a 500-bed urban hospital are $94.49 and $26.47 per day, respectively, or $120.76, combined.

- Compute the adjusted labor component:

Adjusted labor component =
(Labor reimbursement limit) (Cleveland wage index)
$110.46 = ($94.29) (1.1715)

- Compute new reimbursement limit:

New limit =
(Adjusted labor component) + (Nonlabor component)
$136.93 = 110.46 + 26.47

Application. Once determined, the hospital labor cost index is applied to the reimbursement limits for individual hospitals. Exhibit 3 illustrates the calculation of the adjusted limit for a 500–bed hospital in Cleveland. Hospitals are also permitted to make other adjustments to their reimbursable limits which do not involve the wage index.

An analysis of the variation among the area indexes reveals some similarities to and differences from CETA patterns. Table 3 presents index data for the 10 largest and 10 highest hospital labor cost indexed SMSA's. An index value greater than 1 indicates that the SMSA has higher hospital wages than the unweighted average hospital wage for all SMSA's. The high-index SMSA's include four of the largest SMSA's in the country, and are dominated by California areas.

The same positive population-to-wage-index correlation observed in CETA determinations occurs with the hospital wage data. Only 45 percent of the SMSA's had labor cost indexes greater than 1, but they accounted for over 71 percent of the total U.S. population in SMSA's. The following tabulation illustrates this tendency of larger cities to have higher hospital unit labor costs.

SMSA population	*Average HCFA index*
Under 250,000	.966
250,000 to 1,000,000	1.021
Greater than 1,000,000	1.119

The regional distribution of SMSA's by labor cost index level (table 4) shows that in both the Northeast and West, approximately two-thirds of the SMSA's have hospital wages greater than the national average, while the South is dominated by low-wage SMSA's. Thus, a comparison of the hospital labor cost and CETA indexes reveals that wage adjustments resulting from the former will tend to be larger in the West and Northeast while the latter will yield larger adjustments in the Midwest.

Table 3. Hospital labor cost index levels,[1] selected SMSA's

SMSA	HCFA index
10 highest index SMSA's:	
Vallejo, Calif	1.54
Anchorage	1.52
New York	1.45
Oxnard, Calif	1.41
San Francisco	1.38
San Jose	1.38
Santa Rosa, Calif	1.32
Nassau-Suffolk	1.31
Stockton, Calif	1.30
Los Angeles	1.29
10 largest SMSA's:	
New York	1.45
Chicago	1.22
Los Angeles	1.29
Philadelphia	1.16
Detroit	1.18
San Francisco	1.38
Washington, D.C	1.28
Boston	1.14
Nassau-Suffolk	1.31
Dallas-Fort Worth	.94

[1] The index determination, based on 1978 data, is used to adjust reimbursement levels for hospitals whose cost reporting periods begin on or after July 1, 1980.

Table 4. Percent distribution of SMSA's by region and hospital labor cost index level[1]

Region	Total	Index			
		Under .90	.90 to .99	1.00 to 1.09	1.10 and above
United States	100	16	29	39	16
Northeast	100	10	24	38	29
South	100	38	34	16	12
Midwest	100	22	35	25	18
West	100	23	9	23	45

[1] See table 3, footnote 1.

NOTE: Due to rounding, sums of individual items may not equal 100.

Summary

The practice of adjusting Federal compensation according to an area's relative pay level is rapidly gaining acceptance among designers of Federal grant programs. Although similar in concept, the mechanics underlying the calculations of the two wage indexes described in this article vary according to the goals and limitations of the authorizing legislation. For example, the hospital wage index is based only on data for hospital employees because studies indicate that the wages of other groups, particularly the "total service" sector, do not properly reflect pay levels in hospitals.[3] The CETA index, however, is based on the wages of all non-CETA employees, because there are no restrictions on the types of industries in which CETA workers may be employed. (Traditionally, however, most CETA workers have been hired by State and local governments.)

The other major difference between these indexes is in the calculation of the national average wage, the base to which the area pay levels are compared. In order to maintain the $7,200 average wage (in fiscal 1979 dollars) nationwide established by the 1978 CETA Amendments, the program's national average is weighted by the employment of the component counties, and thus largely reflects the average wages of larger cities. But because the intent of the Health Care Financing Administration is merely to effect a labor-cost adjustment, independent of area employment size, that agency relies on an unweighted national average which treats each area's average hospital wage equally, regardless of total area employment. ☐

———*FOOTNOTES*———

[1] CETA programs function principally through prime sponsors—the States, cities and counties of 100,000 inhabitants or more, and combinations of such areas. There were 473 sponsors in fiscal 1980.

[2] *Federal Register*, June 1, 1979, p. 31806.

[3] *Federal Register*, June 1, 1979, p. 31807.

Industrial relations research: an agenda for the 1980's

An organized effort is needed to fill critical gaps in our understanding of the collective bargaining process, and this calls for renewed academic interest in the study of industrial relations

THOMAS A. KOCHAN

Is industrial relations today attuned to the needs of the 1980's? Because a good deal of evidence says "no," a group of practitioners has designed a research effort to reverse the perceived decline. This article casts these proposals into an agenda for industrial relations research for the next decade.

The nature of the decline

In recent years, two central criticisms of industrial relations research have been offered by a variety of researchers: (1) linkages among researchers, policymakers, and practitioners were more common previously, but have eroded in recent years, and, (2) research on labor-management relations has not kept pace with general theoretical and methodological developments in the social sciences. As a result, research is not adequately meeting the demand for informed policy analysis.[1]

Four interrelated causes of these developments have frequently been cited. First, the number of researchers in the field has declined since the time of the National War Labor Board. Most of the labor economists trained in the 1960's and 1970's specialized in labor market economics, human resource policy, or other areas in which abundant funding was available, and which allowed more direct use of economic theories and econometric techniques. Similarly, persons with stronger interest in the behavioral sciences entered the expanding fields of organizational behavior and development, and generally abandoned the study of collective bargaining and labor-management relations.

Secondly, since 1960, public labor policy has drifted toward more direct governmental regulation of the terms and conditions of employment, with little regard for the role of collective bargaining. Direct regulation appeared necessary to achieve some labor policy objectives, because neither collective bargaining nor the competitive market had produced the results desired by society in such areas as equal employment opportunity, occupational safety and health, pension security, and wage and price stability. However, there is a growing recognition of the limits of direct regulation, and the problems that gave rise to such laws will continue to be of critical concern to labor, management, and the public during the next decade. Thus, the 1980's should be a time to test the ability of unions and employers to address public objectives through collective bargaining relationships.

Thirdly, the U.S. Department of Labor has shifted priorities to its growing regulatory responsibilities and expanding employment and training programs at the expense of labor-management relations research, policy development, and services. Less than 7 percent of the budget of the Labor Management Services Administration, the organization with primary labor relations responsibilities, and less than 1 percent of the Labor Department's total budget, is currently allocated to activities designed to improve labor-management relations.

Finally, relations between labor and management in

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the private sector have polarized in recent years. During the 1970's, many employers devoted more resources to opposing union organizing efforts than to improving their collective bargaining relationships. Over the same period, union membership in the private sector declined, and labor became defensive of its status in society and industry. This polarization limited the bilateral development of new approaches for dealing with common problems at the workplace.

One result of the deterioration of labor-management relations was the political stalemate between business and labor, which impeded congressional passage of labor legislation, whether backed by labor or business. Policy development on labor issues, therefore, is currently at a standstill.

General directions for research

In order to redirect and revitalize the study of industrial relations, a research agenda for the 1980's was developed by the Department of Labor and a number of scholars in the field. Four points drawn from recent research critiques formed the basis of the agenda:

- A richer blending of institutional and quantitative methods should be achieved.
- More attention should be paid to the organizational behavior and functioning of micro institutions —firms and union locals—and to their implications for macro performance.
- Research should measure the actual impacts of practices, laws, and bargaining agreements on the goals of the parties, rather than limiting itself to description of the anticipated results.
- Research findings should be disseminated more effectively to interested professionals in the field.

The specific research topics included in this agenda reflect the labor policy issues likely to be most critical in the 1980's.[2]

The outcomes and effects of bargaining

Two types of research on bargaining outcomes are needed. The first would investigate the current effects of collective bargaining on the terms and conditions of employment, and on public policy objectives. The second would evaluate the costs and benefits of specific experiments (or demonstration projects) designed to improve the performance of bargaining. In short, we need to describe all pertinent aspects of the industrial relations scene, and then measure the effect that change in any one aspect would have on the collective bargaining process.

Determination of wages and economic benefits

Wage determination. Over the past two decades, most wage research has taken one of two forms: (1) aggregate wage adjustment models, or (2) analysis of union-nonunion differentials for individuals, occupational groups, or industries. However, a well-conceived and tested model of the wage determination process at the level of the bargaining unit has yet to be developed. This is unfortunate, because effective public policy must be based on such a theoretically sound and empirically verified model.

For example, most incomes policies make certain assumptions about the effects of pattern bargaining across major bargaining units, industries, and geographic areas. (Pattern bargaining is the determination of the terms of union contracts according to the precedent set by an agreement previously negotiated by another union local or firm, or in another locality.) Some analysts believe pattern bargaining exerts a very strong effect, while others discount its importance in wage determination. An assessment of its true impact requires analysis of specific wage and fringe benefit changes in identifiable firms or bargaining units.

Pattern bargaining is only one key variable chosen here to illustrate the need to study the ways in which characteristics of a particular bargaining relationship and its external environment determine the results of the negotiating process. Other factors, such as the formal bargaining structure, strikes, and union and employer expectations and wage targets, should also be included in models which attempt to explain variations in the outcomes of negotiation at the bargaining unit level.

Fringe benefits. Difficult choices face unions and employers in the area of fringe benefit bargaining. For example, as the ratio of retired persons to the work force increases over the next 20 years, the costs of funding pension plans will grow considerably. And, if inflation continues, conflicts concerning the adequacy and funding of private pension plans will be even more intense. Questions regarding the control and use of pension funds, the relationship between private funds and the social security system, and the vesting and portability of pensions, require cautious examination by researchers skilled in demographic and financial analysis. Demand for professionals with expertise in financial management, funding of fringe benefits, and the simulation of costs and advantages of alternative benefit packages is likely to increase considerably as a result. Clearly, the area of compensation management should take on added importance in the training of industrial relations professionals.

Nonmonetary bargaining

A number of recent studies have examined the determinants of nonmonetary provisions of bargaining agreements. In the future, similar efforts should probe the relationship between monetary and nonmonetary outcomes, and identify reasons for and the effects of the spread of various nonmonetary provisions among firms and industries. This type of research permits assessment of the ability of the private bargaining system to address public policy or regulatory concerns.

Safety and health. Following passage of the Occupational Safety and Health Act in 1970, contract safety and health provisions proliferated. However, there has been no systematic study of the relationship of these provisions to the safety and health conditions in the firms involved, or to the injury and illness experience of covered workers.

Such studies are essential groundwork for any experiments which seek to use collective bargaining to address safety and health problems. For example, more than 40 percent of all agreements covering 1,000 workers or more currently provide for a union-management safety and health committee. A starting point for this type of research might be a study of the effectiveness of these committees. The job safety issue offers an important opportunity to test the ability of the collective bargaining system to achieve labor policy objectives.

Job security and dislocation. As with safety and health, the central policy questions regarding job and income security provisions in union contracts are twofold: (1) what factors influence the spread or the comprehensiveness of such provisions, and, (2) how do these provisions affect the goals of workers, employers, and the public?

The job security issue has not been seriously addressed since the controversies surrounding automation and technological change during the 1960's. However, recent plant shutdowns, and international trade policy shifts, as well as industry deregulations and other government actions, are reviving discussion. There are currently a number of *ad hoc* public programs dealing with economic dislocation effects, including those established by the 1978 Redwoods National Park Act Amendments, the Regional Rail Reorganization Act (1973), and the Trade Adjustment Assistance Amendments (1974). Research in the 1980's must quantify the problems of economic dislocation, and evaluate alternative solutions, based on an appropriate balance of public and private efforts.

Productivity. The effect of collective bargaining on productivity has been a longstanding concern in industrial relations, but has generally defied rigorous research. The sluggish growth in productivity experienced over the past decade has once again alerted government officials to the importance of this issue. The Federal Government lacks a successful strategy for encouraging productivity improvement through union-management relations; results of attempts to link productivity to wage guidelines have been ambiguous. Similarly, "productivity bargaining" (agreements that buy out outmoded work rules) and various profit sharing programs are employed from time to time by unions and management, but the outcomes of such efforts have not been systematically evaluated.

The recent work of James L. Medoff, Charles Brown, Richard B. Freeman, and their colleagues suggests that the nature of the labor-management relationship itself has a significant effect on productivity.[3] Their findings lend empirical support to what has traditionally been labeled the "shock effect" hypothesis; that is, that the presence of a union (or a negotiated increase in wages or other components of labor costs) provides an incentive for management to become more efficient. What is not yet well known, however, is the nature of the managerial adjustments, and the characteristics of the labor-management relationship, which influence productivity. Thus, we need to examine more closely the determinants of successful productivity increase.

Quality of worklife. Because the quality of worklife was the subject of heated debates in the early 1970's, several experiments with new forms of work organization were implemented. As a result, behavioral scientists were introduced to the collective bargaining system, bringing with them strategies to change organizational practices within union-management relationships. This is an encouraging sign that the knowledge gaps among behavioral scientists, industrial relations researchers, and practitioners are being narrowed. The experience gained in these experiments taught important lessons about the obstacles that must be overcome if change is to be successfully introduced into union-management relations via jointly planned programs that supplement the formal collective bargaining process. Attempts to extend the application of behavioral strategies should build on the lessons from these programs. During the 1980's, similar efforts in unionized settings may increase the responsiveness of our collective bargaining system to the needs of individual workers and employers.

Improving labor-management relations

Research in the field of industrial relations failed to keep abreast of changing characteristics and policies of unions and employers during the 1970's. Research in the 1980's, therefore, should seek to update our knowledge of the structures, policies, practices, and internal dynamics of union and management organizations. Specific union and management characteristics and behaviors must then be evaluated for their impact on the process of bargaining, its outcomes, and the goals of all concerned, including society as a whole.

Management organizations. In 1960, a comprehensive study of the collective bargaining policies and practices of management was published by Sumner Slichter, James J. Healy, and E. Robert Livernash, under the auspices of the Brookings Institution.[4] In subsequent years, however, management researchers turned their attention to the growing fields of organizational behavior and human resource management, and away from union-management topics. As a result, few personnel and organizational behavior researchers currently are experienced in collective bargaining issues.

A start has already been made in closing the gap in our understanding of current management structures, practices, and policies. The Conference Board recently conducted a broad ranging survey of the labor relations structures, goals, and priorities of a sample of the largest unionized companies in the private sector.[5] Data from this survey provide a basis for further studies relating these (and other) management characteristics to industrial relations and economic performance.

American management has a history of strong opposition to the unionization of its employees. The Conference Board survey clearly documented that this is still the dominant labor relations objective of nonunion firms. Preventing the growth of unions was also found to be a high priority of firms with a minority of their employees currently organized. Anti-unionism receives a low priority among highly organized companies. What are the long-run costs and benefits of strong management resistance to unionization? How does it affect the climate of labor-management relations, the economic performance of the firm, and the welfare of individual workers? We need to address the controversial and extremely important issue of the effects of alternative management policies toward unions and collective bargaining on the economic interests of firms, individual workers, unions, and the public.

Union organization. The study of unions as complex organizations is also beginning to reemerge after more than a decade of decline.[6] Recently, a number of studies have appeared on such subjects as union democracy, effectiveness in bargaining, member participation, attitudes of workers towards unions, propensity of workers to join unions, and the organizational structure of unions. Future research should yield a basic understanding of the representational and administrative functions of modern unions, the criteria by which members evaluate the performance of their leadership, and the way in which the internal structure of individual bargaining units affects negotiation.

Unions face a number of critical organizational challenges in the 1980's, the most obvious of which is reversal of the decline in organization of the labor force. Clearly, a study of the causes of change in union penetration demands an important place in our research agenda. Careful historical analysis of the labor movement will help to explain recent trends, and predict future developments.

An equally important challenge to labor lies in maintaining the responsiveness of local and national union officials to the interests of rank-and-file members. While data from the 1977 Quality of Employment Survey showed that unions are generally attuned to the priorities of their members, the respondents also indicated that they would like to see improvement in the administrative performance of the local union (that is, better handling of grievances, more feedback on local union affairs, and more member involvement in union decisions).[7] These preferences, coupled with increased government regulation of the terms and conditions of employment, and the growing complexity of union contracts, suggest that the administrative functions of local unions will take on added significance in the coming years. This will be especially true if there is to be more experimentation with union-management committees or other mechanisms for introducing public policy changes to the workplace. Study of the administrative functions and performance of local unions should therefore be an important priority for research in the next decade. Special care should be taken to ensure that this research is translated into labor education and training programs, so that it may have a direct effect on practice.

Strikes and dispute resolution. Research on the role of strikes, lockouts, other forms of economic pressure, and alternative procedures for resolving interest disputes is vital to an understanding of the collective bargaining process. Analysis of the alternatives for dealing with strikes which threaten national health and safety featured prominently in industrial relations research in the 1950's and 1960's, but interest in this issue waned considerably in the 1970's. Apparently most researchers believe that society benefits most from very limited use of emergency dispute procedures. The question of the appropriate policy for the Federal Government in dealing with strikes that affect the national interest deserves an important place in our research agenda, regardless of its immediate political significance.

Experimentation with a wide variety of third party procedures for resolving labor-management disputes blossomed in the 1970's. Most of the attention was directed toward studies of mediation, fact-finding, and arbitration in the public sector, but a number of private sector experiments, most notably the Experimental Negotiation Agreement in the steel industry, also stimulated interest in the subject. Furthermore, third parties are assuming such additional roles as expert consultants to, or coordinators of, labor-management committees. We need to learn more about the nature and effectiveness of third party roles, and to find ways to implement both well-established and newer forms of conflict resolution and problem solving within the context of a complex modern society.

Grievance procedures and arbitration

Grievance arbitration has been cited as one of the most successful innovations that the American system of collective bargaining has contributed to the conduct of industrial relations.[8] Grievance procedures ending in arbitration became common in union contracts because both labor and management saw them as efficient and equitable means for interpreting and enforcing the collective bargaining agreement. However, the apparent fairness of grievance and arbitration has discouraged research on the actual performance of the system. Furthermore, pressures caused by delays, excessive costs, and legal technicalities raise profound questions about the future viability of the formal grievance procedure and arbitration as it is now practiced. Conventional views on grievance arbitration therefore merit careful evaluation, supported by empirical research.

Beyond proposing changes in current practices, research on grievance procedures should ask fundamental questions about the real impact of this institution. So much emphasis has been placed on the arbitration process itself that we have failed to adequately assess the effects of the decisions on the parties. For example, how do arbitration awards affect the subsequent behavior of the employers, individuals, and unions involved? What happens to workers reinstated in their jobs? And, do arbitration decisions result in more than a temporary modification of the behavior that brought about the grievance? We should no longer be satisfied to leave the study of arbitration at the point at which the decision is rendered.

Another basic assumption about grievance procedures is that they are the cornerstone of the contract administration process—the means by which workers enforce their contractual rights. Yet, we have very little data on just how individual workers perceive the operations and results of the formal grievance procedure. The need for empirical evidence on the performance of grievance procedures and arbitration is especially important if these provisions for adjudicating disputes are extended beyond rights provided by the bargaining agreement to include rights derived from public laws.

Public sector labor-management relations

Many of the theoretical and methodological advances in industrial relations research in the 1970's arose from public sector studies.[9] These studies were generally limited to description and intensive analysis of the effects of specific public policies within particular States and areas. The next step in research will be the application of methodologies and theories developed in the single area studies to interarea variations in policies. This type of data and analysis is needed by policymakers at every level who must evaluate existing laws or consider the enactment of new legislation.

Public sector bargaining offers the largest arena for observing the long-run consequences of bargaining systems that place varying priorities on avoiding work stoppages. An understanding of the positive and negative consequences of these alternative systems should therefore be a basic component of our approach to industrial relations in the 1980's.[10]

Policy formulation and administration

The signing of the National Accord in 1979 rekindled interest in group participation and consultation in the formulation of labor and economic policies. The same question is confronted periodically at the State level, most notably when pressures arise for changes in the bargaining rights of State and local government employees. Today, this issue has added importance because of the apparent political stalemate over labor policy afflicting the Federal Government. Thus, the policy formulation process is an important topic for research in the 1980's. Such research might focus on the "political economy"—the relationships among the major actors and interests in society as they affect political and economic activity. A more action-oriented approach would be the establishment of multilateral study commissions on key policy issues to test the effectiveness of cooperative policy development.

Furthermore, there is a need for the experimental use of arbitration or other procedures to reduce the backlog of cases in administrative agencies such as the Occupational Safety and Health Administration, the Equal Employment Opportunity Commission, and the National Labor Relations Board. More intensive study to assess the performance of these agencies could identify the nature of the problems they are experiencing, and provide innovative strategies for overcoming them.

Comparative research: the broader picture

Researchers should not lose sight of the broad political, philosophical, and normative ideas underlying our economic system. One way to ensure that these concepts receive adequate attention is to maintain a strong international and comparative component to industrial relations research.

Some questions suitable for study:

- When is employee ownership a viable form of industrial organization? Should it be promoted as an alternative to plant shutdowns? Should it be promoted in other situations as well?
- Can European style formal systems of worker par-

ticipation in, and control over, firm decisions work effectively in the United States?

- What is the appropriate role for the U.S. Government in the International Labor Organization and similar international bodies?
- What are the implications of adopting a more formal "social contract" system for formulating labor and economic policies in the United States?
- Is the pluralistic model of society upon which the U.S. industrial relations system is based still a valid normative model for guiding policy, research, and practice?
- What is the effect of multinational corporations on industrial relations in the United States, and conversely, what are the economic and social effects of American multinationals in their host countries?
- What are the implications of the increased activities of international union secretariats? Will transnational bargaining become a reality in the 1980's?

Studies of industrial relations developments, public policies, and private practices in other countries may provide alternatives for dealing with many of the issues discussed in earlier sections of this article.

BETTER RESEARCH cannot ensure that the 1980's will be a decade of resurgence, experimentation, and improved performance in our industrial relations system. Yet, it is a necessary and important component of the larger strategy that must be undertaken if labor-management relations policies and practices are to make significant contributions to the economic and social challenges that face our Nation in this decade. □

FOOTNOTES

[1] See, for example, John T. Dunlop, "Policy Decisions and Research in Economics and Industrial Relations," *Industrial and Labor Relations Review*, April 1977, pp. 275–82; Thomas A. Kochan, "Theory, Policy Evaluation, and Methodology in Collective Bargaining Research," *1976 Proceedings of the Industrial Relations Research Association*, pp. 236–48; Clark Kerr, "Industrial Relations Research: A Personal Retrospective," *Industrial Relations*, May 1978, pp. 131–42; George Strauss and Peter Feuille, "IR Research: A Critical Analysis," *Industrial Relations*, October 1978, pp. 258–77; and David Lewin, "Why Labor Policy is Out of Date," *Business Week*, Jan. 15, 1979, p. 18.

[2] For a more complete discussion of the assumptions underlying this agenda, see Thomas A. Kochan, "Labor Management Research Priorities for the 1980's," final report to the Secretary of Labor (U.S. Department of Labor, 1980). The final report, from which this article is excerpted, was prepared by the author pursuant to the Secretary's January 1979 request, and represents the collected contributions of industrial relations academics, labor leaders, and management professionals.

[3] For a summary of the results of these studies see Richard B. Freeman and James L. Medoff, "The Two Faces of Unionism," *The Public Interest*, Fall 1979, pp. 69–93.

[4] Sumner Slichter, James J. Healy, and E. Robert Livernash, *The Impact of Collective Bargaining on Management*, (Washington, The Brookings Institution, 1960).

[5] The results of the survey are reported in Audrey Freedman, *Managing Labor Relations*, (New York, The Conference Board, 1979), and in Thomas A. Kochan, *Collective Bargaining and Industrial Relations: From Theory to Policy and Practice* (Homewood, Ill., Richard D. Irwin, 1980).

[6] For a recent collection of articles on union organizational research see *Industrial Relations*, May 1977.

[7] Thomas A. Kochan, "How American workers view labor unions," *Monthly Labor Review*, April 1979, pp. 23–31.

[8] A discussion of all of the issues raised in this section may be found in Benjamin Aaron and others, *The Future of Labor Arbitration in America* (New York, The American Arbitration Association, 1976).

[9] For a recent review of public sector collective bargaining research, see Benjamin Aaron, Joseph R. Grodin, and James L. Stern, *Public-Sector Bargaining* (Washington, The Bureau of National Affairs, 1979).

[10] A longstanding problem in the public sector has been the lack of adequate data on wages, benefits, and contract provisions covering State and local government employees, and on the financial conditions of their employers. Most State statutes require factfinders and arbitrators to take comparability and ability to pay into account in rendering their recommendations and awards. A study of the data needs in public sector bargaining, under the title of "Data Probe 80," is currently being conducted under the direction of Robert D. Helsby and Ronald A. Leahy of the Public Employment Relations Service, Albany, N.Y.

Communications

Do uncertain cost/benefit estimates prolong public-sector disputes?

PAUL F. GERHART AND JOHN E. DROTNING

During 1978–79, we conducted a study to investigate the relative effectiveness of impasse procedures (statutory and de facto) in six States—Iowa, Michigan, New York, Ohio, Pennsylvania and Wisconsin.[1] The States were selected, in part, on the basis of the types of procedures used and the experience of the parties with the procedures. In-depth interviews were conducted in 111 bargaining units of 54 municipal and school employers. Interviews included a discussion of the most recent round of negotiations and the factors contributing to whether or not the parties came to an impasse or utilized any impasse procedures.

The study did not rely on extensive statistical data or random selection to draw statistical inferences. Rather, cases were selected purposefully. In each State, bargaining units which had frequently relied on impasse procedures were compared with units where little or no use had been made of such procedures. Interviews with union and management negotiators as well as neutrals who may have been involved allowed an in-depth exploration of the reasons for the observed bargaining relationship between the parties.

Contrary to a traditionally accepted hypothesis,[2] it appears that the parties in public-sector bargaining are more likely to push disputes on to the terminal step of an impasse procedure—whether compulsory arbitration or a strike—the greater their uncertainty about future costs and benefits of continued bargaining.

Uncertainty is behind the general phenomenon that impasses appear to increase and subside soon after a public-sector bargaining law is passed.[3] This may be because inexperienced negotiators are not able to anticipate opponent reactions nor properly assess what lies ahead if settlement is not reached. Alternatively, the rise in impasses immediately following a bargaining law may be related to the added "power" the public unions gain through the statute. If a new law increases union bargaining power, then bargaining outcomes will vary substantially from the mean as the parties search for a new equilibrium point that reflects the new power balance.

Economics of continued disagreement

An effective impasse procedure raises the cost to at least one of the parties of continuing to disagree and, perhaps, at the same time, lowers the cost to the other party of agreeing voluntarily. Under the traditional view, additional uncertainty about the future would increase the parties' costs of continued disagreement. Therefore, it is necessary to consider these costs before discussing how the expected cost is changed by the enactment of impasse procedures. However, both costs and benefits flow from continued disagreement:[4] the process cost to each party and the incremental improvement in outcome benefit to each party.

Process cost. For the union, this includes the cost of lost wages, strike benefits, and other similar monetary costs. Where the strike is prohibited and mandatory arbitration is part of the procedure, the process cost of continuing to disagree includes the cost of the neutrals and advocates used. Even before the parties reach the terminal step of the negotiation process—strike or binding arbitration[5]—there is a cost of continuing to disagree involved in negotiator time. In many cases, this is a cost to the union in terms of forgone leisure or lost earnings for union negotiators which is not insignificant where the union is too small to afford a full-time staff. Earnings may be lost from the public-sector job, but more often they become a factor where "moonlight" jobs are affected. For firefighters this is highly significant. We have found that management engages in a strategy of "wearing down" union negotiators, clearly recognizing that such a tactic is a feasible way to win settlement short of the terminal step in the impasse procedure. Delay has thus become a significant factor in a union's decision to "agree now and avoid delay" in receiving wage and benefit improvements.

Thus the process cost of continuing to disagree is nearly always a "net cost" for unions; on rare occasions, a strategy of continued disagreement may represent a net gain for unions.[6]

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For management, process costs might be calculated by the ability to bear the political cost of strikes. In every strike situation we studied, management gave careful consideration to public reaction to the strike. Public employers also incur the cost of outside negotiators, and delays mean larger fees for the "hired gun." However, the cost of outside experts relative to the agreement costs may be small. Thus, public employers usually overlook or ignore these costs in deciding whether to continue to disagree.[7] But the absolute costs of outside help are not insignificant. We found several employers who spent in excess of $50,000 on outside negotiators in one round of negotiations. Even in a moderately large city or school district, this could make possible a fringe benefit or an increase in the wage rate.

Management, more often than the union, may achieve a net gain by dragging out the negotiating process. As long as a strike does not occur, management continues to function without any increase in costs resulting from a new bargaining agreement. Moreover, the agreement ultimately reached may not include retroactivity so that the settlement actually becomes much cheaper for management because of its delay. Even where retroactivity is included, the delay in reaching an agreement is a gain for management because of the time value of money—which includes more than risk-free interest in the public sector. Delaying a tax increase may mean the difference between winning or losing an election. Furthermore, there may be political gains for management negotiators who "hang tough" at the bargaining table. In no instance can a public negotiator afford to give his constituency the impression that he has "caved in" to the union too quickly.

Outcome benefit. This is the incremental improvement between the final outcome of negotiations following a strike or binding arbitration and the best real offer by the opponent prior to the final outcome. We use the phrase "real offer" to distinguish it from public or formal offers at the bargaining table.

Where disputes went to the terminal step, only rarely did we find that such public offers represented the best offer a party was willing to make.[8] Ordinarily, parties which push a dispute on into the terminal step of an impasse procedure expect the incremental benefit to be positive. Incremental benefits can be, and usually are, positive for both parties simultaneously, for an arbitrator usually issues a binding award which lies between the best real positions of the parties.

We also observed two instances where the incremental benefit was negative for one of the parties; that is, the final outcome was worse than the best real offer of the opponent. Both of these cases involved the use of arbitration rather than the strike; one occurred in Pennsylvania under conventional arbitration and one in Michigan with last-offer-by-issue arbitration. A negative incremental benefit is possible because the parties almost universally employ the "pull back" tactic. That is, the stated position before an arbitrator is not as favorable to the opponent as the best real offer.[9] Management typically makes a wage offer before an arbitrator below what it was willing to offer, and perhaps did offer privately, prior to the arbitration hearing. The union, typically, does the opposite. Either party will raise issues on which it had previously made concessions and even reached agreement.[10]

Where final-offer-by-package arbitration is used (Wisconsin), the use of the pull back tactic guarantees that one party will suffer negative incremental benefits. The arbitrator cannot engage in issue or package splitting so one party's position on every issue must be adopted. Interestingly, we observed no instances of the "pull back" in Wisconsin.

Finally, it is possible that incremental benefits might be negative for both parties simultaneously. This is possible where an arbitrator, faced with multiple issues, awards outcomes in such a way that both parties perceive the final outcome as worse than what the other had offered in negotiations.[11] Interestingly, package last-offer arbitration prevents both sides from losing simultaneously.

We found no instance where both sides became worse off simultaneously, even though it is popular for neutrals to threaten the parties that this might happen. Arbitrators seek to write acceptable awards. At a minimum, this is one in which both sides reap a nonnegative incremental benefit. Thus, it would require greater misjudgment than even the least skilled arbitrator possesses to achieve an outcome where both parties suffer negative incremental gains.

Sources of uncertainty

As noted earlier, when the components of the process cost and the incremental benefit of agreeing were unknown and largely unpredictable, parties most frequently preferred to continue to disagree. Some sources of the uncertainty that appears to generate such a response are the role of the judiciary in handling strikes, the developing nature of various compulsory arbitration procedures, and the public reaction to strikes.

The judicial response to strikes. The most general legislated response to strikes in the public sector is one where the strike is illegal but the penalties are unclear. Next most common is legislation mandating penalties, as in New York and Ohio. Finally, Pennsylvania, among the six States in our study, permits strikes only under certain conditions. Regardless of the legal status of strikes, we found that the treatment of them by the courts varied substantially within some jurisdictions.

Only after considerable experience in Michigan and Pennsylvania do the parties now have the ability to predict judicial responses. In Ohio, such a prediction is still not possible.[12] In New York, Wisconsin, and Iowa, however, the courts acted swiftly and with uniformity (within each of the jurisdictions) concerning strikes, so that the parties were able to predict that element of the process cost of continuing to disagree.

A more common uncertainty concerning judicial reaction concerns whether a judge will enjoin a strike. Judges throughout the six States, but particularly in Pennsylvania, Ohio, and Michigan, were found to be notorious for their attempts to mediate disputes in chambers after an employer had sought an injunction. (Although strikes are legal in Pennsylvania, provided all procedures are followed, they can nonetheless be enjoined where a judge finds a threat to the public health, safety, or welfare.)[13] In one Scranton, Pa. school strike, a three-judge panel heard a request by the school board for an injunction, ordered a settlement, and set the terms.[14] If such a pattern of judicial involvement had persisted in Pennsylvania, the uncertainty concerning judicial action would have remained quite high. What has happened, however, is that judges have tended to show much greater restraint; a consistent pattern has developed.

Compulsory arbitration. The case for uncertainty generated by arbitration may be more difficult to make, particularly in a room filled with arbitrators. Fortunately, we are not attempting to make the case that arbitrators have any uncertainty, only the parties.

The "new toy" hypothesis is one for which we found some support in nearly every jurisdiction we visited. The natural inquisitiveness of the parties, particularly the union, leads them to want to try out a new tool such as arbitration, "just to see what we can get." A more serious characterization of a union's reaction to new legislation is the "new weapon" hypothesis. The result is the same, though. The union will push more disputes into arbitration even if management is responding with "reasonable" offers.[15] However, after some experience with a new law and a determination of process costs and incremental benefits, union aggressiveness typically dropped off sharply.

Uncertainty in the arbitration process also can surround the criteria for arbitrators' decisions. Every statute in our study, except Pennsylvania's, contained an explicit list of criteria to guide arbitrators. In every case where arbitration had been used by the parties, though, both sides indicated a great deal of uncertainty in their initial resort to arbitration about what the arbitrator would use for the basis of his decision. Even if the criteria are clear, the weight attached to them is not specified. In every statute there is an open-ended approach to the criteria, as well. In Iowa, for instance, the section of the law outlining the criteria begins as follows: "The panel of arbitrators shall consider, in addition to any other relevant factors, the following factors. . . ."[16] In several jurisdictions, the parties reported that since the initiation of arbitration both sides had begun to agree on the "relevant" criteria (as a result of several arbitration decisions relying on those same criteria), so that the outcome was much more predictable now than it had been initially. Among the most important criteria is which cities or school districts are "comparable." Once this has been established, the determination of economic benefits and many other terms and conditions of employment becomes similar to the "prevailing rate" formula approach long familiar in the government contract area.

There is reason to expect that as criteria for decision-making by arbitrators become more certain, disputes subject to arbitration will be resolved short of the actual arbitration hearing.

Last-offer arbitration introduces constraints on the arbitrator which, on a first analysis, would appear to prevent the reduction of uncertainty. The arbitrator is prevented from taking a middle ground between the parties' final offers so that the variance of the expected outcome or incremental benefit is quite wide. But this first analysis does not take account of each party's strategy for reducing the risk of loss: both will attempt to reduce such risk by taking a more reasonable position than the opponent, hence moving toward some middle ground just as a conventional arbitrator might. The uncertainty premise, in fact, does not predict whether last-offer or conventional arbitration will be more successful in promoting voluntary settlement. The key element of uncertainty in both is what position the arbitrator is likely to view as most reasonable. In conventional arbitration, the arbitrator selects that as the outcome for the dispute. In last-offer arbitration, the arbitrator selects the position of the party closest to the most reasonable position. In either instance, the more precisely the parties can predict the arbitrator's judgment of reasonableness, the more likely they are to be able to settle their dispute voluntarily at that point. Where their estimates of arbitrator judgment are uncertain, the parties are most likely to resist concession for fear that it might be unnecessary.

Some empirical data are available from Iowa's experience with last-offer arbitration. There, as in every other State we studied, the parties are permitted to develop alternatives to the State-mandated procedure. In Iowa, the Public Employee Relations Act procedure provides for mediation, factfinding, and final-offer arbitration by issue, where one of the three final offers the arbitrator may select is the recommendation of the factfinder. The parties, where they have modified the process, have tended to drop the factfinding step. Board data reported in *IPERB*, a publication of the University of Iowa's Industrial Relations Institute, show ". . . that when arbitration was preceded by factfinding, the number of issues at impasse tended to be less than when arbitration immediately followed mediation."[17] Why? Because the parties are conditioned to know that arbitrators will tend to adopt the factfinders' recommendations. The incremental benefit uncertainty is reduced.

Data from Michigan show that the majority of all arbitration cases are resolved voluntarily, after an arbitrator is appointed but before the arbitrator issues an award. Our own experience as well as our discussions with Michigan arbitrators and the parties suggests that arbitrators, in the course of conducting a hearing, will nearly always caucus with the parties privately and give them clues, sometimes subtle and sometimes not so subtle, concerning what the arbitrators are likely to consider the "more reasonable" position. With such input, the parties "might as well settle." (Whether such settlements should be considered voluntary is another question.)

A hypothesis we are presently considering but have not yet tested relates to arbitrator turnover on the various State panels. In Michigan, a number of union and management representatives expressed the concern that there was no "new blood" among the arbitrator ranks. In fact, they were complaining that arbitrators working in Michigan had settled on the appropriate criteria for most issues in arbitration and that the complaining party was not satisfied with those criteria for at least some issues. The only way the complainer saw the possibility of winning on these issues was by the introduction of "new blood" with a new set of criteria or weights for the old criteria. In New York, there is considerable turnover among arbitrators because the New York Public Employee Relations Board ad hoc panel is limited to charging a comparatively low rate for its services. As soon as a person establishes himself or herself as a neutral, other, more lucrative opportunities become available. Under these circumstances, one would anticipate greater uncertainty toward neutrals and hence a greater resort to arbitration. A preliminary review of the data appears to mildly support the hypothesis. A higher proportion of agreements subject to arbitration are reached at that step than in most of the other States in our study.

Public reaction to strikes. Perhaps the best illustration of how uncertainty contributes to impasses involves the public reaction to strikes and the parties' inability to estimate it accurately. For example, management may perceive a public which is resistant to "excessive" union demands—a public which will reward, politically, a tough stance by management even to the point of taking a strike. The union, however, may perceive a much more sensitive public which will not tolerate an interruption of its public services. With such perceptions, continuation of the impasse to the point of a strike is likely. However, where both parties have accurate information on the public reaction to a strike—where uncertainty approaches zero—a strike is, *ceteris paribus*, less likely to occur. This appears to be true regardless of what that reaction is predicted to be—tolerant or intolerant. If tolerant, the union bargaining position is strengthened and the outcome will be higher settlement costs; if intolerant, the settlement will be lower. The point is that the parties do not have to go through the exercise (of striking or other impasse procedure) to eliminate the uncertainty. They have the answer before they begin.

Our examples illustrate several subtle but important points. First, uncertainty must be considered collectively across both parties. Simply because one party accurately assesses process costs and incremental benefits, a dispute will not necessarily be resolved short of the terminal step of an impasse procedure. As a consequence, an accurate assessment is not as critical as a shared assessment of the costs and benefits. Even if wrong, when both parties predict each other's as well as their own costs and benefits identically, a settlement is highly likely. Examples alone do not adequately treat these issues, but they should be considered in the development of a general model of impasse behavior.

WE HAVE DEALT completely on the point that uncertainty precipitates and contributes to the continuation of impasses. Perhaps we have overstated our case. Even in this brief discussion, the point was made that, theoretically, both parties could be left worse off than the opponent's "best real offer." If an arbitrator's (or judge's) skill is viewed by the parties as likely to lead to such an outcome, the uncertainty will perhaps induce a voluntary settlement. Sufficient anecdotal evidence exists to suggest that parties have been "frightened into a settlement."

Nonetheless, we believe that our analysis as well as the examples from our research support a conclusion that uncertainty contributes more to creating impasses than resolving them. To be more specific, uncertainty with respect to the future costs and benefits of continued disagreement decreases the likelihood of early settlement. This conclusion runs counter to the conventional wisdom which the authors shared before conducting the interviews. The response of the various participants forced us to reconsider the role of uncertainty and while a definite conclusion must await a more detailed review of our data, it appears that our hypothesis, if true, could and should play a role in the evolution of public-sector labor legislation. □

——FOOTNOTES——

[1] Our work was sponsored by the U.S. Department of Labor, Employment Standards Administration.

[2] Some State laws, such as in Massachusetts, enacted following World War II to deal with a rash of public and private sector strikes left a range of dispute resolution methods open to the State executive. This approach was based on the hypothesis that uncertainty as to eventual outcome would encourage the parties to voluntary settle their dispute. For a discussion of the merits of this approach as experienced in Massachusetts, see George P. Shultz, "The Massachusetts Choice-of-Procedures Approach to Emergency Disputes," *Industrial and Labor Relations Review*, April 1957, p. 361.

[3] This pattern is examined in other reports based on this project which are not yet published.

[4] If the net cost of continuing to disagree is negative (that is, there is a net benefit), the parties will continue to disagree. An impasse procedure should work to increase the costs or lower the benefits, or both, of continued disagreement so that the net cost of continuing to disagree becomes positive (that is, there is a net loss). Then the parties will agree.

[5] It is our conclusion that there are, *de facto*, two terminal impasse steps in public-sector bargaining in those States we have surveyed. Where arbitration is not available, the unions have demonstrated a willingness to strike regardless of statutory prohibitions. While it is not inconceivable, our research revealed no instance of a strike where a dispute was submitted to binding arbitration. This issue is addressed elsewhere in project reports.

[6] For example, a union seeking additional members might attempt to portray an image of militance and aggressiveness by forcing a strike. Or, a union might sell itself by saying that if it does not get its demands, it will go to arbitration. In our study, we found no examples of strikes designed to enhance the image of the union and only one clear case in which the union sold itself to the membership on the basis of a promise to arbitrate.

[7] Paul F. Gerhart and Richard Krolikowski, "Bargaining Costs and Outcomes in Municipal Labor Relations," *Journal of Collective Negotiations in the Public Sector*, forthcoming.

[8] We have found that an important part of the public sector bargaining process is the development of mechanisms to convey real offers. Experienced mediators, trusted by the parties, facilitate the development of such mechanisms.

[9] Some negotiators feel such a tactic represents a failure to bargain in good faith, and is therefore an unfair labor practice (which is illegal). Where the negotiator makes any offer contingent upon acceptance of the whole package, however, it clearly is not. Arbitration hearings tend to become quite heated, however, when one party attempts to introduce evidence concerning what the other had offered privately.

[10] In one instance, the parties indicated that for the first several times arbitration was used, they engaged in the "pull back." However, in each instance, it appeared useless because the arbitrator quickly cut through their respective facades and dealt with the key issues as though there had been no pull back. They also realized the potentially counterproductive nature of this tactic and reached a mutual understanding to submit only those issues not truly agreed upon to arbitration in the future. Both were more satisfied with the process. Such a development represents extraordinary maturity and, perhaps, special circumstances. It is not likely to be adopted universally.

[11] For example, consider a case where a union attaches great importance to binding grievance arbitration and less importance to a large wage increase, while management, just the opposite, attaches great importance to a low-wage settlement and less to arbitration. The best real offer of the union prior to arbitration was 6 percent in wages plus binding arbitration. Management's best real offer was 4 percent in wages plus binding arbitration. In the arbitration proceeding, however, both sides "pull back" from their best real offers for tactical reasons. The union, hoping to provide the arbitrator with something to "give to management" increases its wage demand to 10 percent while staying firm on the demand for arbitration. Management, using the same tactic, withdraws its offer of binding arbitration and drops its wage offer to 2 percent. The arbitrator, misjudging the priorities of the parties, awards a 10-percent wage increase without binding arbitration of grievances. The benefit to the union is negative because the additional 6 percent in wages over management's best real offer is not as valuable as a grievance arbitration. Management loses because the additional 4 percent in wages over the best real union offer is more costly than the value "saved" by avoiding grievance arbitration.

[12] The most extreme case of uncertainty with respect to judicial response is Ohio. In spite of the existence of the severe penalties of the Ferguson Act (or perhaps because of them), public employers did not invoke the act in any of the nine bargaining units we studied where strikes had occurred. These cases included sanitation, fire, police, and teacher strikes in medium to large cities (50,000 to 700,000 population). Due process under the act requires individual hearings, which (in larger cities, at least) add considerably to employers' process cost without any assurance that a judge will not subsequently dismiss the action on various technical grounds. The Ferguson Act has been invoked effectively, however, so that the threat (uncertainty) remains for unions and management, particularly in smaller jurisdictions where individual hearings could be conducted. The Ferguson Act, itself, merely requires individual notice, not a hearing. Civil service law requires hearing prior to dismissal of any certified employee.

[13] Public Employee Relations Act (1970), Section 1003.

[14] 600 *Government Employee Relations Report*, p. B16, Apr. 7, 1975.

[15] The phenomenon was observed in Pennsylvania, for example, where one police union attorney reported that virtually all police organizations he represented shortly after Act 111 was passed told him to take the case to arbitration. The process cost in Pennsylvania for the union is mitigated by the fact that the neutral's expenses and fees are borne entirely by the employer. Over time, however, the attorney noticed a distinct loss of aggressiveness among his clients. It became clearer (more certain) to them just what they could get from arbitration (the incremental benefit) and how much his attorney's fees (process costs) would be.

[16] Iowa Public Employment Relations Act (Senate File 531), Section 22, para. 9.

[17] *IPERB*, Winter 1977, p. 4.

Customized 'final-offer': New Jersey's arbitration law

DAVID E. BLOOM

The New Jersey Fire and Police Arbitration Act took effect in November 1977, adding New Jersey's name to the growing list of States that currently utilize final-offer arbitration in the resolution of labor disputes in the public sector.[1] The final-offer procedures in New Jersey differ, however, from the procedures adopted in other States, and this report describes the uniqueness of the New Jersey mechanism and the philosophy in which it is grounded.

In 1968, the New Jersey Legislature passed the Employer-Employee Relations Act, granting New Jersey's public sector employees the right to organize and to ne-

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gotiate collectively the terms and conditions of their employment.[2] The act did not grant the right to strike, but it did establish the New Jersey Public Employment Relations Commission to help resolve bargaining impasses through mediation and factfinding. Unfortunately, neither mediation nor factfinding guaranteed finality in the resolution of labor disputes, and long drawn-out negotiations were quite common. In recognition of this situation, the New Jersey Legislature established the Public Employment Relations Study Commission in 1974 to make recommendations on alternative methods of dispute resolution. The implementation of final-offer arbitration in New Jersey is essentially an outgrowth of the commission's report.[3]

The report recommended that final-offer arbitration be the compulsory last step in the resolution of bargaining impasses in the public sector. This recommendation rested on three major premises: 1) because of the essential nature of public services, the interests and welfare of the public would be well-served by guaranteeing finality in the resolution of public-sector labor disputes;[4] 2) while guaranteeing finality in negotiations, final-offer would also foster the voluntary negotiation of a settlement because it tends to induce concessions by the parties; and 3) a final-offer mechanism could be designed which would allow the parties a wide scope for determining the conditions under which they could settle their dispute, so that the bargaining relationship would be undamaged. The first two arguments are standard and need not be discussed here. The third argument, which is somewhat novel, accounts for the variety of options available to the parties under New Jersey's arbitration law. In fact, this is precisely the feature of the New Jersey law which most differentiates it from the final-offer arbitration laws operating in other States.

Resolution mechanisms

Under the New Jersey law, the rules for implementing compulsory interest arbitration in labor disputes involving public safety employees are established by the Public Employment Relations Commission.[5] According to those rules, covered employees and employers must begin their contract negotiations at least 120 days before the employer's budget submission date.[6] If an impasse develops, the commission may assign mediators to aid in the resolution of the impasse at the request of either party or on its own initiative. In the event mediation fails, factfinders may be assigned at the request of either party to study the dispute and recommend a settlement. The costs of mediation are borne by the commission; the costs of factfinding are shared equally by the parties.

If negotiations are still at impasse 60 days before the employer's required budget submission date, then regardless of the use of mediation or factfinding, the parties must file a "60-Day Notification." This informs the commission of whether the parties have at least agreed upon a terminal procedure for settling the issues in dispute and, if so, it enables the commission to review and to approve or disapprove of the proposed procedure. In the event that the parties fail to agree on a terminal procedure within 50 days of the employer's budget submission date, they must each notify the commission of the unresolved issues.[7] Under these circumstances, the parties are compelled to have their dispute resolved by final-offer arbitration—with all economic issues as a single package and noneconomic issues on an issue-by-issue basis.[8]

There are basically five terminal procedures which the parties may request as an alternative to the compulsory procedure specified in the law. First, the parties may have conventional arbitration of all unsettled items. Second, the parties may require the arbitrator to choose between the final offers of the parties on all issues as a single package. Third, the parties may require the arbitrator to choose between the final offers of the parties on each issue separately. Finally, when there is a factfinder's report, the arbitrator may be requested to confine his or her choice to the parties' final offers and the factfinder's recommendations on either an issue-by-issue or a total package basis. The law explicitly does not limit terminal procedures to the five listed here, although it does require the parties to petition the commission for approval of any other variations.

Regarding the factors arbitrators consider in reaching their decisions, the law directs that arbitrators consider the overall compensation presently received by the employees, the comparability of wages, hours, and working conditions to those available in similar public and private employment, the cost of living, the lawful authority of the employer, the financial impact of the settlement on the governing unit and its residents and taxpayers, and the interests and welfare of the public. In addition, the New Jersey courts have held that arbitrators must also consider the constraints imposed by a 1977 State law, generally limiting annual increases in municipal budget expenditures to 5 percent.[9]

Arbitrators are appointed by the Director of Conciliation and Arbitration in recognition of the parties' preferences after the circulation among the parties of a list of seven members of the Public Employment Relations Commission's special panel of arbitrators. The costs of arbitration are borne entirely by the parties (subject to a fee schedule approved by the commission). Once the arbitrator is appointed, the parties are required to submit their final offers to the arbitrator in a form that is consistent with the terminal procedure in effect. At that point, the arbitration proceeding is completely under the control of the arbitrator. Existing wages and terms and conditions of employment cannot be changed by one party without the consent of the other during the pendency of an arbitration proceeding. Following the close of the arbitration hearings, arbitrators are expected to reach their decision and to convey it in writing to the parties as soon as possible. All changes called for in the arbitration award take place retroactive to the date of implementation prescribed in the award. Arbitrators cannot render an award involving pensions or benefits in the New Jersey State Health Benefits Program.[10]

From this discussion, it should be apparent that the basic orientation of the New Jersey arbitration law is toward encouraging the voluntary settlement of labor disputes at all stages of negotiation. Clearly, the variety of terminal procedures available to the parties is consistent with this view. In this same spirit, the law explicitly permits, and even seems to encourage, arbitrators to mediate disputes at all stages in the arbitration proceeding. The law also allows the parties substantial opportunity to modify or amend an award, even though awards are binding and enforceable. Finally, the law has even been interpreted to permit the parties to modify their final offers during an arbitration proceeding.[11]

Early experience

The law establishing compulsory interest arbitration in New Jersey took effect on November 1, 1977. Between that time and the end of the fiscal year on June 30, 1978, 259 public employers and public employee organizations filed requests for mediation, factfinding, or interest arbitration.[12] Of course, some units filed for more than one form of impasse resolution, but each is counted only once in this number. A breakdown of these cases according to whether mediators, factfinders, and arbitrators were actually appointed is given in table 1. The small number of mediator and factfinder appointments relative to arbitrator appointments stands out. It also stands out in statistics on cases initiated during the second fiscal year under the law.[13] As noted earlier, however, arbitrators are permitted to, and, as shown below, often do, mediate settlements so that the use of mediation may actually remain unaffected by the 1977 law.

Looking more closely at the breakdown of arbitrator appointments, table 2 presents the distribution of these appointments by employer type and by union type. The majority of public employers requesting arbitration are municipal governments. This is not surprising because about 95 percent of the public employers in New Jersey are municipal governments. Also, few of the unions involved in arbitration proceedings are firefighter unions. This is not surprising either because fire departments are local organizations operated by volunteers in approximately 85 percent of New Jersey's 567 municipalities.

As described in the previous section, one of the central features of the New Jersey arbitration statute is the wide scope it grants the parties to devise their own terminal procedures. However, during its first 8 months of operation, the parties relied on the law's example terminal procedure (final-offer on economic issues as a package and on noneconomic issues on an issue-by-issue basis) in 72 percent of the cases that were ultimately resolved by arbitration. Conventional arbitration was the next most frequently chosen alternative (16 percent), followed by issue-by-issue final-offer arbitration (5 percent), and one-package final-offer arbitration (1 percent); other commission-approved terminal procedures were used in 6 percent of the cases. Perhaps more experimentation with alternative terminal procedures can be expected as the parties gain experience under the new law, although, on the basis of awards rendered in cases initiated during the second fiscal year under the law, such a pattern has not yet emerged.

It was implied in the description of the law that there are a variety of stages at which a labor dispute involving public safety employees can end. Ordered from the least to the most extensive form of third-party intervention, these stages of settlement are as follows: 1) in direct negotiations with no appointments at all; 2) with the appointment of a mediator; 3) with the issuance of a factfinder's report with recommendations for settlement; 4) with the appointment of an arbitrator but before arbitration hearings have begun; 5) with the appointment of an arbitrator who mediates the dispute during the arbitration proceedings and who may issue a 'consent award' consisting of the terms of the dispute on which the parties have voluntarily settled; and 6) with the appointment of an arbitrator who issues a binding and enforceable award under conventional arbitration, final-offer, or any other terminal procedure devised by the parties and approved by the commission. Table 3 provides a breakdown of cases according to these six stages. Arbitration awards were clearly the most prevalent method for resolving disputes, with 79 of the 95 awards being final-offer in nature (the rest were conventional arbitration awards). At the other end of the spectrum, factfinding, which has rarely been used, led to no settlements; in fact, the commission received no requests for factfinding in cases involving public safety employees during the fiscal year ending June 30, 1979. It is also interesting to observe that arbitrators acted as mediators in a large proportion of cases. Combined with other mediated settlements, the use of mediation by a third party was nearly as important as the issuance of final-offer awards in the settlement of disputes. Thus, it is possible to regard mediation and arbitration as a joint mechanism for resolving labor disputes under the New Jersey law, rather than simply as disjoint procedures.[14] □

FOOTNOTES

[1] Other States which also utilize some form of final-offer arbitration to resolve labor disputes involving public safety employees are Wisconsin (1972), Michigan (1972), Massachusetts (1973), Iowa (1974), and Connecticut (1979). In Wisconsin and Massachusetts, the arbitrator is limited to choose among the parties' final offers on all issues as a single package. In Michigan, Iowa, and Connecticut, the arbitrator may choose among the parties' final offers on an issue-by-issue basis. The Michigan procedure is limited, however, to the resolution of economic issues.

[2] The New Jersey Fire and Police Arbitration Act, approved May 10, 1977 (P.L. 1977, Chapter 85, 1977 Senate No. 482), amendment to the New Jersey Employer-Employee Relations Act, approved April 30, 1941 (P.L. 1941, Chapter 100; Chapter 34: 13A–1 et. seq.).

[3] Report to the Governor and the Legislature by the Public Employer-Employee Relations Study Commission pursuant to P.L. 1974, c. 124, State of New Jersey, February 2, 1976.

[4] Conventional arbitration schemes also guarantee finality, but it has been argued that they do so in a way which reduces the likelihood of a voluntary settlement. This is the so-called 'chilling effect' of conventional arbitration. (However, see Craig A. Olsen, "Does 'final offer' allow the bargaining that conventional arbitration chills?" *Monthly Labor Review*, May 1979, pp. 38–39.) Another criticism of conventional arbitration mechanisms is that when these mechanisms are operative, the parties tend to rely on the judgment of arbitrators regarding acceptable agreements and therefore do not bargain as seriously as they otherwise would. This is referred to as the 'narcotic effect' of conventional arbitration.

[5] Although the Study Commission's Report to the Governor recommended that final-offer arbitration procedures apply to all public sector employees, this was not acceptable to teachers, school boards, and several other major groups in New Jersey. Consequently, the law was written so that it applied only to public safety employees.

[6] The law is broadly construed to cover employees in all firefighting, police, and other corrections units on the municipal, county, and State levels of government. The required budget submission date refers to the first budget which implements the new labor agreement.

[7] It is worthwhile to note that, according to the rules, the failure of any party to file any notification, petition, or other statement will not preclude the implementation of compulsory interest arbitration.

[8] In the event the parties disagree over the classification of an item as economic or noneconomic or over the negotiability of an issue as required, permissive, or illegal, the parties must petition the Public Employment Relations Commission, which makes the final determination.

[9] The Cap Law was enacted by the New Jersey Legislature in 1977. This law places a 5-percent ceiling on increases in municipal budget expenditures, although municipalities may file for specific exemptions. Undoubtedly, this law has restricted the bargaining range in public sector negotiations. At the very least, it would certainly seem to account for the prevalence of public employers to choose 5-percent increases for their final salary offers. The existence of this law has also heightened the controversy surrounding the use of final-offer arbitration in New Jersey because arbitrated awards are, by definition, binding on the public employer and are not limited to 5-percent increases.

[10] N.J.S.A. 34: 13–A18.

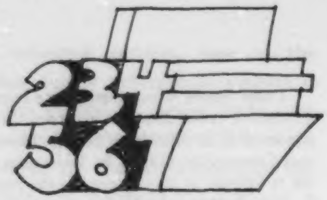
[11] See *Newark Fireman's Union of New Jersey v. City of Newark*, Superior Court of New Jersey, Chancery Division, Essex County, Docket No. C-347–78, 1978.

[12] There were also several cases in the Public Employment Relations Commission files in which nonpublic safety organizations requested arbitration. These cases are not analyzed here.

[13] Because a large number of cases initiated during the second fiscal year under the New Jersey law are not yet closed, statistics on those cases are not presented in this report.

[14] For an analysis of first-year salary settlements under the law, see David E. Bloom, "The Effect of Final Offer Arbitration on the Salaries of Municipal Police Officers in New Jersey," Working Paper No. 129, Industrial Relations Section, Princeton University, 1979.

The Anatomy of Price Change



Slowdown in energy prices eases second-quarter inflation

WILLIAM THOMAS, ANDREW CLEM, AND EDDIE LAMB

After a sudden acceleration in the opening months of 1980, the pace of inflation slowed somewhat during the second quarter. From March to June, the Consumer Price Index for All Urban Consumers (CPI-U) moved up at a seasonally adjusted annual rate of 11.6 percent, following an 18.1-percent rate in the previous 3 months and a 13.3-percent increase from December 1978 to December 1979. Most of the slowdown was due to energy prices, which dropped from a 64.8-percent rate of increase in the first quarter to a rate of 8.1 percent in the second. Retail price advances for commodities other than food and energy also decelerated, but much more modestly. In contrast, charges for consumer services other than energy rose sharply for the second consecutive quarter. Food prices continued to rise moderately. (See table 1.)

The slowdown in the CPI would have been more pronounced except for the continued sharp increase in the home financing component, which reflected steep increases in interest rates during the opening months of the year. Excluding mortgage interest costs, the rate of advance in the CPI decelerated from 14.8 percent in the first quarter to 7.5 percent in the second.

The easing of inflation in the second quarter was considerably greater at the primary market level. The Producer Price Index (PPI) for Finished Goods rose at a seasonally adjusted annual rate of 6.3 percent, only one-third of the 18.9-percent rate registered in the preceding 3 months and half as fast as the 12.6-percent climb in 1979. As in the CPI, the most dramatic slowdown occurred for energy goods, which had skyrocketed at a rate of more than 100 percent in the first quarter before slowing to a rate of 17.1 percent in the second. Price rises for consumer goods other than foods and energy also decelerated markedly. Further signals of an inflation slowdown were evident in prices for intermediate and crude materials.

The relative slowdown of inflation during the second

Table 1. Changes in selected components of the Consumer and the Producer Price Indexes, 1979–80

Index	Compound annual rate, seasonally adjusted except as noted, for 3 months ended—				
	1979			1980	
	June	Sept.	Dec.	Mar.	June
Consumer Price Index for All Urban Consumers (CPI-U) [1]					
All items	12.8	13.8	13.7	18.1	11.6
Food and beverages	6.4	6.5	11.9	4.3	5.8
Housing	15.1	15.9	17.4	19.5	20.6
Apparel and upkeep	1.0	7.7	5.1	15.3	.5
Transportation	23.4	20.6	14.3	35.2	2.5
Medical care	6.7	10.7	12.0	15.9	7.3
Entertainment	6.4	7.7	5.3	15.0	8.4
Other goods and services	5.3	12.2	5.1	10.6	8.9
Food	6.4	6.5	12.1	3.8	5.6
Commodities less food	15.6	16.4	12.7	22.1	4.7
Services	13.2	14.3	15.8	20.9	21.6
Energy	59.2	49.9	19.2	64.8	8.1
Fuel oil, coal and bottled gas	76.3	93.9	24.9	65.4	3.9
Gas and electricity	28.7	16.6	1.0	21.0	39.8
Gasoline, motor oil, coolants, etc.[2]	83.2	62.2	28.3	105.2	−5.7
All items less energy	9.0	10.6	13.5	12.9	12.3
All items less food and energy[2]	10.1	10.9	13.9	15.7	13.5
Producer Price Index (PPI) by stage of processing [1]					
Finished goods	7.9	16.1	13.3	18.9	6.3
Finished energy goods	75.2	106.2	45.7	109.2	17.1
Consumer foods	−9.2	15.3	8.6	−1.2	−7.8
Finished goods less food	14.2	16.4	15.0	25.7	11.0
Finished goods less food and energy	8.5	7.6	11.0	15.2	9.9
Finished consumer goods less food	17.2	23.4	17.9	34.2	10.6
Finished consumer goods less food and energy	7.9	9.1	11.5	17.4	8.3
Capital equipment	9.4	5.9	10.0	12.7	11.7
Intermediate materials, supplies, and components	14.7	19.7	16.0	21.9	5.5
Intermediate energy goods	52.8	71.1	37.1	62.2	6.4
Intermediate foods and feeds	2.8	24.8	1.2	−1.7	13.9
Intermediate materials less foods and feeds	15.4	19.4	17.0	23.1	5.2
Intermediate materials less food and energy	11.0	13.4	13.9	17.2	5.1
Crude materials for further processing	6.3	20.0	14.9	−1.3	−7.2
Crude energy materials[2]	35.4	50.7	32.5	30.4	20.6
Crude foodstuffs and feedstuffs	−4.5	16.4	5.7	−16.7	−10.5
Crude nonfood materials	23.1	25.1	27.8	21.4	−3.5
Crude nonfood materials less energy	7.6	−7.1	20.1	6.6	−37.5

[1] See "Definitions" and "Notes" preceding tables 22–30 Current Labor Statistics in this *Review*.

[2] Not seasonally adjusted.

NOTE: Monthly data for Producer Price Indexes have been revised through February 1980 to reflect the availability of late reports and corrections by respondents. For this reason, some of the figures shown above and elsewhere in this report differ from those previously published.

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quarter reflected, among other things, the completion of most of the direct and indirect pass-through of the latest round of steep crude oil price boosts and of the impact of the recession. The National Bureau of Economic Research designated January 1980 as the beginning of the business cycle downturn. The recession first affected the residential construction and automobile markets and then spread through much of the rest of the economy. The collapse of a speculative boom in prices of a broad variety of basic materials, particularly precious metals and other nonferrous metals, also contributed to the general easing of inflation.

Energy

The rate of increase for energy prices slowed in the second quarter. (See table 2.) Substantially weakened demand worldwide for petroleum resulted in inventories that were more abundant than at any time since 1978. The crude petroleum market calmed in the early months of 1980, and prices set by the Organization of Petroleum Exporting Countries temporarily stabilized.

In late 1979, panic buying of crude oil again broke out among the oil-consuming nations, partly as a result of fears concerning the security of oil supplies during the crises in Iran and Afghanistan. This enabled some OPEC members to put through another round of price hikes. Saudi Arabia raised its benchmark oil price in December and again in January in an effort to achieve a unified price structure for OPEC. However, this action only led to further increases by other OPEC members.

Between February and May, on the other hand, contract prices for OPEC crude oil changed very little as a consequence of slack demand associated with a recessionary trend in many Western Nations. During this time, the volume of spot market transactions fell, and spot prices for crude oil dropped from an average of about $40 per barrel in December to $32 in June. At the end of the second quarter official OPEC contract prices ranged between $28 for Saudi light crude to $37 for top quality African crudes.

Stocks of crude petroleum in the United States were increased to record levels during the second quarter, reflecting the reduction in both output and consumption of refined products. Primary stocks[1] of refined petroleum products were substantially above those of a year ago, as demand fell in response to the sharp price increases registered during 1979 and early 1980, and declining economic activity. Lower demand and slower rises in crude oil prices led to more moderate price increases by petroleum refiners.

In the second quarter, price increases slowed dramatically for most energy items sold to consumers. Retail energy prices rose at an 8.1-percent rate, after climbing at a 64.8-percent rate in the first quarter and advancing 37.4 percent during 1979. Producer prices for finished energy goods also slowed, from a 109.2-percent annual rate of increase during the first quarter to a 17.1-percent rate in the second; these prices had advanced more than

Table 2. Changes in retail and producer prices for energy-related items, 1979–80

Item	Index	Relative importance December 1979	Compound annual rate, seasonally adjusted except as noted, for 3 months ended —				
			1979			1980	
			June	Sept.	Dec.	Mar.	June
Finished items							
Energy items, (gas, electricity, fuel oil, coal, gasoline, motor oil)	CPI	100.0	59.2	49.9	19.2	64.8	8.1
Finished energy goods	PPI	100.0	75.2	106.2	45.7	109.2	17.1
Gasoline, motor oil, coolants, etc.	CPI	55.3	83.2	62.2	28.3	105.2	–5.7
Gasoline [1]	CPI	54.5	84.5	63.1	29.1	105.7	–6.2
	PPI	64.1	61.7	89.4	58.7	136.6	14.7
Household fuels	CPI	44.7	38.1	31.7	7.0	31.5	28.9
Fuel oil [1]	CPI	10.3	88.5	99.7	22.2	68.4	3.7
	PPI	24.0	109.4	141.5	22.0	78.7	17.8
Gas (piped) [2]	CPI	13.4	23.7	22.5	20.4	14.3	29.3
Electricity	CPI	19.5	24.9	9.7	2.3	20.3	39.4
Intermediate materials							
Intermediate energy goods	PPI	100.0	52.8	71.1	37.1	62.2	6.4
Diesel fuel [1]	PPI	10.3	115.8	157.0	26.1	86.8	10.9
Commercial jet fuel [1] [2]	PPI	8.4	107.6	157.5	60.6	97.6	24.9
Residual fuel [1]	PPI	14.6	109.8	111.2	23.2	71.8	–39.9
Liquefied petroleum gas [2]	PPI	7.1	75.9	204.4	95.7	75.1	1.9
Electric power [3]	PPI	35.7	15.9	14.8	24.7	20.1	15.7
Crude materials							
Crude energy materials [2]	PPI	100.0	35.4	50.7	32.5	30.4	20.6
Natural gas [1] [2]	PPI	43.9	43.7	45.5	27.4	25.4	26.2
Crude petroleum [2]	PPI	38.1	46.0	96.7	54.8	52.1	21.6
Coal	PPI	17.8	–1.2	2.1	6.8	6.4	–1.9

[1] Prices for these items are lagged 1 month in the PPI.
[2] Not seasonally adjusted.
[3] Includes commercial and industrial power, but not residential power.

60 percent in 1979. Retail gasoline prices turned down slightly for the first time in two years, responding to sagging demand. These prices had risen 68.1 percent during the year ended March 1980, as consumption declined about 8 percent.[2] In contrast to the retail price drop, prices received by gasoline refiners continued to rise, although at a much slower pace than in the previous year and a half. Prices for home heating oil continued to rise in the second quarter at both the retail and producer levels, but at a substantially slower rate than in the first quarter. Primary stocks of middle distillates (fuel oil and diesel fuel) were more than 50 percent above the level of a year earlier, when these products were in short supply. At the urging of the Carter Administration, oil companies had increased their stocks of fuel oil during the summer and fall of 1979. However, because the winter weather was milder than in recent years in most parts of the country, demand was lighter than expected.

In contrast to moderating petroleum prices, retail prices for piped gas rose considerably more than in the first quarter, as higher prices for imported and domestic natural gas were passed on to the consumer. Most of the increase in the CPI for piped gas was accounted for by cities in the Western region. Household electricity rates also increased more than in the first quarter because of earlier price increases for power-generating fuels.

Producer prices for intermediate energy goods (those sold to business establishments) increased at a 6.4-percent annual rate, far less than the 62.2-percent rate of the previous quarter. Residual fuel prices fell sharply, after advancing 62.8 percent during 1979, and continuing this upward trend in the first quarter of 1980. The decrease was due to plentiful supplies and the substitution of other fuels by some industrial users. Demand was further weakened by the recession-induced drop in production levels in certain industries. The rate of increase in prices for diesel fuel and commercial jet fuel slowed considerably.

Liquefied petroleum gas prices were virtually unchanged following very rapid advances during 1979 and early 1980; demand for butane by gasoline refiners and for propane and ethane by petrochemical producers had been strong but weakened when the recession began. Electric power rates for industrial and commercial consumers rose at a 15.7-percent rate in the second quarter, somewhat faster than during 1979, but not as fast as in the first quarter. Fuel cost adjustments accounted for part of the increase, and some utilities incurred extra investment costs by switching from petroleum fuels to coal, natural gas, or nuclear power.

Prices for crude energy materials increased much less than in any of the preceding four quarters. The crude petroleum index (which only includes domestic production) slowed to a 21.6-percent rate, following a 61.3-percent advance in the 12 months ended in March. The deceleration was partly due to the fact that prices for the 24-percent share of U.S. crude oil production which was not controlled changed very little during the spring, reflecting the flat prices on the world market. Natural gas prices continued to rise rapidly, primarily because of sharp advances in prices for natural gas imported from Canada.

Finished goods except foods and energy

Consumer goods. In the CPI, prices for commodities except food and energy advanced at a seasonally adjusted annual rate of 7.3 percent, less than the rate posted in the first quarter and somewhat below the 8.8-percent rise for 1979. (See table 3.) At the producer level, the slowdown was more pronounced. The PPI for finished consumer goods less foods and energy rose at an 8.3-percent rate after rising at a 17.4-percent rate in the first quarter and 9.6 percent in 1979. The slowdown resulted partly from a decline in economic activity which began in January.

Home purchase prices increased at a 14.9-percent annual rate from March to June, much faster than in the first quarter but not as fast as in 1979. (The CPI for home purchase is derived from Federal Housing Administration data.) When home purchases are excluded, the CPI for commodities except food and energy increased at an annual rate of 4.5-percent, compared with an 11.1-percent rate in the first quarter, and a rise of 6.0 percent in 1979.

Jewelry prices moved up at a much slower pace at both the retail and manufacturing levels. Prices for precious metals, which had soared at the beginning of the year, declined significantly and then rebounded somewhat in June.

Used car prices fell for the second consecutive quarter, as dealers lowered prices on the larger, less fuel efficient models in the face of rapidly rising gasoline prices. Price increases for new cars continued to rise, in spite of a major sales slump; rebates for some models were more than offset by price advances resulting from earlier cost increases, particularly among metals. In addition, price increases for imports reflected strong consumer demand for smaller models. Prices for tires rose much less than in the first quarter, a result of the reduced demand for autos.

Among the capital goods increasing steeply early in the quarter but more slowly afterwards were motor trucks, construction machinery, machine tools, plastic and rubber industry machinery, oilfield machinery, and aircraft. Demand for most kinds of capital goods other than motor vehicles remained strong during the second quarter, and most producers were able to continue to pass through higher costs for metals and other inputs.

However, after advancing at a rate of nearly 15 percent in the preceding quarter, commercial furniture prices rose only one-third as rapidly from March to June.

Services less energy

The CPI for services other than energy rose at a 20-percent annual rate, nearly as much as in the first quarter, and considerably more than the 13.6-percent advance in 1979. (See table 4.) Much of the second quarter increase occurred because of sharp advances in the contracted mortgage interest cost index, which reflected interest rate hikes that occurred earlier in the year. Transportation service charges continued to move up rapidly, but charges for most other services rose considerably less than in the previous quarter.

The index for mortgage interest rates advanced at an annual rate of about 40 percent for the second consecutive quarter, after rising 16.1 percent in 1979. The sharp boost during the spring reflected the credit-tightening actions by the Federal Reserve Board in the previous quarter. Conventional mortgage interest rates are represented in the CPI by actual contract mortgage loan transactions and not by current commitment rates for future mortgages. Property insurance premiums, which reflect both insurance rate changes and changes in the insured values of constant quality housing, rose at a 16.7-percent rate, about as much as in the first quarter, but faster than during 1979. On the other hand, property taxes turned down. Charges for home maintenance and repair moved up at a much slower rate than in any of the previous 4 quarters.

Prices for transportation services rose at a higher rate than in the preceding quarter. Because of jet fuel costs, airline fares continued to increase sharply, although not as much as during the second half of 1979. The large advances for intercity train fares and taxi fares also were due to fuel costs. Automobile finance charge increases reflected earlier rises in market interest rates.

The rate of increase slowed for the other service categories. Medical care services rose at a rate much less than in the 3 preceding quarters; this slowdown was evident in both professional and hospital related services. Similarly, the indexes for entertainment and personal care services registered much smaller advances than in the first quarter.

Foods and related products

Consumer prices for foods rose at a 5.6-percent annual rate from March to June, more than the 3.8-percent rate in the first quarter, but considerably less than the 12.1-percent annual rate in the fourth quarter of 1979. Retail food increases in the second quarter were greatly influenced by advances in distribution costs, which resulted in large part from earlier rises in energy prices.

Table 3. Changes in retail and producer prices for consumer goods other than food and energy, 1979–80

Commodity	Index	Relative importance December 1979	Compound annual rate, seasonally adjusted except as noted, for 3 months ended—				
			1979			1980	
			June	Sept.	Dec.	Mar.	June
Commodities less food and energy[1]	CPI	100.0	7.5	8.3	10.4	9.7	7.3
	PPI	100.0	7.9	9.1	11.5	17.4	8.3
Apparel, excluding footwear[2]	CPI	10.9	−2.3	7.3	3.0	16.3	−2.4
	PPI	13.8	4.4	4.8	2.5	13.9	8.6
Footwear	CPI	1.9	11.9	7.7	9.2	7.4	3.5
	PPI	3.0	22.7	12.1	4.3	3.7	0
Textile housefurnishings[2]	CPI	1.5	8.7	.5	7.8	18.3	7.3
	PPI	2.1	7.0	8.7	8.1	5.6	5.9
Soap and detergents[3]	CPI	.9	−.2	9.7	11.8	21.2	4.9
	PPI	1.7	4.7	22.4	8.4	11.6	3.1
Cleansing and toilet tissue, paper towels and napkins[3, 4]	CPI	.7	5.7	−1.0	14.9	11.8	19.0
	PPI	2.7	4.2	21.7	8.6	31.0	12.5
Tires[5, 6]	CPI	1.3	8.8	7.8	18.3	16.9	10.8
	PPI	1.9	11.7	24.8	17.3	20.9	9.6
Furniture[2]	CPI	3.5	4.4	4.4	9.3	17.0	6.0
	PPI	4.3	7.5	8.0	11.7	6.1	10.3
Appliances, including radio and TV	CPI	4.4	2.4	1.8	3.9	3.8	4.1
	PPI	6.3	2.8	2.5	5.0	7.6	10.0
New cars	CPI	9.6	11.3	7.1	0	12.3	10.5
	PPI	15.4	10.2	1.8	7.5	8.5	11.4
Sporting goods and equipment[5]	CPI	1.8	10.5	7.5	3.3	19.1	4.9
	PPI	1.3	8.3	19.7	4.5	16.2	10.0
Tobacco products[2]	CPI	3.1	1.3	10.0	2.5	13.8	10.5
	PPI	3.9	.7	14.7	8.7	19.9	14.2
Gold jewelry[7]	CPI	1.2	5.2	15.4	28.6	80.7	10.8
	PPI	2.9	37.7	62.2	147.8	155.2	9.6
Home purchase[8]	CPI	30.1	16.3	17.1	18.8	7.0	14.9
Used cars[8]	CPI	7.5	−2.5	−4.9	10.5	−2.5	−16.8

[1] Commodities less food and energy account for 34.5 percent of the CPI-U and 51.7 percent of the PPI for finished consumer goods.

[2] Not seasonally adjusted in the PPI.

[3] Not seasonally adjusted in the CPI or the PPI.

[4] "Sanitary papers and health products" in the PPI.

[5] Not seasonally adjusted in the CPI.

[6] "Tires and tubes" in the PPI.

[7] "Jewelry and luggage" in the CPI; not seasonally adjusted in the CPI or the PPI.

[8] Not included in the PPI.

At the primary market level, processor prices for foods fell even more sharply (7.8-percent annual rate) than in the first quarter (1.2-percent annual rate). In both the CPI and PPI, prices for meats fell sharply, while prices for sugar and sweets continued to soar. (See table 5.)

Prices for beef and veal, pork, and poultry declined substantially at both the retail and processor levels reflecting abundant supplies for pork, increased poultry production, and competitive price reductions for beef and veal. At the farm level, prices for cattle, hogs, and live poultry fell at an annual rate of more than 30 percent, the second consecutive quarterly decline. Heavy hog slaughter resulted in lower prices for both hogs and cattle. Live poultry prices fell primarily in response to more than ample broiler and fryer supplies.

Abundant supplies of soybeans caused prices to decline in world markets. As a result, the index for fats and oils moved down, led by lower prices for margarine and shortening. The index for grains declined for the second consecutive quarter, mostly as a result of lower prices for wheat. Favorable growing conditions in areas producing winter wheat raised expectations for an excellent harvest. On the other hand, corn prices averaged higher over the quarter, as extremely dry weather in growing areas resulted in concern about a smaller harvest due to planting delays and inadequate moisture.

Retail prices for sugar and sweets rose at an annual rate of more than 40 percent for the second consecutive quarter, after rising 7.4 percent in 1979. Producer prices for refined sugar for consumers soared nearly as much as in the first quarter; in June, prices were double the year-ago level. Raw sugar prices rose from 18 to 29 cents per pound from December to June. The pattern of price movement in the first and second quarters was similar; unusually sharp increases in February and May were followed by downward adjustments, as speculative purchases contributed to price instability.

Table 4. Changes in consumer service prices, 1979–80

Item	Relative importance December 1979	Compound annual rate, seasonally adjusted except as noted, for 3 months ended —				
		1979			1980	
		June	Sept.	Dec.	Mar.	June
Services	100.0	13.2	14.3	15.8	20.9	21.6
Services less energy	91.7	11.7	14.2	17.1	21.0	20.0
Rent, residential	12.9	8.2	10.2	9.0	8.3	10.0
Household less rent[1]	53.0	17.7	17.3	21.2	28.5	30.8
Home financing, taxes, and insurance	26.6	22.0	25.3	38.1	43.9	44.5
Mortgage interest rates	....	11.5	12.2	24.2	42.8	39.2
Home maintenance and repairs	6.8	11.5	9.7	11.8	20.0	6.7
Gas (piped) and electricity	8.3	28.7	16.6	1.0	21.0	39.8
Housekeeping services	4.9	8.7	9.0	7.6	8.8	8.6
Transportation services	13.9	10.1	12.7	12.7	16.3	16.5
Auto maintenance and repairs	3.6	11.3	9.6	9.5	11.0	11.9
Other private transportation services	7.7	11.2	10.5	6.2	18.7	21.3
Public transportation	2.6	5.3	25.2	39.5	17.3	18.6
Medical care services	9.8	6.7	11.2	12.6	16.9	6.4
Entertainment services	3.7	9.0	5.0	1.9	12.9	9.2
Personal care services[2]	2.2	8.5	9.0	7.2	11.3	7.4
Apparel services[2]	1.6	10.0	11.0	12.7	18.3	14.3
Personal and educational services	2.9	7.5	17.7	5.2	9.8	7.9

[1] Includes items not listed.
[2] Not seasonally adjusted.

Intermediate materials less foods and energy

The index for intermediate materials less foods and energy slowed to a 5.1-percent annual rate in the second quarter, after accelerating to a 17.2-percent rate from December to March. The first quarter advance was the largest since the third quarter of 1974, while the second quarter rise was the smallest since the final quarter of 1977. This dramatic slowdown was principally the result of the sharp drop in precious metals prices, as well as the steep decline in business activity in early spring. In response to low sales levels and high interest costs, manufacturers tried to reduce their stocks of materials and supplies in the second quarter; this led to weaker demand for many items whose prices had risen sharply earlier in the year.

One factor which tended to magnify inflation in the first quarter was widespread commodity speculation, particularly among precious metals. Extremely sharp increases in January brought gold prices to a level more than triple that of January 1979, while silver prices were more than seven times what they were a year prior to then. Partly because of tightened credit markets, gold prices fell about 30 percent over the next 3 months, and prices for silver plummeted about 70 percent through May. Gold and silver prices then rebounded somewhat in June. If the categories for precious metals and photographic film (which contains substantial proportions of silver) were removed from the index for intermediate materials less foods and energy, the first and second quarter annual rates of increase would have been 13.8 percent and 7.2 percent.

The sharp declines in precious metals prices contributed to the downturn in the durable manufacturing materials category, which fell at a 4.4-percent annual rate, after increasing at a 16.1-percent rate in the first quarter and moving up 16.8 percent in 1979. In addition, prices were lower for several other primary nonferrous metals. Copper prices fell because of weakened industrial, construction, and speculative demand and lead prices continued to drop, as production of automobile batteries remained at low levels. In contrast, the index for primary aluminum rose sharply despite weaker domestic demand. The increase reflected higher energy costs, which have a larger impact on aluminum prices than on prices of other metals. Prices for finished steel mill products were raised an average of 3 percent in April, with the largest increases for flat rolled sheet and strip. The increase was attributed to higher labor and energy costs, but there was some discounting by the end of June, in response to slack demand from the automotive industry and others.

Table 5. Changes in retail and producer prices for consumer foods, 1979–80

Commodity	Index	Relative importance December 1979	Compound annual rate, seasonally adjusted except as noted, for 3 months ended				
			1979			1980	
			June	Sept.	Dec.	Mar.	June
Consumer foods[1]	CPI	100.0	6.4	6.5	12.1	3.8	5.6
	PPI	100.0	−9.2	15.3	8.6	−1.2	−7.8
Beef and veal[2]	CPI	10.3	25.6	−17.7	13.2	10.9	−7.6
	PPI	14.6	−20.9	32.0	7.9	−4.3	−22.9
Pork	CPI	4.7	−26.3	−23.5	14.8	−12.4	−23.3
	PPI	6.7	−48.2	1.4	4.4	−21.1	−35.7
Poultry	CPI	2.2	−14.6	−21.6	27.5	−3.9	−15.2
	PPI	3.3	−48.5	−5.0	100.6	−49.0	−25.5
Cereal and bakery products	CPI	8.6	8.3	15.1	11.1	12.6	12.8
	PPI	12.7	21.4	22.8	3.3	15.8	11.0
Dairy products	CPI	9.3	9.2	12.2	7.4	8.4	14.5
	PPI	15.1	11.8	15.2	−.2	9.7	17.5
Fresh fruits and vegetables	CPI	5.0	4.8	31.8	−.2	−28.2	38.1
	PPI	3.8	−12.0	−7.3	15.0	−21.5	35.0
Processed fruits and vegetables	CPI	4.6	9.2	10.1	−1.7	9.0	11.7
	PPI	6.7	4.2	5.1	−8.6	7.3	7.7
Eggs	CPI	1.3	19.7	−35.7	12.8	−21.8	22.7
	PPI	2.1	7.4	−38.8	10.3	−.5	−18.6
Sugar and sweets[3, 4]	CPI	2.4	8.0	6.8	3.7	47.2	41.6
	PPI	4.2	5.3	12.1	35.6	59.9	130.2
Coffee, roasted	CPI	1.0	−1.1	126.2	14.6	−2.8	−4.7
	PPI	4.4	22.7	96.9	21.0	−17.8	−7.1
Fats and oil products[5]	CPI	2.0	5.1	9.0	4.2	13.2	−1.5
	PPI	1.9	6.8	14.3	9.8	1.9	−8.4

[1] Includes items not listed. The CPI includes prices of food away from home, which account for about 31 percent of the food index. The PPI for finished consumer foods does not reflect restaurant prices.

[2] Not seasonally adjusted in the CPI.

[3] "Sugar and confectionery" in the PPI.

[4] Not seasonally adjusted in the PPI.

[5] "Vegetable oil end products" in the PPI.

Hardwood lumber prices declined even more than in the first quarter, reflecting weakened demand for household furniture. The indexes for plastic components and laminated plastic film registered very little change after advancing sharply in the previous quarter. The recession restricted the ability of plastic producers to continue passing through petrochemical feedstock price hikes.

The construction materials index slowed to a 3.8-percent annual rate of increase, the smallest quarterly advance in more than 3 years. The annual rate of private housing starts was about 1 million units in the second quarter, less than half the average rate during 1978. Softwood lumber prices fell sharply for the third consecutive quarter, and millwork prices turned down after rising in the first quarter. However, plywood prices turned up sharply in May and June as producers cut their output levels in response to the 13.2-percent decline in prices in the 12 months ending in April. The slowdown in housing construction also led to sharp declines in prices for copper wire and cable, gypsum products, and clay tile. In addition, price increases slowed for several other items such as heating equipment and brass fittings.

The nondurable manufacturing materials index rose at a 13.4-percent annual rate, somewhat less than in any of the five previous quarters. The surge in crude oil prices in early 1980 led to substantial increases in April in the indexes for industrial chemicals, plastic resins and materials, and synthetic rubber. However, decreased demand resulted in moderating prices by June. Among textile products, synthetic fibers prices continued to move up about as much as in the first quarter, mainly because of higher petrochemical feedstock costs. Price increases slowed, however, for processed yarns and threads and finished fabrics, as apparel manufacturers reduced their orders in response to the recession.

Woodpulp prices rose sharply in April, largely because the decreased output of lumber curtailed supplies of wood chips. Higher woodpulp prices, in turn, contributed to accelerating price increases for paper and paperboard. Prices continued to decline for leather and inedible fats and oils, as world supplies exceeded demand.

The manufacturing components index moved up only half as much as in the previous quarter. Weakened industrial demand was the primary factor behind the slowing rates in the indexes for electronic components and accessories, internal combustion engines, motor vehicle parts, electric motors, and switchgear and switchboards.

Price moderation was also evident in other intermediate products. Wooden pallet prices turned down at the beginning of 1980 and continued to decrease through June because of weaker demand, which reflected the lower levels of manufacturers' shipments. Photographic supply prices fell after climbing steeply in February, in response to similar fluctuations in prices for silver, which is heavily used in making camera film. Price increases for mixed fertilizers slowed significantly, following rapid advances during the first quarter of 1980 and much of of 1979. Fertilizer demand was slow because of poor prospects for crop earnings and high interest costs.

Crude nonfood materials less energy

The index for crude nonfood materials less energy turned down sharply at a 37.5-percent annual rate following an increase at a 6.6-percent rate in the first quarter of 1980. From December 1978 to December 1979, this index rose 13.1 percent. Prices for ferrous scrap fell at an even sharper rate in the second quarter (64.1 percent) than in the first (21.2 percent). Domestic production of steel was far below the levels experienced in 1979; foreign demand for ferrous scrap was also low. Prices for aluminum base scrap declined at a 90.4-percent annual rate after skyrocketing in the previous 2 quarters. The index for copper base scrap registered declines over both the first and second quarters; prices fell sharply in March and April in response to a weakening world market.

Prices for hides and skins and cotton declined as a result of weak export and domestic demand. Prices for wastepaper declined because of poor demand from paperboard mills and the building materials industry. Natural rubber prices turned down as speculators liquidated holdings because of reduced demand from tire manufacturers and other industrial users. In contrast, higher prices were registered for iron ore, in response to increased labor costs, and for sand and gravel, because of higher energy costs.

———*FOOTNOTES*———

[1] "Primary stocks" refer to petroleum products stored at the refinery or at bulk terminals, and exclude inventories of retailers, jobbers, etc.

[2] American Petroleum Institute figures show a decrease in gasoline deliveries from primary storage of about 8 percent from April 1979 to April 1980.

Cost-of-living indexes for Americans living abroad

The U.S. Department of State has prepared new indexes of living costs abroad for Americans in Canberra, Ottawa, Madrid, and Caracas. The new indexes are 3 percent higher for Madrid, 1 percent higher for Ottawa, and about 2 percent lower for Canberra and Caracas than previous indexes. (See table 1.) The periods between survey dates were 8 months for Canberra and about 1 year for the other cities.

The new indexes reflect changes in the exchange rates used to calculate the indexes, as well as changes in the prices of goods and services (excluding housing and children's education) between survey dates. Also, the new indexes were computed by the Bureau of Labor Statistics, using new expenditure weights derived from 1972–73 Consumer Expenditure Survey data for Washington, D.C. The new weights are being used to compute all indexes based on retail price surveys conducted after July 1979.

The higher index of living costs for Americans in Madrid reflects the depreciation of the U.S. dollar relative to the peseta, and the lower index for Canberra reflects a small improvement in the exchange rate value of the U.S. dollar versus the Australian dollar. For Americans in Ottawa and Caracas, the exchange rates were essentially unchanged, but the new surveys showed average prices paid in national currency were up by 2 percent in Ottawa, but were 2 percent less in Caracas, compared with prices in Washington, D.C.

Because exchange rates are subject to sudden shifts, it is advisable to check the prevailing rates whenever using the indexes of living costs abroad.

The indexes for all 162 reporting cities are published in quarterly reports entitled *U.S. Department of State Indexes of Living Costs Abroad and Quarters Allowances.* The entire list is published in April of each year. The reports are available upon on request from the Office of Publications, Bureau of Labor Statistics.

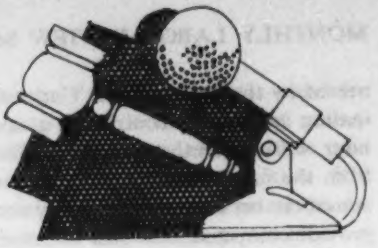
The methods of compilation and use of the indexes are described in *U.S. Department of State Indexes of Living Costs Abroad and Quarters Allowances: A Technical Description* (BLS Report 568, April 1980), also available from the Office of Publications, Bureau of Labor Statistics. □

Table 1. Indexes of living costs abroad, excluding housing and education, May 1980

[Washington, D.C. = 100]

Country and city	Survey date	Monetary unit	Rate of exchange per US $1	Local index
Argentina: Buenos Aires	Oct. 1979	Peso	1483	142
Australia: Canberra	Dec. 1979	Dollar	0.8917	118
Belgium: Brussels	Mar. 1979	Franc	30.0	158
Brazil: Sao Paulo	Apr. 1979	Cruzeiro	23.0	115
Canada: Ottawa	Nov. 1979	Dollar	1.18	100
France: Paris	Mar. 1979	Franc	4.32	166
Germany: Frankfurt	Mar. 1979	Mark	1.87	164
Hong Kong: Hong Kong	May 1979	Dollar	5.08	112
India: New Delhi	July 1979	Rupee	8.11	93
Italy: Rome	Oct. 1978	Lira	840	114
Japan: Tokyo	Mar. 1979	Yen	212	183
Mexico: Mexico, D.F	Feb. 1977	Peso	22.0	78
Netherlands: The Hague	Feb. 1979	Guilder	2.06	154
Philippines: Manila	Jan. 1979	Peso	7.38	89
South Africa: Johannesburg	Dec. 1977	Rand	0.8697	91
Spain: Madrid	Dec. 1979	Peseta	66.0	124
Sweden: Stockholm	June 1979	Krona	4.24	173
Switzerland: Geneva	May 1979	Franc	1.65	184
United Kingdom: London	July 1979	Pound	0.4757	130
Venezuela: Caracas	Oct. 1979	Bolivar	4.28	137

SOURCE: U.S. Department of State, Allowances Staff.



Conventions

Auto Workers seek Government aid for laid-off workers, ailing industry

LARRY T. ADAMS

Amid the most severe downturn in automobile production since 1963, the United Automobile, Aerospace and Agricultural Implement Workers of America (UAW-Ind.) held its 26th constitutional convention in Anaheim, Calif. In his keynote speech, President Douglas Fraser reminded the 3,000 delegates that 235,000 auto workers were on layoff, foreign auto and truck imports were taking an ever increasing share of a shrinking U.S. domestic market and, summing up the outlook for the industry, that "if you see a light at the end of the tunnel, it is probably an oncoming freight train."

The triennial convention was held June 1–6 during a sharp slump in automobile demand. For the most part the problems in the industry are due to the recession and high interest rates and the related encroachment of imports into the U.S. domestic market. With the high cost of gasoline, as well as concern about its continued availability, demand for autos has shifted from large and mid-size cars to more efficient compact and subcompact models. Foreign carmakers have captured a growing share of the market; imports rose from 18 percent of auto sales in 1978 to 28 percent in early 1980. A similar trend has occurred in the U.S. truck market with foreign models accounting for 9 percent of sales in 1978, 15 percent in 1979 and 23 percent in early 1980.[1]

As the U.S. car and truck makers close plants, some permanently and others for retooling to manufacture smaller, more efficient vehicles, record numbers of autoworkers have been placed on temporary or permanent layoff. Nearly 325,000 are now on layoff, with more furloughs anticipated in the future, in contrast to the downturn experienced during 1973–75 when 213,000 UAW members were out of work.[2]

Government help sought

Historically, the UAW has pursued the goals of economic security for its members through creative collective bargaining strategies. However, faced with a deepening nationwide recession and severe competition from imports, the union is now turning to the government for measures which will secure the long-term survival of the industry.

Trade barriers. In a dramatic break with the UAW's free trade position, the delegates were told that the union has begun legal steps to secure temporary import protection until U.S. automakers increase small car capacity to obtain a competitive marketing position.

Claiming that "Japanese auto manufacturers—especially Toyota and Nissan—are unfairly exploiting the U.S. companies' past neglect of small car production," the UAW has filed for import relief under the Trade Act of 1974.[3] As domestic automakers move toward a mix of vehicles consistent with current market demand, the Auto Workers seek temporary trade barriers to protect the shrinking U.S. share of the domestic auto market. Confronted with forecasts that 60 percent of auto sales by 1985 will be foreign made vehicles, Fraser noted that "as penetration increases you're going to find it more difficult to turn back that penetration and get your market back. And there is a very simple reason for that. When the American consumer goes into the market and buys a big ticket item, like an automobile, and that automobile is well designed, a quality product on which they get good service and durability—when they go back in the market three or four or five years after that first purchase, they're apt to buy the same product."

The petition requests relief from import competition by all countries, except Canada, for 5 years (to be phased down after 3 years). The UAW asked the International Trade Commission to recommend to the President (1) that the duty on new passenger vehicles be increased from 2.9 percent to 20 percent; (2) that quotas be imposed on imports based on 1975 or 1976 import levels; and (3) that imports assembled principally from U.S. or Canadian labor, components, or material be excluded from the tariffs and quotas.

Assistance to workers on layoff. The delegates adopted a number of resolutions aimed at maximizing the economic assistance available to workers on layoff. The mainstay of the Auto Workers economic aid package is the Supplemental Unemployment Benefits Plan (SUB), pio-

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neered by the UAW in 1955. Under this program, participating employers contribute a specified amount per hour worked to the SUB fund. The benefits disbursed from the fund, when added to the unemployment compensation or other transfer payment due the worker, provide compensation equal to a specified percent of the employees' pre-layoff earnings. However, during prolonged periods of high unemployment in the auto industry funds have been depleted, with workers furloughed late in the layoff period receiving little or no compensation from the fund. Any increase in transfer payments (unemployment insurance benefits, Federal-State extended unemployment benefits and Trade Readjustment Assistance benefits) to affected workers increases the fund's ability to assist a greater number of workers over a longer period of time.

Unemployment insurance. The delegates called for the enactment of a single Federal unemployment insurance program to supplant State laws currently in force. The proposal commits the UAW to seek an unemployment insurance program that would insure payment equal to at least two-thirds of the employee's average weekly earnings; provide medical and hospital benefits for the duration of the eligibility period; protect pension and social security credits; and increase the basic eligibility period to 52 weeks.

To provide additional economic assistance to laid-off workers and protect the solvency of the SUB funds, the UAW and the AFL-CIO joined in filing suit against the U.S. Department of Labor on the issue of extended unemployment insurance payments authorized under the Federal-State Extended Unemployment Compensation Act 1970. This legislation provides an additional period of unemployment insurance eligibility when the national rate of insured unemployment reaches 4.5 percent for a period of 13 weeks. At issue in the suit is the method of calculating the 4.5-percent trigger rate. During previous economic downturns, the trigger percentage was calculated using both the number of currently eligible unemployment insurance recipients as well as those having exhausted their benefits. Under regulations now issued by the Department of Labor, only the currently insured unemployed are used to calculate the trigger, thereby forestalling or precluding extended Federal-State unemployment benefits during the current recession.

Trade Act coverage. Extensive use has been made of the benefits provided workers under the Trade Act of 1974. The Act provides that workers laid off substantially as a result of imports are eligible for a Trade Readjustment Assistance allowance of up to 70 percent of their average weekly earnings for up to 52 weeks (with the SUB fund augmenting that amount up to a fixed percentage). Between April of 1975 and September of 1979, $168 million in assistance was paid to 94,300 UAW members. Since October 1, of last year, $150 million has been paid to 50,000 workers on layoff from Chrysler and 200,000 more auto industry workers have been certified as eligible to receive benefits.

The delegates lauded the Trade Readjustment Assistance as a great help in adjusting to the economic dislocations currently rocking the industry, but many felt that the act unfairly discriminates against many thousands of employees on layoff from independent parts suppliers. Parts employees are deemed eligible for assistance only if the manufactured part is imported as a separate item, not as a part of an assembled vehicle. Under the present act, few, if any, of the parts workers will receive benefits during the current downturn. A resolution was passed to seek benefits for these workers.

Plant closings. While there was much concern about the thousands of workers on temporary layoff, the most fervently debated resolution dealt with a cause of permanent job loss—plant closings. Although conceding the inevitability of economic change in a free economy, the resolution, detailing the personal and social costs of economic dislocations, called for the passage of the National Employment Priorities Act now before Congress.

The pending legislation would require advance notice of plant closings and investigatory hearings by the Department of Labor to determine the economic necessity for the closing, the anticipated economic and social loss to the employees and the local government, and alternatives to mitigate the adverse impact of the plant closing.

In addition to providing financial assistance to the employer to aid in averting a plant closing, the proposed act would provide an affected employee with transfer rights, relocation expenses, income and fringe benefit protection, job search assistance and special protections for older workers. To aid the affected local communities, the act stipulates payment by the corporation to the local government to compensate for the loss of tax revenue and a similar payment to the Federal Government if the plant closing involves moving operations out of the United States.

Changes in leadership

Four officers who worked with Walter Reuther in shaping the UAW announced their retirement: Emil Mazey, Pat Greathouse, Irving Bluestone, and Ken Bannon. The turnover of leadership will be complete with Fraser's retirement in 1983, but the liberal and innovative outlook of the union is not expected to change.

President Fraser, three incumbent vice presidents and the four new international officers ran unopposed and were elected by acclamation. Ray Majerus was elected to the office of secretary-treasurer. Owen Beiber, Don

Ephlin, and Stephan Yokich were elected to replace the three retiring vice-presidents.

In announcing the responsibilities of the four new officers, Fraser cautioned against using the distribution of duties for speculation on his successor. Ray Majerus will handle negotiations with the American Motors Corp. and the union's aerospace employers; Yokich will direct the agricultural implement department, a function performed primarily by Greathouse before his retirement. Don Ephlin will succeed Ken Bannon as director of the Ford Motor Corp. department; and Owen Bieber will assume responsibility for the General Motors Corp. department.

Other issues

Constitutional changes. In action to amend the constitution, the delegates raised the salaries of the international officers and changed the dues levy on members receiving SUB payments from a fixed $5 per month to one hours' pay (before layoff) per month. The convention also ratified an amendment diverting one-half of the interest earned on strike-fund investments to a special account, under the control of the International Executive Board, for organizing, education, and communication.

Presidential endorsement. Fraser stressed the need for the UAW to play an active part in the upcoming national elections. He further stated, however, that "the politics of our nation are in disarray" and that "the international executive board and the [delegates] . . . are never of one mind" on the matter of a presidential endorsement. Therefore, the union will poll the delegates at a later date to determine the will of the membership prior to making an endorsement.

Codetermination. While Fraser has drawn criticism from management, academicians and other union leaders for his election to the board of directors of the Chrysler Corp., similar feelings were not common among the delegates. Fraser won a seat on Chrysler's board as a concession for the union's role in aiding the ailing auto maker. He acknowledges that his dual role might pose a conflict but considers it necessary for a voice to be heard within the boardroom before irrevocable decisions are made. He declared to the delegates and the shareholders of Chrysler that the principle which will guide him in the role of board member "is that the workers of this country, whether it [sic] be [at] Chrysler or Ford or anyplace else are entitled to a voice in their own destiny and their own future." ☐

FOOTNOTES

[1] *UAW Resolutions Committee Report Number 3*, 26th Constitutional Convention, 1980, p. 85.

[2] See Clyde W. Farnsworth, "Carter Gets Car-Industry Aid Study," *The New York Times*, July 3, 1980, p. D-1.

[3] A companion petition has been filed by the Coalition of Auto Component and Supply Workers, an alliance of 11 auto industry unions. (See p. 60, this issue.)

Special Labor Force Reports–Summaries

School and work among youth during the 1970's

ANNE MCDOUGALL YOUNG

The employment situation for 16-to-24-year-old youths enrolled in school was about the same in October 1979 as a year earlier. Among out-of-school youths, unemployment had risen for the first time since the 1974–75 recession.

The number of youths not enrolled in school who were in the labor force was about 200,000 higher in October 1979 than in October 1978,[1] mostly because of an increase in unemployment (table 1). Surprisingly, however, this rise in unemployment did not occur among the groups usually most susceptible to joblessness. Rather than affecting school dropouts, the increased burden fell primarily on high school graduates who had not gone on to college; their unemployment rate rose from 8.7 to 9.8 percent. Thus, while the proportion of workers with some college education was increasing in all occupational groups, the youths with no more than a high school diploma were apparently at some disadvantage during the uncertain economic conditions of autumn 1979.

There was little change over the year in the already high unemployment rate for high school dropouts, which remained at about 19 percent in October 1979. However, the number of employed youths with less than a high school education increased, particularly among those 20 to 24 years old. This may reflect, in part, the entry into the youth labor force of recent immigrants from less developed countries, many of whom have only a few years of formal schooling. (Data from the U.S. Immigration and Naturalization Service for fiscal year 1978 indicate that nearly 30 percent of the 601,000 legal immigrants were 20 to 29 years old.)[2]

Approximately 7.3 million youths, half of all students, were combining school and work in October 1979. Young women were about as likely as young men to be working or looking for work. Among younger students with jobs, most worked part time (less than 35 hours per week); among the older students, those 22 to 24 years old, about half worked full time (35 hours or more per week).

Black youths enrolled in school were much less likely than white youths to be in the labor market. Their labor force participation rate was almost 25 percentage points below that for white students at the high school level and over 10 points lower among those enrolled in college. These lower rates reflect, in part, the limited employment opportunities in the inner city, where blacks are concentrated, and the isolation of many black colleges in rural areas where the chances of employment are also slim. High unemployment rates among black students—triple those of white students—were also apt to discourage job seeking.

Recent high school graduates and dropouts

The high school graduating class of 1979 was the same size as in 1978—about 3.2 million. As in 1978, approximately half of these high school graduates had enrolled in college by October (table 2). The probability of going on to college after graduation from high school was nearly the same for women as for men and differed little between whites and blacks, these differences having gradually disappeared since 1970. However, even though the proportion of graduates entering college was about the same for all sex and minority groups, the proportion of 18-and-19-year-olds who were eligible for college was much lower among minority groups than among whites. Just 57 percent of the blacks and 54 percent of the Hispanics, compared with 75 percent of the whites in that age group, had completed high school. Overall, the proportion of young people enrolling in college immediately after high school graduation has been inching downward in recent years—from 51 percent in 1977 to 49 percent in 1979.

Labor force participation rates in October 1979 for recent high school graduates continued close to the peak levels reached in 1977—42 percent among those in college and 87 percent among those not in college. As might be expected, youth enrolled full time in college had a relatively low labor force rate of 39 percent, but the rate for part-time college students (84 percent) almost matched that of recent high school graduates no

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longer in school. Unemployment edged upward among all recent graduates, whether or not enrolled in school.

Both the labor force participation rate and the unemployment rate for the approximately 800,000 youths who had dropped out of elementary or high school over the course of the year were about the same in October 1979 as in October 1978, at 66 and 26 percent, respectively. School dropouts were not nearly as likely to be in the labor force as youths of the same age who had graduated from high school. Also, the unemployment rate for dropouts was more than one and a half times that of graduates.

Changes over the decade

The 1970's have witnessed a sharp increase in the size of the youth labor force, not only because of population growth but also because of a substantial rise in the labor force participation rates of various youth groups. For example, in October 1970 there were about 18 million 16-to-24-year-olds in the labor force, or 59 percent of the group's population (table 3). As the decade was drawing to a close, the rapid growth of the youth population, fueled by the baby boom which followed World War II, was also coming to an end. Reflecting the rapid decrease in births which began in the early 1960's, the

Table 1. Employment status of persons 16 to 24 years old, by school enrollment status, educational attainment, sex and race, October 1978 and October 1979

(Numbers in thousands)

Characteristic	Civilian noninstitutional population		Civilian labor force									
			Number		Percent of population		Employed		Unemployed			
									Number		Unemployment rate	
	1978	1979	1978	1979	1978	1979	1978	1979	1978	1979	1978	1979
Total, 16 to 24 years old	35,931	36,131	24,278	24,340	67.6	67.4	21,654	21,556	2,621	2,785	10.8	11.5
Enrolled in school	15,329	15,262	7,475	7,341	48.8	48.1	6,539	6,392	936	949	12.5	12.9
16 to 19 years	11,084	10,972	5,066	4,883	45.7	44.5	4,289	4,143	775	739	15.3	15.1
20 to 24 years	4,245	4,290	2,409	2,458	56.7	57.3	2,250	2,248	161	210	6.7	8.5
Men	7,948	7,861	3,937	3,802	49.5	48.4	3,431	3,295	506	506	12.9	13.3
Women	7,381	7,402	3,538	3,539	47.9	47.8	3,106	3,093	430	445	12.2	12.6
White	12,920	12,921	6,707	6,594	51.9	51.0	5,990	5,868	716	726	10.7	11.0
Black	2,024	2,006	600	622	29.6	31.0	411	400	188	213	31.3	34.2
Elementary and high school	8,061	7,971	3,699	3,628	45.9	45.6	3,069	3,021	626	607	16.9	16.7
Men	4,220	4,233	2,023	1,985	47.9	47.0	1,671	1,668	350	317	17.3	16.0
Women	3,841	3,738	1,676	1,643	43.6	44.0	1,398	1,353	276	290	16.5	17.7
White	6,616	6,556	3,318	3,268	50.2	49.8	2,825	2,811	493	458	14.9	14.0
Black	1,291	1,266	323	319	25.0	25.1	207	177	117	143	36.2	44.8
Hispanic origin	490	483	181	143	36.9	29.6	141	107	39	37	21.5	25.8
College	7,269	7,291	3,778	3,711	52.0	50.9	3,467	3,368	314	345	8.3	9.3
Men	3,730	3,628	1,917	1,816	51.4	50.1	1,759	1,629	157	189	8.2	10.4
Women	3,539	3,663	1,861	1,895	52.6	51.7	1,708	1,739	157	156	8.4	8.2
Full-time students	6,043	6,079	2,674	2,606	44.2	42.9	2,411	2,315	260	293	9.7	11.2
Part-time students	1,225	1,213	1,106	1,103	90.3	90.9	1,054	1,053	54	50	4.9	4.5
White	6,305	6,365	3,391	3,327	53.8	52.3	3,162	3,057	225	269	6.6	8.1
Black	733	741	276	302	37.7	40.8	207	234	70	68	25.4	22.5
Hispanic origin	269	311	174	150	64.7	48.2	168	134	10	17	5.7	11.3
Not enrolled in school	20,602	20,869	16,803	16,999	81.6	81.5	15,115	15,164	1,688	1,835	10.0	10.8
School dropouts	5,113	5,263	3,412	3,512	66.8	66.7	2,777	2,845	634	667	18.6	19.0
Men	2,572	2,650	2,225	2,248	86.5	84.8	1,851	1,892	373	356	16.8	15.8
Women	2,541	2,614	1,187	1,264	46.7	48.4	926	953	261	311	22.0	24.6
16 to 19 years	2,087	2,085	1,381	1,344	66.2	64.5	1,052	1,036	329	308	23.8	22.9
20 to 24 years	3,027	3,178	2,030	2,168	67.1	68.2	1,725	1,809	305	359	15.0	16.6
White	4,101	4,167	2,811	2,873	68.5	68.9	2,350	2,402	461	471	16.4	16.4
Black	939	988	558	565	59.4	57.2	392	386	166	179	29.7	31.7
Hispanic origin	726	758	499	521	68.7	68.7	419	437	80	84	16.0	16.1
High school graduates	15,489	15,604	13,391	13,488	86.5	86.4	12,341	12,322	1,050	1,166	7.8	8.6
Men	7,062	7,197	6,747	6,863	95.5	95.4	6,297	6,359	450	504	6.7	7.3
Women	8,427	8,407	6,644	6,625	78.8	78.8	6,044	5,962	600	663	9.0	10.0
White	13,602	13,653	11,865	11,940	87.2	87.5	11,108	11,050	757	890	6.4	7.5
Black	1,664	1,675	1,338	1,325	80.4	79.1	1,066	1,068	272	257	20.3	19.4
Hispanic origin	697	691	564	573	80.9	82.9	510	512	54	61	9.6	10.6
High school, no college	11,063	11,094	9,383	9,382	84.8	84.6	8,569	8,460	814	922	8.7	9.8
College, 1 to 3 years	3,018	3,017	2,652	2,683	87.9	88.9	2,502	2,509	150	174	5.7	6.4
College graduates	1,408	1,493	1,355	1,423	96.2	95.2	1,269	1,352	86	71	6.3	5.0

Table 2. School enrollment and labor force status of 1979 high school graduates and 1978–79 school dropouts,[1] by sex and race, October 1979

Characteristic	Civilian noninstitutional population	Civilian labor force				
		Number	Labor force participation rate	Employed	Unemployed	
					Number	Unemployment rate
Total, 1979 high school graduates	3,160	2,048	64.8	1,741	307	15.0
Men	1,474	974	60.1	846	128	13.1
Women	1,686	1,074	63.7	895	179	16.7
White	2,773	1,848	66.6	1,607	241	13.0
Black	317	156	49.2	100	56	35.9
Hispanic origin	154	104	67.5	86	18	17.3
Enrolled in college	1,559	660	42.3	582	78	11.9
Men	743	302	40.6	267	35	11.6
Women	816	358	43.9	315	43	12.0
Full-time students	1,431	553	38.6	478	75	13.6
Part-time students	128	107	83.6	52	2	1.9
White	1,376	613	44.5	545	68	11.1
Black	147	33	22.4	25	8	(2)
Hispanic origin	69	35	(2)	28	7	(2)
Not enrolled in college	1,601	1,388	86.7	1,159	229	16.5
Men	731	672	91.9	579	93	13.8
Women	870	716	82.3	580	136	19.0
White	1,397	1,235	88.4	1,062	173	14.0
Black	170	123	72.4	75	48	39.0
Hispanic origin	85	69	81.1	58	11	(2)
Total, 1978–79 school dropouts[3]	794	523	65.9	387	136	26.0
Men	394	310	78.6	252	58	18.7
Women	400	213	53.3	135	78	36.6
White	622	426	68.5	328	98	23.0
Black	154	82	53.2	46	36	43.9
Hispanic origin	71	47	(2)	38	9	(2)

[1] 16 to 24 years old.
[2] Percent not shown where base is less than 75,000.
[3] Persons who dropped out of school between October 1978 and October 1979. In addition, 94,000 persons 14 and 15 years old dropped out of school.

number of youths under 20 years of age had already begun to decline. However, the youth labor force had continued to grow, having reached 24.3 million by October 1979, while the labor force participation rate for 16-to-24-year-olds had risen to 67 percent.

Whether because of inflation, peer pressure, desire for work experience, or other reasons, the proportion of students participating in the labor force rose about 6 percentage points for men and 10 percentage points for women during the 1970's. This growth largely reflects the recent enrollment increase in 2-year colleges. These students are much more likely to be in the work force while attending school than are students enrolled in 4-year colleges and universities.

Among whites, the increase in student labor force activity over the 1970's was evident both among young men and women. Among blacks, however, labor force participation increased only among women, but overall population growth for blacks was faster than for whites. As a result, blacks constituted about the same proportion of the student labor force in 1979 as in 1970.

Despite the increases in participation among students, it should be noted that 7 out of 10 of the 16-to-24-year-olds in the labor force were not enrolled in school either in 1970 or 1979. The labor force participation rates of the nonstudent youths, already relatively high in 1970, edged up slightly for men, from 92 to 93 percent, and increased sharply for women, from 60 to 72 percent. Delayed marriage and childbearing have contributed to the rise in labor force activity among these young women.[3]

Although high relative to the rates for other segments of the population, the unemployment rates for youths in and out of school were about the same or slightly lower in October 1979 than in October 1970, as shown below:

Characteristic	*1970*	*1979*
Enrolled		
Total	13.2	12.9
White	12.1	11.0
Black and other races	26.0	34.2
Not enrolled		
Total	10.9	10.8
White	9.7	9.2
Black and other races	18.8	23.1

The major exception was the situation among black youths; the unemployment rate of black students (34.2 percent in October 1979) had increased by about 9 percentage points over the decade, and the rate for those not enrolled (23.1 percent) was 4 percentage points higher than in 1970.

A striking feature of youth employment problems during the 1970's was that, unlike the previous decade, half of all unemployed teenagers were enrolled in school —mainly high school. For example, 42 percent of the unemployed black youths were in high school in October 1979—up from 34 percent 9 years earlier—as were 40 percent of the whites. The importance of determining the school enrollment status of unemployed youths in terms of public policy has been reemphasized by the National Commission on Employment and Unemployment Statistics. The Commission has recently recommended that youth enrollment status be determined each month in the Current Population Survey, rather than annually in October.[4] More frequent enumeration of the unemployed by school enrollment status would provide improved estimates of the number and type of jobs needed to relieve teenage unemployment. Certainly the unemployment problems of students, many of whom are seeking only part-time work, require very different poli-

Table 3. Population and labor force participation rates of persons 16 to 24 years old, by school enrollment status, sex, race, and age, October 1970 and October 1979

Characteristic	All persons				White				Black and other races[1]			
	1970		1979		1970		1979		1970		1979	
	Population	Labor force participation rate	Population	Labor force participation rate	Population	Labor force participation rate	Population	Labor force participation rate	Population	Labor force participation rate	Population	Labor force participation rate
ENROLLED												
Men												
16 to 24 years	7,420	42.9	7,861	48.4	6,612	44.5	6,679	51.4	808	29.2	1,182	31.0
16 and 17 years	3,537	38.9	3,758	45.9	3,086	41.1	3,141	50.4	451	23.9	617	22.9
18 and 19 years	1,822	41.2	1,874	42.3	1,625	42.3	1,587	45.1	197	31.5	287	27.2
20 and 21 years	1,130	43.3	1,239	50.8	1,030	44.5	1,088	52.2	100	31.0	150	40.7
22 to 24 years	931	60.9	990	66.4	871	61.1	863	66.2	60	(2)	128	67.2
Women												
16 to 24 years	6,187	38.0	7,401	47.8	5,375	40.0	6,243	50.6	811	25.3	1,158	32.9
16 and 17 years	3,389	33.5	3,521	43.5	2,922	35.5	2,951	47.1	466	20.4	570	25.1
18 and 19 years	1,502	37.7	1,819	45.9	1,301	39.4	1,519	49.1	201	26.9	300	29.7
20 and 21 years	817	44.8	1,208	51.3	719	46.9	1,063	50.9	98	29.6	145	54.5
22 to 24 years	479	60.1	853	64.7	433	60.3	710	67.9	46	(2)	143	49.0
NOT ENROLLED												
Men												
16 to 24 years	6,840	91.9	9,847	92.5	5,790	93.2	8,522	93.6	1,050	84.9	1,325	85.4
16 and 17 years	338	75.7	379	71.0	264	79.9	339	72.6	74	(2)	40	(2)
18 and 19 years	1,527	86.7	2,149	89.9	1,276	88.9	1,858	91.3	251	75.7	291	81.1
20 and 21 years	1,522	92.6	2,679	93.0	1,263	93.7	2,294	95.0	258	87.2	366	81.1
22 to 24 years	3,453	95.5	4,640	95.2	2,987	96.0	4,031	95.7	467	92.3	628	91.9
Women												
16 to 24 years	9,804	60.0	11,022	71.6	8,463	60.3	9,296	73.5	1,340	57.9	1,726	61.0
16 and 17 years	435	41.1	499	53.5	361	43.5	414	55.8	74	(2)	85	42.4
18 and 19 years	2,107	63.7	2,372	73.9	1,808	65.0	2,016	77.0	299	55.9	356	56.2
20 and 21 years	2,651	62.8	2,974	70.6	2,272	63.6	2,474	73.4	378	58.2	500	56.6
22 to 24 years	4,611	58.4	5,177	72.8	4,022	57.9	4,392	73.7	589	62.3	785	68.0

[1] Data are for black and other races, whereas data in other tables in this report are for blacks only.

[2] Percent not shown where base is less than 75,000.

cy approaches than do those of youths who have dropped out of school before high school graduation or who are graduates just starting their careers. ☐

FOOTNOTES

[1] This report is based primarily on supplementary questions in the October 1979 Current Population Survey, conducted and tabulated for the Bureau of Labor Statistics by the Bureau of the Census. Most data relate to persons 16 to 24 years of age in the civilian noninstitutional population in the calendar week ending Oct. 13, 1979.

Sampling variability may be relatively large in cases where the numbers are small. Small estimates, or small differences between estimates, should be interpreted with caution.

The most recent report in this series was published in the *Monthly Labor Review*, October 1979, pp. 34–38, and printed with additional tabular data and explanatory notes as Special Labor Force Report 223.

[2] *U.S. Immigration and Naturalization Service, Annual Report, Fiscal 1978*, table 10.

[3] Beverly L. Johnson, "Changes in marital and family characteristics of workers, 1970 to 1978," *Monthly Labor Review*, April 1979, pp. 49–52, reprinted as Special Labor Force Report 219.

[4] National Commission on Employment and Unemployment Statistics, *Counting the Labor Force*, Sept. 2, 1979, p. 90.

Research Summaries

How the disabled fare in the labor market

BARBARA L. WOLFE

Increasing attention is being paid to the disabled. Legislation has been passed requiring easier access to buildings; income maintenance plans now exist for those with reduced earnings capacity; there are training programs to improve the productivity of some of the disabled. Yet, little is known about the disabled. Who are they? Do they work, and where? Are they married? Are they as educated as the nondisabled? What is their economic position?

This report provides a description and some analysis of noninstitutionalized disabled persons ages 20 to 64. Emphasis is on labor force behavior, including amounts of work, occupational distribution, and wage rates.

The problem is widespread. Some 12 to 15 percent of the population in this age range is disabled. (The spread reflects differences in the definition.) This represents some 15 million prime-age adults. According to the 1972 Survey of the Disabled, musculoskeletal disorders (36 percent), followed by cardiovascular problems (21 percent), account for much disability. Considerably smaller amounts are accounted for by mental, respiratory, and digestive disorders. For some purposes, it would clearly be more interesting to study individually, each medically classified group. But, to get an overall, current view of the disabled, and to compare them to the nondisabled, in terms of socioeconomic well-being, a choice was made to use data that do not contain such medical information, but instead, focus on the overall socioeconomic picture.

The first part of this report presents the methods used to define the disabled. The second details who the disabled are.

Defining disability

One major difficulty in all research in this area is how to define the disabled. Some recent studies have used self-reported health status,[1] which emphasizes work limitation or self-assessed capacity for work.[2] This is tied to current program definitions that emphasize the long-run or chronic nature of the disability.

In this study the Current Population Survey (CPS) was selected because a recent data source is desirable. Also, the base should be one that is nationwide, representive, and contains both labor force and demographic information. These reasons made the most recent CPS most attractive for studying the disabled.

The CPS does not include as much information on disability as is available in alternative data sources. For example, there is no information regarding limitations in housekeeping. But there is information about whether the amount of work the disabled person can do is limited. In addition, the information on program participation makes it possible to identify some other members of the disabled population. Thus, it seems that the most recent CPS (1977) was perhaps the best suited data source.

The goal is to define all those who are disabled in a long-term sense—not just those who are working part-time or who are being served by a program for the disabled. The targeted group was restricted to the noninstitutionalized population ages 20 to 64 because younger persons are generally dependents or students, while those older are eligible for a wide variety of programs because of their age. Using the 1977 CPS, the disabled are defined by three basic categories: program participation, work limitation, and low wage and participation in a sheltered workshop occupation.

By program participation. There are a number of programs designed specifically for the disabled. Included here are those that provide income: disability benefits under social security; supplemental security income (SSI), an income-tested program; railroad disability annuities; workers' compensation; and disabled veterans' benefits.[3]

Seven percent of the population is defined as disabled, according to program participation (table 1). This includes 9.1 percent of men and 5.04 percent of women; 6.7 percent of white persons and 8.3 percent of nonwhite; and 4.5 percent of those ages 20 to 34, 5.6 percent of those 35 to 44, 8.6 percent of those 45 to 54, and 12.9 percent of the oldest age group, 55 to 64.

By work limitation. The individuals included here either do not work or are limited in the amount of work they

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can perform.[4] This approach should include those who are unable to work or who are ill for substantial periods of time, while excluding those who missed work because of short-term, acute illnesses. By this definition, 6.9 percent of the population is disabled. This includes 7.5 percent of men and 6.3 percent of women; 6.3 percent of white persons and 11.1 percent of nonwhite; and 3.5 percent of those 20–34, 5.7 percent of those 35–44, 9.2 percent of those 45–54, and 14.1 percent of those 55–64.

The highest percentages of persons are designated "unable to work" on the basis of not working at all the previous year; the second highest percentages represent those who worked some last year. Unfortunately, the study directed no questions specifically toward limitations in housework, and the resulting low percentages of disabled women are probably largely the result of this.

By special work program. It is also desirable to include individuals who are in work programs designed especially for the disabled. Because many individuals may not respond to inquiries directed at work limitations, an additional definition is used; individuals whose wage rate is positive but less than $1 are included as disabled if their occupations are in sheltered workshops. This includes nonprivate housecleaning, food, health and personnel, certain laborers, some operatives, and certain sales and clerical workers. A total of 1.46 percent of individuals ages 20–64 are disabled by this definition.[5]

Using all of these definitions, 12.3 percent of the population ages 20–64 is disabled, or about 14.3 million individuals, slightly below the 14.6 percent (15.5 million) in the 1972 Survey of the Disabled (SDA). Most of the differences lie in the count of women: in the survey, 15.2 percent of women were classified as disabled, while here only 11.2 percent are classified as disabled. The comparative percentages for males are 14.0 percent for the SDA and 13.5 percent for W-CPS. The larger difference for women is probably related to the lack of information concerning housewives.

Table 1. Government program and labor force participation rates for the disabled

Category	Disabled as percent of population aged 20–64		
	Men	Women	Total
Total[1]	13.5	11.2	12.3
Programs			
Total	9.1	5.0	7.0
Supplementary Security Income	0.9	1.4	1.2
Social Security	3.0	3.4	3.2
Veterans Compensation	4.7	—	2.1
Workmen's Compensation	3.0	0.6	1.3
Reductions in labor force participation			
Total	7.5	6.3	6.9
Did not work: ill last year	4.2	3.6	3.9
Unable to work: last week	2.3	0.8	1.5
Worked some last year: ill	3.1	2.4	2.7
Worked some last week: ill	0.2	0.4	0.3
Low wage: Sheltered workshop occupation	1.0	1.9	1.5

[1] Nonadditive: many defined to be disabled by more than one definition.

In other respects, the two surveys show similar disability patterns: more of the disabled in the South than in the other major regions, fewer white persons than nonwhite, and a greater percentage among older age groups.

Characteristics of the disabled

The disabled population tends to be older, has a higher proportion of nonwhite persons, is less likely to work, and if working, less likely full time. The disabled are also less likely to be married, and tend to have less education than the nondisabled, and lower wages, even allowing for educational differences.

General characteristics. For both sexes, the probability of being disabled increases with age, the only exception being the close percentage of the two younger age-groups of men. (See table 2.)

The disabled have significantly lower educational levels (table 3), although the modes are the same for both (12 years). Some of the biggest differences occur at the very lowest levels of education—eight years and less; much higher percentages of the disabled are in this category. A comparison to the SDA is possible by including the educational distribution for this sample. It tends to show the same overall educational differences but does emphasize that the educational distribution has been increasing overall—the surveys are 1972 and 1977, and this holds for the disabled as well as nondisabled.

Marital status distributions (table 4) show lower current marriage rates among the disabled. This is emphasized by the large difference in the "being married-spouse present" category in the two populations—57.7 percent versus 72.3 percent.

The regional distribution shows that the proportion of the disabled population living in the South is greater than that of the nondisabled population, while it is less in other regions.

Labor force characteristics. If we broadly define labor force participants to include all those who, during 1976, worked or looked for work, or said they were unable to find work, 59 percent of the disabled were in the labor force. This compares with 80 percent of the nondisabled, or 78 percent overall. Among women, 53 percent of the disabled and 66 percent of the nondisabled were in the labor force. Among men, 65 percent of the disabled and 97 percent of the nondisabled were in the labor force.

Table 2. Percentage of population disabled, by age and sex

Age categories	Men	Women
Total	13.5	11.2
20–34	10.3	7.1
35–44	10.1	10.3
45–54	15.5	13.7
55–64	23.4	19.2

Except for white women ages 20–34, the nondisabled are more likely to be in the labor force. This suggests the difficulty in defining the disabled among women; many list their occupation as "housewife" and there is no way to discern who may be disabled.

The percentages in the labor force are large. It includes all those who worked in 1976, even briefly, or said they were unable to find work. About 1.05 percent of men and 1.13 percent of women were unable to find work. Among the disabled, the percentages are lower: men .98 percent and women .56 percent. But there is a difficulty—those unable to work. Adding the two percentages shows that 32.1 percent of disabled men and 32.4 percent of disabled women did not work either because they are unable or could not find work. This compares to 1.03 percent of nondisabled men and 1.2 percent of nondisabled women. By age, the percentages of these disabled individuals are:

	Men	*Women*
20–34	14.7	16.0
35–44	30.5	25.8
45–54	38.2	35.0
55–64	47.9	48.9

Thus, large percentages of the disabled population do not work because of their disability or lack of opportunities, and the percentage increases with age, for both sexes.

Full or part time. A detailed look at the amount of time spent working shows further differences between the disabled and nondisabled populations. Many more of the disabled do not work (36 percent of men and 47 percent of women, compared to 4 percent of nondisabled men and 36 percent of nondisabled women). A far lower percentage of the disabled work full time (30 percent of men and 11 percent of women, compared to 74 percent of nondisabled men and 33 percent of nondisabled women. These large differences suggest that transfer payments are important for the disabled.

Do the differences reflect handicaps that make it difficult to work, or lack of opportunity, or discrimination? They may also reflect that those with low opportunity costs, older persons with less education, for example, may be more likely to regard some physical or mental limitation as a disability, and to seek transfer payments.

One way of gaining some insight into this is to look at the wage rate of the disabled versus nondisabled population. The average wage rate is lower among the disabled. Of more interest, however, is wage rates according to educational level:

Years of education	*Disabled*	*Nondisabled*
Total	$2.57	$4.27
Less than 8	1.08	2.85
8	1.79	3.18
9–11	1.87	3.24
12	2.93	3.86
13–15	3.64	4.43
16 or more	5.07	6.73

Wage rates

Educational level. For every educational level, the average wage rate of the disabled population is below that of the nondisabled population. For all groups with less than 12 years of education, the average wage rate of the disabled is below the minimum wage. This may be partly because of individuals in sheltered workshops. However, even among those who have attended college, the differences are large. The jump in wage rates from 9 to 11 years of education to 12 years is much greater for the disabled, possibly suggesting a high return to education for the disabled; the disabled may have lower opportunity costs.

Part of the difference may reflect hours worked. On an average, the disabled who are employed work fewer hours, although the difference is small—all are close to 40 hours per week. Average number of workweeks show somewhat larger differences, especially for white persons, among whom the disabled work 40 weeks per year, and the nondisabled, 47. Thus the major participation decision seems to be whether to work rather

Table 3. Educational distribution for the disabled and nondisabled

[In percent]

Education	Disabled	Nondisabled	All
Current Population Survey, 1977			
Less than 8	15.7	5.2	6.5
8	10.1	5.2	5.8
9–11	19.7	14.1	14.8
12	33.9	40.9	40.0
13–15	13.4	17.6	17.1
16 or more	7.3	17.0	15.8
Survey of the Disabled, 1972			
Less than 8	21.9	6.1	8.4
8	12.3	6.7	7.5
9–11	21.2	15.5	16.3
12	29.6	41.7	39.9
13–15	7.8	15.5	14.4
16 or more	6.4	13.6	12.6

than the number of hours.

Another way of getting a better picture of wage rate differentials is to look at wage rates for full-time workers only, by educational groups. (See table 5.)

Among men who are full-time, full-year workers, the disabled earn, in general, less than 90 percent of what the nondisabled earn. The biggest difference is among the lowest educational group, where the disabled earn less than 80 percent of what the nondisabled earn. Similarly, among women who work full time, year round, the largest difference is also among the lowest educational group, where the disabled earn approximately half of what the nondisabled earn. In other educational groups, disabled women also do more poorly (relative to men) compared to their nondisabled peers, earning between 62 percent and 79 percent of what the nondisabled earn.

Racial differences. The average wage rate differences are substantial among the disabled and nondisabled men's groups when race is considered. Among the disabled, there are very large differences between white and nonwhite persons in the lower educational groups; for full-time workers, earnings of nonwhite persons are between 50 percent and 65 percent of earnings of white persons.

Among the nondisabled, there is a generally lower educational level among the nonwhite but no particular employment pattern according to education. Among women, there is a quite different pattern: within the disabled population, nonwhite women with 8 or fewer years of education earn less than white women with similar education, but they earn more with 1 to 3 years of high school through the highest educational levels. The pattern is similar among nondisabled women; nonwhite women earn less at lower educational levels than their white peers but more (though only slightly so) at higher levels of education.

Thus, among full-time, full-year workers there is evidence within each sex, educational, and racial group that the disabled earn less. It appears that individuals with more than one disadvantage are worst off—disabled nonwhite persons with low education—and perhaps women, for their wages are lower than those for men in every education category. In fact, except for the two lowest categories of nonwhite women compared to nonwhite men, nondisabled women have lower average earnings than disabled men.

Table 4. Marital status of the disabled and nondisabled according to Current Population Survey, 1977

[In percent]

Marital status	Disabled	Nondisabled	All
Married, spouse present	57.7	72.3	70.5
Married, spouse absent	1.1	0.8	0.8
Widowed	10.7	2.3	3.3
Divorced	9.2	5.9	6.3
Separated	4.9	2.6	2.9
Never married	16.4	16.2	16.2

Table 5. Average wage rates for disabled and nondisabled workers,[1] by education and race

Education	Disabled			Nondisabled		
	White	Nonwhite	All	White	Nonwhite	All
Men						
Total	5.77	4.22	5.62	6.72	5.16	6.58
Less than 8	$3.54	$2.26	$3.35	$4.46	$3.91	$4.32
8	4.95	2.52	4.67	5.20	4.77	5.16
9–11	5.04	3.13	4.74	5.53	4.61	5.39
12	5.42	4.33	5.33	6.18	5.01	6.08
13–15	5.98	5.41	5.91	6.72	5.73	6.65
16 or more	7.76	6.96	7.74	8.95	7.17	8.85
Women						
Total	2.60	2.85	2.63	4.12	3.98	4.10
Less than 8	1.57	1.23	1.45	2.82	2.64	2.77
8	2.35	2.05	2.29	3.04	2.77	2.99
9–11	1.94	2.66	2.06	3.36	3.06	3.31
12	2.52	2.81	2.55	3.88	3.78	3.87
13–15	2.90	4.63	3.19	4.26	4.41	4.28
16 or more	4.20	5.47	4.32	5.45	5.70	5.48

[1] Individuals working full-time, full-year.

SOURCE: 1977 CPS tape.

Wage rates within occupational categories may understate differences between the disabled and nondisabled because discrimination, and physical and mental disabilities may limit choice of occupation. Differences may also reflect less experience and levels of labor force participation.

By occupation. Table 6 shows average wage rates and occupational distribution by broad occupational groups, among men. Overall, the nondisabled have higher wage rates in all occupations, but the differences range from nearly the same rates, 2 percent to 50 percent greater than the wage rate in the disabled men's category.

Among white men, the wage rate of the nondisabled is higher in most occupations. The exception is service workers. Among nonwhite men, wages of the nondisabled are also higher in all but one occupational category: managers and proprietors.

Turning to the occupational distribution, one again notes the much higher percentages of disabled who do not work: 36.2 percent of all disabled men, 48.2 percent of nonwhite disabled men. Beyond this, the disabled men are less likely to be in prestigious occupations, such as professional or managerial, than the nondisabled. Note again the compounding effects of race and disability on the low probability of being in such an occupation.

Disability and deprivation

Thus, from the perspective of comparing the socioeconomic status of the disabled to nondisabled, a consistent picture emerges. The disabled are much worse off in terms of education, probability of working, occupation, and wage rates, despite controlling for many characteristics important in explaining differential

Table 6. Average hourly wage rates and occupational percent distribution of disabled and nondisabled men[1]

Occupation	All men				White men				Nonwhite men			
	Disabled		Nondisabled		Disabled		Nondisabled		Disabled		Nondisabled	
	Wages	Percent	Wages	Percent	Wages	Percent	Wages	Percent	Wages	Percent	Wages	Percent
Professional, technical and kindred workers	$6.44	6.1	$7.25	15.0	$7.53	6.7	$8.43	15.8	$6.80	2.4	$7.70	8.7
Managers and proprietors	6.87	5.9	7.04	14.5	7.56	6.5	7.93	15.5	6.27	2.2	5.81	6.3
Sales workers	3.61	3.3	5.44	5.5	4.04	3.9	6.99	6.0	...	0.2	5.36	2.0
Clerical workers	3.80	4.3	4.29	6.0	5.50	4.5	6.15	5.9	4.38	3.2	5.01	6.5
Craftsmen and kindred workers	6.12	15.6	6.37	20.4	6.42	16.8	6.60	21.1	5.00	8.4	5.77	14.0
Operatives, except transport	5.33	13.7	4.72	17.5	5.37	13.8	5.46	16.6	4.12	13.4	4.83	24.3
Nonfarm laborers	3.68	5.7	4.80	6.2	4.04	5.0	5.15	5.5	3.27	9.7	4.33	12.1
Service workers, except private household	2.70	7.1	3.72	7.2	4.88	6.6	4.71	6.3	3.04	10.3	4.05	14.7
Farm workers	2.74	1.1	3.15	2.1	3.01	6.6	3.32	2.3	...	.6	1.90	0.5
No current job	...	36.2	....	4.1	....	34.1	...	3.6	...	48.2	...	8.3

[1] There may be bias in measuring disability among women; the definition depends partly on labor force participation. Thus, a comparison of disabled and nondisabled women might also be biased.

SOURCE: 1977 CPS tape.

wage rates. Adding race to the analysis suggests a compounding effect; the nonwhite disabled fare more poorly than their white counterparts. Thus, there is some evidence of labor market imperfections that negatively impact this large part of our population.

What we have then is a picture of a group far worse off than the nondisabled. And, this does not take account of pain and suffering—possible greater needs based on the disability—including medical care, help meeting day-to-day limitations on activities, psychological stress, and other hardships.

The incentives to qualify for a number of programs are clearly present for a number of disabled; they do have lower opportunity costs. Yet, a substantial number work full time and experience less success than their nondisabled counterparts. Perhaps help other than transfer payments needs to be stressed for this group. Laws on physical access, laws on discrimination, and training programs may be worth further investigation for the disabled. Others will continue to need income transfer policies. But perhaps most of all we should be aware that disability may interact with other labor market disadvantages—educational for example. Policies will be better designed if they are aware of these effects. ☐

———*FOOTNOTES*———

[1] See, for example, H. S. Luft, "The Impact of Poor Health on Earnings," *Review of Economics and Statistics*, 57:1, who used the 1967 Survey of Economic Opportunity Data.

[2] This is the basis for the 1972 Survey of the Disabled.

[3] Except for payments under social security and railroad retirement, individuals who receive any dollar benefits from one or more of these programs are generally designated as disabled. The exceptions include those receiving veterans' benefits, where only those who are veterans and nonstudents are designated as disabled. Among social security recipients ages 20–64, distinctions are made to designate the disabled: individuals 19–61 who are not students, students 23–61, and widows and individuals 19–59 who have no dependent children under 18. Of those receiving railroad benefits, those under 62 are classified as disabled if they are not retired. These distinctions are based on program eligibility. The 1977 CPS enables far better identification of recipients for many of these programs than earlier CPS surveys. For example, veterans' pensions and other payments are separated. The source for the definitions under social security and veterans' benefits is the U.S. Department of Health, Education, and Welfare *Social Security Handbook, 1974*, 5th ed.

[4] Individuals who do not work are so designated for one of two reasons: they did not work last year because they were ill or disabled (variable P133=1, 1977 CPS tape), or they are classified as unable to work on the employment status recode (variable P12=6). The latter variable is the one generally used by the Bureau of Labor Statistics.

Individuals are designated as "limited in amount of work" if personal illness is the reason they usually work less than 35 hours. This is done for two groups: one that worked some last week but less than 35 hours, and another that did not work last week (variable P18=2 and P19–20=10, or P23=2 and P21=1). Alternatively, they are designated as disabled if they work less than 50 weeks and most of the remaining weeks they were ill or disabled (P145=1). In a sense, this attempt to define an eligible disabled population is similar to that used by Projector and Murray in "Eligibility for Welfare and Participation Rates" (HEW 78–11776), Social Security Administration, who attempt to define those eligible for welfare by using the 1971 CPS. Their procedure for defining the eligible disabled population is by using persons who worked less than 50–52 weeks in 1970 because of illness.

[5] See Barbara L. Wolfe, "Impacts of Disability, and Some Policy Implications," Institute for Research on Poverty, Discussion Paper 539–79, unpublished.

Significant Decisions In Labor Cases

OSHA standards: the burden of proof

Although much of the controversy surrounding the Supreme Court's decision in the "benzene case" (*Industrial Union Dept., AFL–CIO v. American Petroleum Institute*[1]) has passed, the ambiguities of the result continue. The main opinion of the Court plurality, written by Justice John Paul Stevens, stated that the Occupational Safety and Health Administration had exceeded its statutory authority by reducing permissible exposure limits to benzene at industrial work sites without making a "threshold determination" that a significant risk was present at the original level. The result might place a greater burden of proof on a regulatory agency to justify its actions, but leaves unchanged (at least facially) an agency's ability to promulgate and enforce regulatory policy once the need for it has been demonstrated. Some feel that the narrow factual circumstances of the case should preclude any sweeping effects on other regulatory agencies. But, for OSHA, the additional time and effort required to justify standards could severely strain limited resources and may seriously diminish the agency's effectiveness in many areas.

Benzene, a colorless gas used in the manufacture of motor fuels, detergents, and pesticides, is highly toxic, producing an immediate effect on the central nervous system when inhaled. Benzene has long been considered carcinogenic. As early as 1928, industrial health experts were exploring the possibility of a link between benzene and leukemia; by the mid 1970's, a connection was clearly established. In 1977, OSHA issued an emergency standard lowering the benzene exposure limit from 10 parts per million of air to 1 part per million, stating that benzene had been shown to cause leukemia at levels below 25 parts per million and that reports had shown the lower level feasible for industry compliance.

Although no evidence indicated that leukemia occurred at the 10 parts per million exposure level, the agency's standard policy on carcinogens required the lowest feasible exposure in the absence of proof of a risk-free level of exposure. Equally, the industries involved had failed to prove to OSHA's satisfaction that there is a safe level of exposure to benzene below which no excess leukemia cases would occur.

The agency claimed authority for reducing exposure levels under Section 6 (b) (5) of the 1970 Occupational Safety and Health Act, which it felt authorized the Secretary of Labor to set the most protective standard "feasible" to ensure employee safety. The affected industries brought suit, and the Fifth Circuit enjoined operation of the lower exposure limit, ruling it was not supported by appropriate findings.

The Supreme Court's resolution of the case hinged on the relationship between the act's definition of an occupational safety and health standard and its provisions authorizing OSHA to regulate toxic substances. The act requires that any standard be "reasonably necessary and appropriate to provide safe or healthful employment and places of employment."[2] For toxic substances, however, the law appeared to require maximum protection for individual workers:

> The Secretary, in promulgating standards dealing with toxic materials or harmful physical agents under this subsection, shall set the standard which most adequately assures, to the extent feasible, on the basis of the best available evidence, that no employee will suffer material impairment of health or functional capacity even if the employee has regular exposure to the hazard dealt with by such standard for the period of his working life. Development of standards under this subsection shall be based upon research demonstrations, experiments and other such information as may be appropriate . . . other considerations shall be the latest available scientific data in the field . . . [and] the feasibility of the standards . . .[3]

In the opinion written by Stevens and joined by Chief Justice Warren Burger and Justices Potter Stewart and Lewis Powell, OSHA's authority to regulate toxic substances was declared constrained by the law's general requirement that all standards be "reasonably necessary or appropriate to remedy a significant risk of material health impairment." Only after such a threshold determination is made can the Secretary select "the most protective" standard "consistent with economic and technological feasibility." The standard should be geared to eliminate "significant risk of harm," Stevens wrote, but the statute was not designed to provide absolutely risk-free workplaces. In the absence of an explicit mandate, he concluded, Congress "requires the Secretary to undertake some cost-benefit analysis before he promulgates any standard."

"Significant Decisions in Labor Cases" is written by Gregory J. Mounts of the *Monthly Labor Review* staff. Kate Farrell of the University of Notre Dame, an intern with the *Review*, wrote the summary of *Industrial Union Dept., AFL–CIO v. American Petroleum Institute.*

Having defined the Secretary's power to promulgate regulations, Stevens turned to the question of proving "significant risk" when scientific knowledge is imperfect and risk unquantifiable. He found the burden of proof to be on OSHA "to show on the basis of substantial evidence, that it is at least more likely than not that long-term exposure to 10 parts per million of benzene presents a significant risk of material health impairment." In this case, Stevens wrote, "OSHA did not even attempt to carry its burden of proof." (OSHA's policy for carcinogens was to impose the burden of proof of "safe" exposure levels on industry.)

Both Stevens and Powell, in his separate concurring opinion, were careful to emphasize the discretionary power of the agency to set safety policy. Stevens wrote that the agency must determine what a "significant risk" is, but such a determination "will be based largely on policy considerations." Powell, stressing the necessity of intelligent cost-benefit analysis, conceded that "the decision that costs justify benefits is largely a policy judgment delegated to OSHA by Congress." Stevens, concluded that "so long as they are supported by a body of reputable scientific thought, the agency is free to use conservative assumptions in interpreting the data with respect to carcinogens . . ."

Justice William Rehnquist, whose concurring opinion was the decisive fifth vote in the 5–4 judgment, posed a more fundamental challenge to the regulatory powers of OSHA. Rehnquist held that in view of the seriousness of the issue in question—the trade-off between possible future deaths and present economic costs—Congress is best suited to make the choice; instead, it had improperly delegated its responsibility to the Secretary of Labor. Congress must delegate authority in areas where it has no expertise, he acknowledged, but it should "lay down the general policy and standards that animate the law, leaving the agency to refine those standards." Labeling the feasibility requirement for all OSHA standards a "legislative mirage," Rehnquist called for the invalidation of the law's provision concerning toxic substance regulation and the reassumption by Congress of the responsibility for critical policy decisions.

Justice Thurgood Marshall authored the dissent; joining him were Justices William Brennan, Byron White and Harry Blackmun. Charging that the plurality ignored the "plain meaning" of the 1970 act, Marshall identified the issue in question to be scientific uncertainty rather than the statutory authority of the Secretary. In the face of such uncertainty, the dissenting justices felt Congress had intended the Secretary to have the broad powers implied by the law for regulating toxic substances. Also disputed was the plurality's contention that OSHA had not carried its burden of proof; the dissenters pointed to the 50 volumes of data collected and the 2 weeks of hearings on the proposed regulation as evidence of OSHA's attempt to justify the 1 part per million regulation.

In addition to its impact on health standards, the Court's judgment could limit the scope of OSHA's job-safety regulations. Stevens' declaration that the Secretary "make a threshold finding that a place of employment is unsafe" before setting standards is fairly straightforward when the regulation is a generic health standard, such as acceptable atmospheric levels of benzene gas. But safety policies are considerably more complex, particularly in the more comprehensive programs designed to regulate specific workplaces (for example, the regulations for dock safety currently being developed by OSHA). If the Court's decision were strictly applied, OSHA might have to make a threshold determination for each standard within the overall program. Depending in the range of the program, this could involve prohibitive costs.

Constitutional quotas

In its continuing effort to clarify the constitutionality of racial quotas, the Supreme Court recently upheld the authority of Congress to remedy prior discrimination by imposing racial and ethnic quotas in allocating Federal money. As in prior rulings on racial quotas, the Court failed to achieve a majority verdict. Nonetheless, the three opinions among the six justices who voted to uphold Congress on this sensitive issue agreed, at least, that Congress may assign benefits based on racial and ethnic (and, perhaps, other) criteria whenever it makes a finding of past discrimination and tailors a preference scheme to correct that discrimination. (*Fullilove v. Klutznick*.[4])

The opinion of Chief Justice Warren Burger announced the Court's ruling, upholding the constitutionality of a 1977 law that set aside 10 percent of Federal public works contract funds (totaling more than $4 billion) for minority business enterprises—businesses controlled by "citizens of the United States who are Negroes, Spanish-speaking, Orientals, Indians, Eskimos, and Aleuts." The law required that the States, as recipients of grants under the law, assure the Secretary of Commerce that at least 10 percent of the amount of each grant would be expended for bona fide minority business enterprises. Administrative regulations were adopted under the law that permitted waiver of the quota requirement when enough minority firms were not available in an area or when such firms requested an "unreasonably" high price. White contractors challenged the set-aside provision as a violation of the equal protection guarantees of the Fourteenth Amendment to the Constitution.

Burger, joined by Justices Byron White and Lewis Powell, offered a lengthy explanation of Congress' power under the Constitution to spend money. Because

Congress has the power to regulate commerce and, thus, could have regulated the practices of private contractors to remedy past discrimination, Burger wrote, Federal lawmakers can pursue the same objective by inducing voluntary cooperation through spending policies. Congress also has the power to involve State and local governments in such remedial efforts under its mandate to enforce the Fourteenth Amendment by "appropriate legislation," he reasoned. Thus, Burger concluded that the remedial *objective* of the minority business enterprise provision was a legitimate application of Congress' Fourteenth Amendment authority to ensure that minorities were not denied equal protection of the laws.

Burger then turned to the question of whether the *means*—racial and ethnic quotas—employed by Congress to achieve such a legitimate objective passed constitutional muster. He cited earlier cases where judicial remedies for racial discrimination incorporated racial criteria; this has been permitted when either constitutional or statutory violations were found. Thus, Burger reasoned that, because Congress has the most comprehensive remedial power and because Congress had found evidence that the effects of racial discrimination existed in the award of Federal procurement contracts, Congress may act to alter the status quo when it seeks to fulfill a legitimate objective—such as the elimination of racial discrimination:

> Here we deal . . . not with the limited remedial powers of a Federal court . . . but with the broad remedial powers of Congress. It is fundamental that in no organ of government, State or Federal, does there repose a more comprehensive remedial power than in the Congress, expressly charged by the Constitution with competence and authority to enforce equal protection guarantees. Congress not only may induce voluntary action to assure compliance with existing Federal statutory or constitutional antidiscrimination provisions, but also, where Congress has authority to declare certain conduct unlawful, it may, as here, authorize and induce State action to avoid such action.

Burger also reasoned that other challenged aspects of racial and ethnic quotas were permissible under the Constitution—at least in this case. For example, he found that the reduction in benefits available to white contractors innocent of any prior discrimination was simply a "relatively light" burden that they must share. Congress had the power to assume that such firms "may have reaped competitive benefit over the years" because of the "virtual exclusion" of minority firms from similar contracting opportunities. Whether the remedy Congress fashioned was too broad or too narrow in its application to victims of prior discrimination could not be answered by this case, Burger declared. He felt that such challenges could only be decided based on the inclusion or exclusion of specific persons. But he did reason that the administrative framework based on the law provided adequate assurance that participation of minority firms in the program would not deviate from the remedial purpose of the law. Specifically, he cited the requirement that minority firms be "bona fide" (at least 50-percent owned or controlled by minorities), that this requirement was enforced partly through a complaint procedure, and that waiver of the quota was possible when minority contractors were unavailable or charged excessive prices.

Although Burger specifically avoided an examination of the quotas under the tests established by the Court's *Bakke* decision,[5] he concluded that the set-aside provision would "survive judicial review" in such an analysis. Justice Powell, in a separate concurring opinion, applied the *Bakke* analysis he had agreed to and found that Congress' race-conscious remedy was an appropriate and justifiable response because of a compelling governmental interest in curing the effects of prior racial discrimination.

Justice Thurgood Marshall, who was joined in a concurring opinion by Justices William Brennan and Harry Blackmun, agreed only with the result of Burger's opinion because he felt that the constitutionality of racial classifications should be reviewed on the basis of his concurring opinion in *Bakke*. There, he wrote that, if a racial classification designed to further remedial purposes serves legitimate government objectives and if the classification is substantially related to the achievement of those objectives, it is constitutionally permissible. Thus, Marshall would go substantially further than the Burger opinion by reasoning that racial classifications are not *per se* violations of constitutional equal protection guarantees and that race-conscious remedies are within the authority of Congress to correct social imbalances.

The significance of Marshall's opinion may be measured by the outcome of lower court decisions interpreting *Bakke*. In the past 2 years, lower courts have adopted whichever one of the three *Bakke* opinions that comes closest to their own views.[6] Thus, as with the quota issue involving school admissions, lower courts are free to adopt Marshall's more permissive constitutional analysis in future cases involving minority preference schemes used by Federal, State, or local governments in areas such as housing, employment, or education.

In dissent, Justice Potter Stewart (joined by Justice William Rehnquist) argued that the Constitution's requirement of equal protection means what it says—all racial classifications are intolerable. He wrote that Congress has no greater authority under the Constitution to impose detriments based on race than does the judiciary—and the latter is limited to remedying specific effects of illegal racial discrimination. Congress intended to compensate the "disadvantaged," but this does not permit an unconstitutional racial classification, Stewart concluded.

Justice John Paul Stevens, in a separate dissent, argued that the lack of precision regarding who had been disadvantaged made the application of a remedy to all minority business unconstitutional. He reasoned that there was no basis to the assumption that the minorities who owned or controlled contracting firms had been discriminated against.

> At best, the statutory preference is a somewhat perverse form of reparation for the members of the injured classes. For those who are the most disadvantaged within each class are the least likely to receive any benefit from the special privilege even though they are the persons most likely still to be suffering the consequences of the past wrong.

Pension liability despite disclaimers

Settling an issue of limited proportions under the Employee Retirement Income Security Act of 1974, the Supreme Court recently ruled that employers who terminated pension plans under the law prior to January 1, 1976 (when it became fully effective) can be held liable for employee benefits paid through ERISA insurance despite provisions in the terminated plan protecting the employer from such liability. (*Nachman Corp. v. Pension Benefit Guaranty Corp.*[7])

Writing for the narrow 5–4 majority, Justice John Paul Stevens found that disclaimers of employer liability in pension plans protect against any direct claims made by employees, but that even during the phase-in period of benefit insurance Congress intended employers to be liable for up to 30 percent of their net assets to compensate the ERISA insurance fund for benefits paid. Of the 136 pension plan terminations during the initial phases of the law (September 2, 1974 to December 31, 1975), 78 plans contained provisions disclaiming employer liability in the event of asset shortfalls.

The 1974 act established the Pension Benefit Guaranty Corp. within the Department of Labor to insure employees' "nonforfeitable" benefits against the possibility of insufficient plan assets in the event of termination. The Nachman Corp., which terminated its pension plan on December 31, 1975, argued that a plan provision limiting employee benefits to the assets of the plan (and disclaiming Nachman's liability for any additional amounts) made such benefits "forfeitable" and, thus, not insured under the law.

Stevens found that Congress had used the word "nonforfeitable" to describe benefits that were vested under the conditions of the specific plan. (Since January 1, 1976, the law has specified minimum vesting requirements for all plans.) He reasoned that an employee's claim to such benefits remained "unconditional" and "legally enforceable" against the plan regardless of an employer's protection against direct liability. "Nonforfeitable" describes the quality of an employee's right to the benefit, Stevens concluded, and a disclaimer of employer liability imposes no condition on rights created through vesting.

Stevens, who was joined by Chief Justice Warren Burger and Justices William Brennan, Thurgood Marshall, and Harry Blackmun, also pointed out that when Congress passed the pension insurance law it was aware that most plans contained disclaimers of employer liability. If such provisions prevented insurance coverage, he reasoned, ERISA protection would apply only to the few plans without such disclaimers and to those terminating because of employer insolvency. But because Congress included a reimbursement provision (creating employer liability for up to 30 percent of a firm's net assets) beginning on the first day of the law's operation, it clearly intended to insure benefits in plans where the employer had disclaimed liability, Stevens concluded.

In dissent, Justice Potter Stewart argued that the specific language in the Nachman plan disclaimed liability for the *plan* itself in addition to the disclaimer of employer liability. The lack of liability for the plan under contract law, he reasoned, should make vested benefits forfeitable under the initial phases of ERISA (and, therefore, uninsured) because such benefits are conditional and legally unenforceable. □

FOOTNOTES

[1] *Industrial Union Dept., AFL-CIO v. American Petroleum Institute*, 48 U.S.L.W. 5022 (U.S., July 2, 1980).

[2] 29 U.S.C. Sec. 652 (8).

[3] 29 U.S.C. Sec. 655 (b) (5).

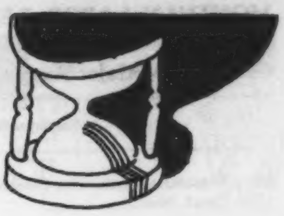
[4] *Fullilove v. Klutznick*, 48 U.S.L.W. 4979 (U.S., July 2, 1980).

[5] *University of California Regents v. Bakke*, 438 U.S. 265 (1978).

[6] See Peter Elkind, "Bakke Aftermath," *The Washington Post*, July 3, 1980, p. A13.

[7] *Nachman Corp. v. Pension Benefit Guaranty Corp.*, 48 U.S.L.W. 4524 (U.S., May 12, 1980).

Major Agreements Expiring Next Month



This list of collective bargaining agreements expiring in October is based on contracts on file in the Bureau's Office of Wages and Industrial Relations. The list includes agreements covering 1,000 workers or more.

Employer and location	Industry	Union[1]	Number of workers
American Can Co. (Naheola, Ala.)	Paper	Paperworkers	1,600
American Chain & Cable Co., Inc. (Bridgeport, Conn.)	Fabricated metal products	Steelworkers	1,000
American Steel Foundries (Ohio, Illinois, and Indiana)	Primary metals	Steelworkers	3,800
Bendix Corp. Electrical Components Division (Sidney, N.Y.)	Electrical products	Machinists	1,950
Boeing Co. (Interstate)	Transportation equipment	Machinists	30,000
Boeing Co., Boeing Vertol Co. Division (Delaware and Pennsylvania)	Transportation equipment	Auto Workers (Ind.)	2,500
Commercial Shearing, Inc. (Ohio, Illinois, and Utah)	Fabricated metal products	Steelworkers	1,250
Consolidated Gas Supply Corp. (Interstate)	Utilities	Service Employees	1,450
Cyclops Corp., Empire-Detroit Steel Division (Mansfield, Ohio)	Primary metals	Steelworkers	1,150
Duval Corp. (Arizona)	Mining	Steelworkers; Operating Engineers; Laborers; and Teamsters (Ind.)	1,700
First National Stores, Inc. (New York and New Jersey)	Retail trade	Food and Commercial Workers	1,400
General Dynamics Corp., Quincy Shipbuilding Division (Quincy, Mass.)	Transportation equipment	Marine and Shipbuilding Workers	2,000
Great Atlantic & Pacific Tea Co., Inc., Indianapolis-Louisville Division (Indiana and Kentucky)	Retail trade	Food and Commercial Workers	1,800
Greyhound Lines, Inc. (Interstate)	Transit	Amalgamated Transit Union	13,000
Hershey Foods Corp. (Hershey, Pa.)	Food products	Bakery and Confectionery Workers	2,300
Hughes Tool Co. (Houston, Tex.)	Machinery	Steelworkers	3,700
Ingersoll-Rand Co. (New Jersey and Pennsylvania)	Machinery	Steelworkers	1,950
Koppers Co., Inc., Metal Products Division (Baltimore, Md.)	Machinery	Machinists	1,500
Libby-Owens-Ford Co. (Interstate)	Stone, clay, and glass products	Glass and Ceramic Workers	7,500
Lincoln Telephone and Telegraph Co. (Nebraska)	Communication	Communications Workers	1,500
Lockheed Aircraft Corp., LMSC Division (California and Florida)	Ordnance	Machinists	5,650
Lockheed Aircraft Corp., Lockheed Georgia Co. Division (Interstate)	Transportation equipment	Machinists	5,550
Lone Star Steel Co. (Dallas, Tex.)	Primary metals	Steelworkers	5,000
McDonnell Douglas Corp., Douglas Aircraft Co. subsidiary (California and Florida)	Transportation equipment	Machinists	5,100
McDonnell Douglas Corp., Douglas Aircraft Co. subsidiary (Long Beach, Calif.)	Transportation equipment	Auto Workers (Ind.)	9,900
McLouth Steel Corp. (Trenton, Mich.)	Primary metals	Steelworkers	3,700
Midland-Ross Corp., National Castings Division (Sharon, Pa.)	Primary metals	Steelworkers	1,050
National Standard Co. (Interstate)	Primary metals	Steelworkers	1,200
Ohio Ferro-Alloys Corp. (Ohio and Alabama)	Primary metals	Steelworkers	1,000
Olin Corp. (Pisgah Forest, N.C.)	Paper	Paperworkers	1,850
Outboard Marine Corp., Johnson Outboard Division (Waukegan, Ill.)	Machinery	Independent Marine and Machinists Association	3,400
Owens-Illinois, Inc. (Vineland, N.J.)	Stone, clay, and glass products	Flint Glass Workers	1,100
Revere Copper and Brass, Inc., Rome Division (Rome, N.Y.)	Primary metals	Mechanics Educational Society	1,400
Southern California Shoe Manufacturers Association, Inc. (California)	Leather	United Shoe Workers	1,100
Star Supermarkets, Inc. (Rochester, N.Y.)	Retail trade	Food and Commercial Workers	1,650
Titanium Metals Corp. of America, Standard Steel Division (Burnham, Penn.)	Primary metals	Steelworkers	1,650
Walt Disney World Co. (Orlando, Fla.)	Amusements	Service Trades Council Union	4,650

See footnotes at end of table.

Continued—Major Agreements Expiring Next Month

Employer and location	Industry	Union[1]	Number of workers
White Consolidated Industries, Franklin Manufacturing Co. Division (St. Cloud, Minn.)	Electrical products	Machinists	11,600
Youngstown Steel Door Co. (Youngstown, Ohio)	Transportation equipment	Steelworkers	1,400
	Government activity	Employee organization[1]	
Tennessee: Memphis Board of Education	Education	American Federation of State, County and Municipal Employees	1,800
Washington: Seattle Metropolitan Transit Division	Transit	Amalgamated Transit Union	1,800
Wisconsin: Madison Board of Education	Education	National Education Association (Ind.)	1,800

[1] Affiliated with AFL–CIO except where noted as independent (Ind.).

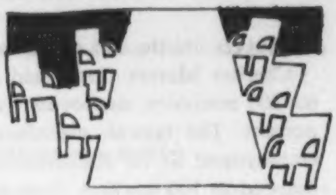
Klein Award contributions

The Trustees of the Lawrence R. Klein Award Fund recently made their 19th award to an author of a *Monthly Labor Review* article. The awards are presented annually for articles which (1) exhibit originality of ideas or method of analysis, (2) adhere to principles of scientific inquiry and (3) are well written. Initially $100 each, the awards now carry a $200 stipend.

The award fund was established by Lawrence R. Klein, who was Editor in Chief of the *Review* for 22 years until his retirement in 1968. Instead of accepting a retirement gift, he donated it and matched the amount collected to initiate the fund. Since then, he has contributed regularly, as have others. Among the latest to donate their retirement gifts have been John H. Chandler, former chief of the Bureau of Labor Statistics' Division of Foreign Labor and Trade, and Edgar Weinberg, former Deputy Assistant Commissioner of the Bureau of Labor Statistics' Office of Productivity and Technology.

Contributions to the fund are tax deductible and may be sent to Ben Burdetsky, Secretary-Treasurer of the Lawrence R. Klein Fund, c/o School of Government and Business Administration, The George Washington University, Washington, D.C. 20052.

Developments in Industrial Relations



Actions taken to aid auto industry

Moves to aid the automobile industry included a plan announced by President Carter to counter declining sales and increasing unemployment; approval of Chrysler's loan guarantee followed by renewed doubts about the company's viability; formation of an 11-union coalition to attempt to curtail imports; and further announcements of cost reduction measures by domestic manufacturers.

President Carter described the proposal to aid the auto industry as "a first step" in a "permanent partnership" between Washington and Detroit. The plan was outlined in a meeting with the heads of five automobile companies and Auto Workers President Douglas A. Fraser and drew a mixed reaction. The industry officials favored most aspects of the plan, particularly the idea of establishing a permanent Automobile Industry Committee of management, labor, and government representatives to study further steps to aid the industry. (This committee is similar to a tripartite committee established in the steel industry in 1978.) Fraser termed "very significant" the President's announcement that he would ask the U.S. International Trade Commission to expedite its decision on the UAW's June petition for a ruling on whether the increasing level of imports is harming the domestic industry and, if so, whether import restrictions should be imposed.

Other parts of the plan would

- Ease a requirement that all 1984 cars meet exhaust requirements for high altitude operation.
- Change standards of the Occupational Safety and Health Administration to permit companies to counter the dangers of exposure to lead and arsenic by having employees wear individual protective equipment, rather than by removing the hazard.
- Ease Environmental Protection Agency rules to reduce the number of cars that must be tested prior to the start of full-scale production and, in some cases, to allow production to begin without prototype vehicles first being made.
- Establish a program under which the Small Business Administration will guarantee working capital loans for 95 percent of the Nation's automobile dealers.
- Allocate $100 million of Economic Development Administration funds during fiscal 1981 to aid communities severely harmed by industrial dislocations, with at least half of the amount to be reserved for communities hurt by the transitions in the automobile industry.

The first result of the $1.5 billion Federal loan guarantee for Chrysler Corp. came when the company borrowed $500 million from a group of banks. The loan was made after the Government's Chrysler Loan Guarantee Board, which had earlier approved the overall guarantee plan, gave its required approval to the loan. A few weeks later, the board approved an additional guarantee of $300 million, as Chrysler reported a loss of $1.017 billion for the first half of the year, reportedly the largest loss ever suffered by an American corporation for a half year. The $300 million guarantee included $50 million to be available only if Chrysler obtained a matching $50 million of nonguaranteed loans. Treasury Secretary G. William Miller, who heads the board, released a study by the board's staff which forecast that the company will have to borrow a total of $1 billion in 1980, instead of the $800 million originally forecast, and $200 million in 1981, instead of $300 million.

In another area, Chrysler's board of directors formed a five-member committee "charged with insuring that every possible action is taken to alleviate the impact on the workers, the community in which the plant is located, and the government units involved" in any future plant closings. The action was proposed by Auto Workers President Fraser, now a Chrysler board member.

The company and the union announced plans to set up joint "quality action teams" to help resolve any quality problems at the two plants producing the company's new line of compact cars. The quality committees at the Newark, Del., and Jefferson Street (Detroit) plants are similar to more general cooperative programs established in recent years at Ford Motor Co. and General Motors Corp.

There were announcements of further employment cutbacks in the industry. Ford announced that by yearend an unspecified number of its salaried employees would join the 6,100 already on layoff. Prior to that reduction, Ford had about 88,000 salaried employees.

American Motors Corp. announced that it would reduce its white-collar staff by 10 percent, or about 700

"Developments in Industrial Relations" is prepared by George Ruben and other members of the staff of the Division of Trends in Employee Compensation, Bureau of Labor Statistics, and is largely based on information from secondary sources.

employees, by the end of summer.

Checker Motors Corp. said it had cut the salaries of its 200 nonunion employees by approximately 10 to 15 percent. The taxicab manufacturer reported that total employment at its Kalamazoo, Mich., plant had been reduced to 500 workers, from a normal 1,000.

The Auto Workers campaign to restrict automobile imports was strengthened when 11 unions of the Industrial Union Department of the AFL-CIO formed the Coalition of Auto Components and Supply Workers. According to Elmer Chatak, secretary-treasurer of the IUD and a chief spokesman for the coalition, about 650,000 workers in the automobile components and supply industry have lost their jobs—about twice the number of workers who have lost jobs at the automobile assembly companies. Chatak also said that the slump in domestic car production may be part of a permanent structural change in the industry, rather than a temporary slump, "unless President Carter takes immediate action to curb imports."

The coalition called on the President to impose a 5-year quota on auto and truck imports limiting the number to the 1975-76 levels of 1.7 million units a year. According to the IUD, 2.4 million vehicles are entering the country each year, amounting to 28.4 percent of all sales in the United States.

Uniroyal workers accept pay cut

There were several adverse developments in the tire industry, resulting from the slump in domestic car sales, reduction in driving attributable to increased fuel costs, and the switch to longer wearing radial tires. At Uniroyal, Inc., workers represented by the Rubber Workers agreed to a 12- to 13-percent cut in wages and benefits after the company had imposed the same reduction on its nonunion employees. (A combined total of 37,000 workers was affected.) Uniroyal said the action was designed to "pare costs to combat the effects of the recession." The company, which lost $120 million in 1979, also announced the closing of its bias-tire plant in Chicopee, Mass., which employs 1,600 people. Talks were under way between the company and a prospective buyer. Production workers at the facility reportedly were willing to accept a cut in pay to assure continued operation.

Firestone Tire & Rubber Co. announced that it would end quarterly cost-of-living adjustments for its 20,000 nonunion salaried employees. The employees would continue to receive the $350-a-month in adjustments that accumulated since Firestone started the quarterly adjustments in April 1977. Jack Miller, Firestone coordinator for the Rubber Workers, said that the company had not asked for a concession from the union but he did not rule out the possibility.

Anti-inflation plan pay standard changed

The Council on Wage and Price Stability announced a revision in the Carter Administration's voluntary anti-inflation plan. The revision permits union-represented employees to receive a wage and benefit increase of up to 10.5 percent in any contract year, if the average annual rate of increase over the entire contract term falls within the existing 7.5- to 9.5-percent standard. Previously, the 7.5- to 9.5-percent guideline applied to each year.

The change, retroactive to October 1, 1979, was backed by the Pay Advisory Committee, which contended that contract bargainers needed the additional flexibility in arranging their contract packages.

Southern textile workers get pay raise

Several major textile companies in the South announced wage increases for their employees. The size of the increase was not disclosed, but Burlington Industries, Inc., said that the raise for its 46,000 employees varied "to some degree" among its various divisions "since they are different types of operations." One firm, Chatham Manufacturing Co. of Elkin, N.C., announced that its increase was 10 percent. The last round of increases in the industry was in July 1979.

Among the other companies granting increases were Cone Mills, Inc., Spring Mills, Inc., and West Point Pepperell.

The Amalgamated Clothing and Textile Workers Union, which represents about 10 percent of the 280,000 textile workers in the south, settled with Fieldcrest Mills, Inc., on a 10-percent wage increase for more than 7,000 workers in North Carolina, Virginia, Georgia, and Alabama. The increase was negotiated under a wage-reopening provision of a contract scheduled to expire in 1981. The union also settled with Cone Mills, Inc. on a 9.5-percent general wage increase, an additional amount equal to 1 percent of payroll to be used to reduce or eliminate wage inequities among jobs, and an increase in company financing of pensions.

Firestone accused of 'affirmative action' failure

The Department of Labor barred Firestone Tire & Rubber Co. from doing business with the Federal Government, contending that the company had failed to implement an acceptable affirmative action plan to increase the number of minorities and women employed at the Firestone Petrochemical Center in Orange, Tex. Department officials said that the order ended some $40 million a year of company sales to the Government, making it the largest purchase cutoff under authority of Executive Order 11246, which bars discrimination by

Government contractors. The record had been held by Uniroyal, Inc., which settled its discrimination dispute in 1979. (See *Monthly Labor Review,* February 1980, p. 17.)

Firestone officials said the ruling would be appealed in the Federal courts, and that the action was based on "an unreasonable interpretation of a technicality in the law, and not on any pattern of discrimination as such." They claimed that the company has had an affirmative action plan at the facility for more than 10 years and that about 25 percent of its 650 employees were women or minorities.

Another Federal discrimination case ended when Philadelphia agreed to hire women for 30 percent of the next 2,670 vacancies in its police patrol ranks and to promote women to the next 16 detective openings and the next 17 sergeant vacancies. The consent decree, signed by the city and the Department of Justice, ended a discrimination suit filed in February 1974. The city also is required to pay $700,000 to 96 female police officers who were victims of alleged discrimination in promotions. Some of the women will receive as much as $22,488.

The city, which now has 186 female police officers, had been permanently enjoined against discriminating against women in the police department after a 1979 trial in U.S. District Court in Philadelphia.

President of seafarers union dies

Paul Hall, who was one of the original members of the Seafarers and rose to become president of the union, died at the age of 65. Hall also was the senior member of the AFL–CIO's Executive Council and president of its Maritime Trades Department.

AFL–CIO President Lane Kirkland and Secretary-Treasurer Thomas R. Donahue said that Hall's imprint could be found on many of the programs and policies of the Federation, citing his contributions to the growth and vitality of the Maritime Trades Department and to the improvement of labor-management relations in the industry.

Vice President Frank Drozak, who has been acting head of the union since Hall was hospitalized in November, will continue in that capacity until an election is held later this year.

Two railroad and airline unions merge

The 8,000 member Railway and Airway Supervisors union is now a division of the Railway, Airline and Steamship Clerks. Railway and Airline Supervisors President Frank J. Ferlin, who heads the new division, said that "given all the changes in today's industry, including a trend towards consolidation of railroads and airlines, we believe the interests of our members can better be served by joining forces with a larger organization." The Railway, Airline and Steamship Clerks, headed by Fred J. Kroll, had 200,000 members prior to the merger.

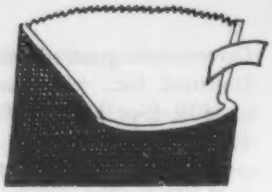
Boycott called off against southern chain

The Food and Commercial Workers union called off its 3-year boycott campaign against Winn-Dixie, Inc., after the parties agreed to rules governing some aspects of the union's efforts to organize the supermarket chain. According to the company, both parties agreed to conduct future representational or organizational campaigns in accordance with National Labor Relations Board rules and Federal law and to engage in informal discussions before exercising legal rights to contest any elections certified by the Board. However, company president Bert L. Thomas said that "we will continue to oppose with every proper and legal means any efforts by unions to organize Winn-Dixie employees." Jack Jones, the chain's director of industrial relations, commented, "the boycott hasn't affected us."

During the boycott campaign, the various participating unions charged that Winn-Dixie has an anti-union policy dating back to the 1950's and had repeatedly ignored rulings by the NLRB and Federal courts.

The Food and Commercial Workers officials said that since the start of the boycott the union has won representation elections at Winn-Dixie facilities in Asheville, N.C., Jacksonville, Fla., and Atlanta, Ga. Winn-Dixie's 1,300 stores and 52,000 employees are concentrated in the South.

Book Reviews



Evolution in medical science

Medicine and the Reign of Technology. By Stanley Joel Reiser. New York, Cambridge University Press, 1978. 317 pp. $15.95.

This book, by Stanley Joel Reiser, traces the evolution of medical instruments, the clinical laboratory, and the hospital and the profound changes in diagnostic methods this evolution has wrought. Yet, the author offers more than a history. The very title of the book implies the critical theme that pervades it. The author is concerned not only with the possibilities of medical technology, but also with its limitations and degenerative potential.

At first, medical instruments merely enlarged the physician's perceptual faculties. His judgment derived from his observations and experience. Increasingly, medical instruments became measuring devices. Chemical analysis, routinized with the development of clinical laboratories, became an indispensable part of the diagnostic effort. Radiology permitted the nonintrusive study of anatomy and morphology. The computer appeared to make diagnostic syntheses possible, which conventional medical records, with their large lacunae, preclude. Thus, the physician's judgment came to be more and more shaped by objective tests and data. Diagnostic methods became increasingly complex, fostering specialization, and the general practitioner declined in relative importance. This development resulted in an ever more tenuous relationship between physician and patient—an estrangement which, in turn, threatens the very reliability of the diagnostic methods the evolution of medical technology had been expected to enhance. This is the major theme of the work.

Reiser devotes but a brief chapter to the techniques of patient examination used in earlier centuries. His story really begins with the 19th century, when effective diagnostic instruments were first invented. Of course, knowledge of anatomy and physiology antedated these inventions. Dissection was performed and pathologies classified as early as the 16th century. But no consensus emerged regarding the relation between pathological examinations of cadavers and the symptoms of the living patient. The practicing physician of the 17th and 18th centuries typically analyzed his patient's description of his illness and observed his patient's symptoms, but he did not examine him physically. He eschewed manual methods as being "beneath his dignity"; it would place him on a par with the surgeon, who usually lacked academic credentials and background in medical theory.

The principle of physical examination as the keystone of diagnosis encountered great resistance, and was debated for decades, before it came to be firmly established around 1850—and then mainly as a result of the proliferation of instruments which revealed the relation between symptom and disease. For example, the diagnostic value of sounds generated by the heart or by breathing was now explored by the stethoscope, the findings of which were eventually confirmed by autopsies. According to Reiser, the stethoscope, invented in 1819, represented the first major step towards basing medical practice on scientific findings. While medicine had indeed evolved as a distinct science since the days of Fernel, Vesalius, and Harvey in the 16th and 17th centuries, the gap between medical theory and medical practice began to be closed only in the early 19th century.

The stethoscope also initiated the breakdown of the doctor-patient relationship. The patient's own account of his symptoms and experience with illness began to diminish in importance. The stethoscope and the instruments that succeeded it generated a "model of disease" which often differed from the patient's explanations. Nevertheless, acoustical and visual methods of examination (for example, the ophthalmoscope, the laryngoscope, X-rays) might still be considered as belonging, as it were, to the handicraft stage of medical practice—they were tools applied by the physician, not testing devices. They altered his view of the causes and location of disease, but did not give the precision to his findings which subsequent inventions would. Furthermore, the focus of medical diagnosis was still gross anatomy—the diseased part rather than the disturbed function, the visible tissue rather than tissue cells invisible to the naked eye.

The single most important instrument underlying the transformation of diagnosis was the microscope. The microscope had been invented in the 17th century, but the microstructures and microlife it revealed were not linked to disease by its inventors or by its students until the mid-19th century. Only then, after severe problems of distorted images had been overcome, did some physicians urge its use in tissue analysis. Only then was disruption of the function of the cell—which had been discovered long before—recognized (by Rudolf Virchow) as the basis of disease. The discovery by Rudolf Koch and Louis Pasteur that micro-organisms could cause disease and the development of bacteriology as a science was a result of the microscope.

The microscope, like other diagnostic instruments, was at first still associated with anatomical concepts. Yet, many physicians urged that changes in natural functions, such as breathing, blood circulation, and temperature also be read as indicators of pathology. This view was promoted by the invention of measuring and graphing devices, such as the sphygmometer and the sphygmograph between 1836 and 1860 (these devices measure the pulse rate). The sphygmograph "transformed the subjective character of pulse feeling into an objective, visual, graphic representation that was a permanent record of a transient event, amenable to study and criticism alone or by a group of physicians." Such devices—and here they also include the thermometer, the electrocardiograph, the microscope, and later the X-ray tube—were no longer mere tools or aides to the physician's perceptions. They were akin to machines, with outputs no longer directly dependent upon the skills of their operator but with skills built into them. Furthermore, they engendered some of the consequences associated with machines; in time, they gave rise to the norming of such "output" variables as blood pressure, body heat, and pulse rate. Being complex apparatus, they required specialization, thus encouraging the practice of delegating medical tasks to health specialists other than physicians (in 1900, of 200,000 such workers, 60 percent were physicians; in 1969, of 1.7 million, 20 percent were physicians); in addition, they contributed to the centralization of medical care in urban hospitals. Equally, they radically eroded the relationship between physician and patient.

These developments were promoted by the rise of chemical analysis of bodily fluids and tissues. Unlike the diagnostic instruments discussed by Reiser, chemical analysis evolved in a distinct institutional context, the laboratory, "the organized workshop of science where investigators analyzed the objects of their interest firsthand," which was largely a creation of the 19th century (being essentially conceived by Justus Liebig, the great German chemist). Reiser devotes but a few pages to the laboratory, and does not fully explore its significance. The laboratory created a new environment, unimpeded by tradition and convention, for research, which must have contributed to its productivity in terms of the basic knowledge it produced. The laboratory not only accentuated the trend toward separation of patient and physician, but also began to sever medical knowledge from medical practice.

The specialization and professionalization of medical practice that arose from the evolution of medical technology and knowledge created an ever more refined division of labor among health workers. The hospital and group practice institutionalized this division of labor. "(By) the 1930's, a number of leaders in medicine looked to hospitals, and the cooperative model of practice, as the key to reorganizing the practice of medicine . . . The . . . Committee on the Costs of Medical Care . . . proposed turning hospitals into comprehensive centers that would be the focus of all medical activities." The hospital proved to be a far more potent centralizing agent than group practice. In 1929, 8 out of 10 physicians were affiliated with a hospital; 1 out of 25 maintained offices or hours there. By 1975, virtually all practicing physicians were affiliated, and 1 out of 4 practiced full-time there. The professional necessity of such affiliation is indisputable, but affiliation surely helped congeal the corporate interests of physicians.

In the final third of the book, Reiser offers a searching critique of what he regards as excessive reliance upon medical technology, and the consequences for medical practice and practitioners. He cites the enormous increase in the use of laboratory tests, X-rays, and other diagnostic procedures in the face of their often doubtful utility; the steep resulting rise in costs and, most important to him, the tendency to substitute such tests for the physician's own perceptions and judgment. The patient's subjective symptoms and comments have, as a result, been ignored, history-taking has declined in importance and, hence, medical thought has lost coherence; medical practice has been "decerebrated."

The author did not perhaps fully appreciate the depth of the gap between the two parts of his work. The history of the technological and medical developments presented in the first part does not prepare the reader for the disturbing critique advanced in the second. The creation of a scientific, objective basis of medical diagnosis, made possible in large part by an evolving medical technology, could not but change the relationship between physician and patient, voiding it of some of its human concerns. But why should medical technology have come to dominate medical practice, rather than serve it? Why should it have engendered "an attitude in which the patient (is) less than a person and more of an object"? Reiser does not explicitly address these questions. He mentions such factors as preoccupation with scientific apparatus as supposedly embodying the "spirit of science," the emphasis on laboratory techniques and biology in physicians' training, broader insurance coverage, and the threat of malpractice suits. But these are conditioning, rather than casual factors.

One of the fascinating aspects of the book is that the author does not simply describe the progress of medical technology and diagnosis, but that he also carefully details the professional resistance to it, as well as the frequent unreliability of early generations of instruments—all of which hindered the ready adoption of given technologies and diagnostic concepts. There is, thus, at least a hint of a corporate interest on the part of the medical profession in then existing modes of diagnosis. The rise of the hospital as a central and centralizing institution of medical practice undoubtedly accentuated the corporate interest of the medical profession. The huge investment in complex equipment and lengthy specialized study further solidified this interest, also imparting to it a large economic dimension. It is certainly true that changing conditions eventually compel a redefinition of interest, but they must then match the stakes involved, and these are very great now.

After the end of World War II, some physicians reflected on the one-third rejection rate of men called to service, because of neuropsychiatric disorders. They began to consider disease "as a maladaptation to biological, familial, and environmental circumstances—as disturbances of thoughts, feelings and social relationships as well as disturbances of tissues and bodily fluids . . . " Nevertheless, "the view of man as primarily a physico-chemical organism has remained the dominant view of postwar medicine . . . " That view of course remains anchored in existing health care institutions. The reign of medical technology, of which Reiser gives such a superb account and which so deeply troubles him, seems destined to institutionalize the physico-chemical approach to diagnosis for decades to come. For, judging by Reiser's own testimony, medical technology is in large measure conceptually based upon that approach, and in turn it generates professional and corporate interests that are hard to dislodge.

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Myth-making and myth-breaking

The Economics of Sex Differentials. By Cynthia B. Lloyd and Beth T. Niemi. New York, Columbia University Press, 1979. 355 pp. $16.50.

During the past quarter century, changes in social attitudes, life styles, marital and family patterns, and a host of other developments have contributed to a dramatic increase in the labor force participation of women. Since 1950, the proportion of women engaged in or seeking market work has climbed from about one-third to more than one-half. During the most recent decade, the increase has been concentrated among young women—those under 35 years of age—and the traditional separation of market work and home production has become less sharp for young wives and mothers. Prior to the midsixties, the bulk of the growth in female labor force participation had occurred among those 45 to 59 years of age, a group that had largely completed the time-consuming portion of their child-rearing responsibilities. The return of these middle-aged women to the paid-work force had required fewer adjustments by their families, the social structure, and their employers, since, on average, this group was less career oriented than the younger women who followed them into the job market.

It is against this backdrop of social, economic, and political developments that this book, by Cynthia B. Lloyd and Beth T. Niemi, was written. It takes its place among a raft of articles, speeches, and books that have been written on the subject.

Unfortunately, the large quantity has not always been of the highest quality, so it is with much appreciation that this work by two well-qualified economists ought to be received. Unlike much of the literature in this area, this work is even-handed in tone, neither strident with political overtones nor so overloaded with details that it can be read only by specialists in the field. The first chapter, in particular, should be required reading for every person interested in the subject. Academics, journalists, policymakers, and the public at large can all benefit from this careful discussion of the myths and reality of the current situation.

Among the subjects discussed in this chapter are various misinterpretations of statistical data including: the drawing of conclusions about individual behavior based upon group averages, the expectation that cross-sectional data can be used as a proxy for developments over time, and the attribution of too much weight to anecdotal evidence. When employers or policymakers fall prey to these misinterpretations, they may well perpetuate the problems that they perceive.

In regard to the use of statistical averages, the authors point out the fallacy of drawing conclusions about individuals based upon group norms by illustrating the amount of dispersion around the averages. They then discuss the "statistical discrimination" which occurs when an employer chooses not to hire a particular woman, because he has read that women, on average, have higher turnover than men. The specific man that is hired may or may not stay at the job longer than the woman who was avoided; she was never given the opportunity to begin her tenure. Actually, the data show that women's rates of turnover are not greatly unlike men's if one controls for age and occupation.

Another common misunderstanding results from a confusion between cross-sectional and time-series data. As the authors put it:

> The dramatic increase in labor force participation rates among women of all ages, but particularly among younger

> women, in the last 10 years have meant that for the young cohorts of women (that is, women born in the same year), labor force participation rates appear to be rising almost continuously over the life cycle. This presents a sharp contrast to the cross-sectional picture, which implies that women are dropping out in their child-bearing years. The deception arises because the labor force behavior of different women of varying ages is being used to simulate the life cycle of a hypothetical woman. However, because of dramatic changes in behavior among younger women, it is not accurate to look at older women today and assume that that is where younger women will be a certain number of years down the road.

A related misconception occurs when someone believes that a rate for a particular group at a particular time can be used as a proxy for the overall behavior of a "typical" member of that group. For example, a labor force participation rate of 50 percent means that half of the relevant group is currently in the labor force, not that a typical member of the group spends half of her lifetime in the labor force. The authors cite an actual longitudinal study which suggests that one-third of all women work just about continuously, one-third intermittently, and one-third never work outside the home.

Misunderstandings of the nature of change sometimes result from the use of anecdotal evidence. These examples, which are often used in popular press, may overstate the amount of change that has actually occurred. For example, female carpenters, crane operators, and mineworkers are interviewed and some observers conclude that such occupational choices have become commonplace. While it is true that there have been some women who have been able to move into traditionally male occupations, most women remain in those fields that are predominately female. Six out of every 10 women are in retail trade, clerical, or service occupations. Specific occupations that are at least 90 percent female include secretaries, bank tellers, cashiers, and nurses; occupations that are less than 10 percent female include mechanics, carpenters, dentists, and engineers.

It is important to correct misconceptions concerning women in the work force for several reasons. First, accuracy in understanding the world around us enables individuals to better plan their lives. Second, the behavior of individuals is dependent on their beliefs concerning the facts, and their misunderstandings may serve to be self-fulfilling. An employer may be reluctant to invest in training for a female employee if he believes her likely to leave; without training to improve her skills, she may have little incentive to stay. Lastly, policy decisions based on traditional assumptions tend to foster and perpetuate a situation that might otherwise change. Often cited examples relate to tax policies and the structure of social security benefits.

The remaining chapters of the book are amplifications of the foundation chapter, providing theory, data, and analysis. Among the topics covered are: labor attachment, educational investment, job training, earnings, unemployment, evidence of discrimination, government policies and programs. One could certainly quarrel with the policy conclusions of the authors, since these are clearly dependent on philosophical attitudes. More importantly, their research is thorough, based on careful and proper use of data and a broad knowledge of sources and research in their area.

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NOTES ON CURRENT LABOR STATISTICS

This section of the *Review* presents the principal statistical series collected and calculated by the Bureau of Labor Statistics. A brief introduction to each group of tables provides definitions, notes on the data, sources, and other material usually found in footnotes.

Readers who need additional information are invited to consult the BLS regional offices listed on the inside front cover of this issue of the *Review*. Some general notes applicable to several series are given below.

Seasonal adjustment. Certain monthly and quarterly data are adjusted to eliminate the effect of such factors as climatic conditions, industry production schedules, opening and closing of schools, holiday buying periods, and vacation practices, which might otherwise mask short-term movements of the statistical series. Tables containing these data are identified as "seasonally adjusted." Seasonal effects are estimated on the basis of past experience. When new seasonal factors are computed each year, revisions may affect seasonally adjusted data for several preceding years. For a technical discussion of the method used to make seasonal adjustments, see *X-11 Variant of the Census Method II Seasonal Adjustment Program*, Technical Paper No. 15 (Bureau of the Census, 1967).

Seasonally adjusted labor force data in tables 2–7 were last revised in the February 1980 issue of the *Review* to reflect the preceding year's experience. Beginning in January 1980, the BLS introduced two major modifications in the seasonal adjustment methodology for labor force data. First, the data are being seasonally adjusted with a new procedure called X-11/ARIMA, which was developed at Statistics Canada as an extension of the standard X-11 method. A detailed description of the procedure appears in *The X-11 ARIMA Seasonal Adjustment Method* by Estela Bee Dagum (Statistics Canada Catalogue No. 12-564E, September 1979). The second change is that seasonal factors are now being calculated for use during the first 6 months of the year, rather than for the entire year, and then are calculated at mid-year for the July-December period. Revisions of historical data continue to be made only at the end of each calendar year.

Annual revision of the seasonally adjusted payroll data in tables 11, 13, 16, and 18 begins with the August 1980 issue using the X-11 ARIMA seasonal adjustment methodology. New seasonal factors for productivity data in tables 33 and 34 are usually introduced in the September issue. Seasonally adjusted indexes and percent changes from month to month and from quarter to quarter are published for numerous Consumer and Producer Price Index series. However, seasonally adjusted indexes are not published for the U.S. average All Items CPI. Only seasonally adjusted percent changes are available for this series.

Adjustments for price changes. Some data are adjusted to eliminate the effect of changes in price. These adjustments are made by dividing current dollar values by the Consumer Price Index or the appropriate component of the index, then multiplying by 100. For example, given a current hourly wage rate of $3 and a current price index number of 150, where 1967 = 100, the hourly rate expressed in 1967 dollars is $2 ($3/150 × 100 = $2). The resulting values are described as "real," "constant," or "1967" dollars.

Availability of information. Data that supplement the tables in this section are published by the Bureau of Labor Statistics in a variety of sources. Press releases provide the latest statistical information published by the Bureau; the major recurring releases are published according to the schedule given below. The *Handbook of Labor Statistics 1978*, Bulletin 2000, provides more detailed data and greater historical coverage for most of the statistical series presented in the *Monthly Labor Review*. More information from the household and establishment surveys is provided in *Employment and Earnings*, a monthly publication of the Bureau, and in two comprehensive data books issued annually—*Employment and Earnings, United States* and *Employment and Earnings, States and Areas*. More detailed information on wages and other aspects of collective bargaining appears in the monthly periodical, *Current Wage Developments*. More detailed price information is published each month in the periodicals, the *CPI Detailed Report* and *Producer Prices and Price Indexes*.

Symbols

p = preliminary. To improve the timeliness of some series, preliminary figures are issued based on representative but incomplete returns.
r = revised. Generally this revision reflects the availability of later data but may also reflect other adjustments.
n.e.c. = not elsewhere classified.

Schedule of release dates for major BLS statistical series

Title and frequency (monthly except where indicated)	Release date	Period covered	Release date	Period covered	MLR table number
Employment situation	September 5	August	October 3	September	1-11
Producer Price Index	September 5	August	October 3	September	26-30
Consumer Price Index	September 23	August	October 24	September	22-25
Real earnings	September 23	August	October 24	September	14-20
Work stoppages	September 29	August	October 28	September	37
Labor turnover in manufacturing	September 30	August	October 30	September	12-13
Productivity and costs (quarterly):					
Nonfarm business and manufacturing	....	....	October 27	3rd quarter	31-34
Major collective bargaining settlements (quarterly)	....	....	October 27	1st 9 months	35-36

EMPLOYMENT DATA FROM THE HOUSEHOLD SURVEY

EMPLOYMENT DATA in this section are obtained from the Current Population Survey, a program of personal interviews conducted monthly by the Bureau of the Census for the Bureau of Labor Statistics. The sample consists of about 65,000 households beginning in January 1980, selected to represent the U.S. population 16 years of age and older. Households are interviewed on a rotating basis, so that three-fourths of the sample is the same for any 2 consecutive months.

Definitions

Employed persons are (1) those who worked for pay any time during the week which includes the 12th day of the month or who worked unpaid for 15 hours or more in a family-operated enterprise and (2) those who were temporarily absent from their regular jobs because of illness, vacation, industrial dispute, or similar reasons. A person working at more than one job is counted only in the job at which he or she worked the greatest number of hours.

Unemployed persons are those who did not work during the survey week, but were available for work except for temporary illness and had looked for jobs within the preceding 4 weeks. Persons who did not look for work because they were on layoff or waiting to start new jobs within the next 30 days are also counted among the unemployed. The **unemployment rate** represents the number unemployed as a percent of the civilian labor force.

The **civilian labor force** consists of all employed or unemployed persons in the civilian noninstitutional population; the **total labor force** includes military personnel. Persons **not in the labor force** are those not classified as employed or unemployed; this group includes persons retired, those engaged in their own housework, those not working while attending school, those unable to work because of longterm illness, those discouraged from seeking work because of personal or job market factors, and those who are voluntarily idle. The **noninstitutional population** comprises all persons 16 years of age and older who are not inmates of penal or mental institutions, sanitariums, or homes for the aged, infirm, or needy.

Full-time workers are those employed at least 35 hours a week; **part-time workers** are those who work fewer hours. Workers on part-time schedules for economic reasons (such as slack work, terminating or starting a job during the week, material shortages, or inability to find full-time work) are among those counted as being on full-time status, under the assumption that they would be working full time if conditions permitted. The survey classifies unemployed persons in full-time or part-time status by their reported preferences for full-time or part-time work.

Notes on the data

From time to time, and especially after a decennial census, adjustments are made in the Current Population Survey figures to correct for estimating errors during the preceding years. These adjustments affect the comparability of historical data presented in table 1. A description of these adjustments and their effect on the various data series appear in the Explanatory Notes of *Employment and Earnings.*

Data in tables 2–7 are seasonally adjusted, based on the seasonal experience through December 1979.

1. Employment status of the noninstitutional population, 16 years and over, selected years, 1950–79

[Numbers in thousands]

Year	Total noninstitutional population	Total labor force		Civilian labor force						Not in labor force
		Number	Percent of population	Total	Employed			Unemployed		
					Total	Agriculture	Nonagricultural industries	Number	Percent of labor force	
1950	106,645	63,858	59.9	62,208	58,918	7,160	51,758	3,288	5.3	42,787
1955	112,732	68,072	60.4	65,023	62,170	6,450	55,722	2,852	4.4	44,660
1960	119,759	72,142	60.2	69,628	65,778	5,458	60,318	3,852	5.5	47,617
1964	127,224	75,830	59.6	73,091	69,305	4,523	64,782	3,786	5.2	51,394
1965	129,236	77,178	59.7	74,455	71,088	4,361	66,726	3,366	4.5	52,058
1966	131,180	78,893	60.1	75,770	72,895	3,979	68,915	2,875	3.8	52,288
1967	133,319	80,793	60.6	77,347	74,372	3,844	70,527	2,975	3.8	52,527
1968	135,562	82,272	60.7	78,737	75,920	3,817	72,103	2,817	3.6	53,291
1969	137,841	84,240	61.1	80,734	77,902	3,606	74,296	2,832	3.5	53,602
1970	140,182	85,903	61.3	82,715	78,627	3,462	75,165	4,088	4.9	54,280
1971	142,596	86,929	61.0	84,113	79,120	3,387	75,732	4,993	5.9	55,666
1972	145,775	88,991	61.0	86,542	81,702	3,472	78,230	4,840	5.6	56,785
1973	148,263	91,040	61.4	88,714	84,409	3,452	80,957	4,304	4.9	57,222
1974	150,827	93,240	61.8	91,011	85,935	3,492	82,443	5,076	5.6	57,587
1975	153,449	94,793	61.8	92,613	84,783	3,380	81,403	7,830	8.5	58,655
1976	156,048	96,917	62.1	94,773	87,485	3,297	84,188	7,288	7.7	59,130
1977	158,559	99,534	62.8	97,401	90,546	3,244	87,302	6,855	7.0	59,025
1978	161,058	102,537	63.7	100,420	94,373	3,342	91,031	6,047	6.0	58,521
1979	163,620	104,996	64.2	102,908	96,945	3,297	93,648	5,963	5.8	58,623

2. Employment status by sex, age, and race, seasonally adjusted

[Numbers in thousands]

Employment status	Annual average		1979						1980						
	1978	1979	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May[c]	June	July
TOTAL															
Total noninstitutional population[1]	161,058	163,620	163,885	163,891	164,106	164,468	164,682	164,898	165,101	165,298	165,506	165,693	165,886	166,105	166,301
Total labor force	102,537	104,996	105,475	105,218	105,586	105,688	105,744	106,088	106,310	106,346	106,184	106,511	107,230	106,634	107,302
Civilian noninstitutional population[1]	158,941	161,532	161,804	161,801	162,013	162,375	162,589	162,809	163,020	163,211	163,416	163,601	163,799	164,013	164,293
Civilian labor force	100,420	102,908	103,093	103,128	103,494	103,595	103,652	103,999	104,229	104,260	104,094	104,419	105,142	104,542	105,203
Employed	94,373	96,945	97,184	97,004	97,504	97,474	97,608	97,912	97,804	97,953	97,656	97,154	96,988	96,537	96,996
Agriculture	3,342	3,297	3,267	3,315	3,364	3,294	3,385	3,359	3,270	3,326	3,358	3,242	3,379	3,191	3,257
Nonagricultural industries	91,031	93,648	93,917	93,689	94,140	94,180	94,223	94,553	94,534	94,626	94,298	93,912	93,609	93,346	93,739
Unemployed	6,047	5,963	5,909	6,124	5,990	6,121	6,044	6,087	6,425	6,307	6,438	7,265	8,154	8,006	8,207
Unemployment rate	6.0	5.8	5.7	5.9	5.8	5.9	5.8	5.9	6.2	6.0	6.2	7.0	7.8	7.7	7.8
Not in labor force	58,521	58,623	58,511	58,673	58,519	58,780	58,937	58,810	58,791	58,951	59,322	59,182	58,657	59,471	59,091
Men, 20 years and over															
Civilian noninstitutional population[1]	67,006	68,293	68,319	68,417	68,522	68,697	68,804	68,940	69,047	69,140	69,238	69,329	69,428	69,532	69,664
Civilian labor force	53,464	54,486	54,579	54,597	54,735	54,760	54,709	54,781	54,856	55,038	54,996	55,114	55,467	55,220	55,398
Employed	51,212	52,264	52,325	52,311	52,453	52,443	52,374	52,478	52,279	52,531	52,300	51,868	51,796	51,510	51,668
Agriculture	2,361	2,350	2,327	2,375	2,377	2,371	2,438	2,427	2,387	2,435	2,394	2,320	2,384	2,270	2,292
Nonagricultural industries	48,852	49,913	49,998	49,936	50,076	50,072	49,936	50,051	49,892	50,096	49,906	49,548	49,412	49,240	49,376
Unemployed	2,252	2,223	2,254	2,286	2,282	2,317	2,335	2,303	2,577	2,507	2,696	3,246	3,671	3,710	3,730
Unemployment rate	4.2	4.1	4.1	4.2	4.2	4.2	4.3	4.2	4.7	4.6	4.9	5.9	6.6	6.7	6.7
Not in labor force	13,541	13,807	13,740	13,820	13,787	13,937	14,095	14,159	14,192	14,102	14,242	14,215	13,961	14,312	14,266
Women, 20 years and over															
Civilian noninstitutional population[1]	75,489	76,860	76,897	77,006	77,124	77,308	77,426	77,542	77,656	77,766	77,876	77,981	78,090	78,211	78,360
Civilian labor force	37,416	38,910	39,033	39,304	39,239	39,362	39,445	39,659	39,878	39,857	39,751	40,137	40,246	40,125	40,471
Employed	35,180	36,698	36,873	37,000	37,075	37,112	37,248	37,402	37,574	37,604	37,496	37,602	37,576	37,530	37,769
Agriculture	586	591	585	600	628	572	612	582	540	567	582	552	616	541	565
Nonagricultural industries	34,593	36,107	36,288	36,400	36,447	36,540	36,636	36,820	37,034	37,037	36,914	37,051	36,960	36,989	37,204
Unemployed	2,236	2,213	2,160	2,304	2,164	2,250	2,197	2,257	2,304	2,254	2,255	2,534	2,670	2,596	2,702
Unemployment rate	6.0	5.7	5.5	5.9	5.5	5.7	5.6	5.7	5.8	5.7	5.7	6.3	6.6	6.5	6.7
Not in labor force	38,073	37,949	37,864	37,702	37,885	37,946	37,981	37,883	37,778	37,909	38,125	37,844	37,844	38,086	37,889
Both sexes, 16 - 19 years															
Civilian noninstitutional population[1]	16,447	16,379	16,387	16,377	16,367	16,370	16,360	16,328	16,317	16,305	16,302	16,291	16,281	16,271	16,268
Civilian labor force	9,540	9,512	9,481	9,227	9,520	9,473	9,498	9,559	9,497	9,365	9,346	9,168	9,429	9,197	9,334
Employed	7,981	7,984	7,986	7,693	7,976	7,919	7,986	8,032	7,952	7,818	7,859	7,683	7,616	7,497	7,560
Agriculture	395	356	355	340	359	351	335	350	344	325	381	370	379	380	401
Nonagricultural industries	7,586	7,628	7,631	7,353	7,617	7,568	7,651	7,682	7,608	7,493	7,478	7,313	7,237	7,117	7,159
Unemployed	1,559	1,528	1,495	1,534	1,544	1,554	1,512	1,527	1,545	1,547	1,487	1,485	1,813	1,700	1,774
Unemployment rate	16.3	16.1	15.8	16.6	16.2	16.4	15.9	16.0	16.3	16.5	15.9	16.2	19.2	18.5	19.0
Not in labor force	6,907	6,867	6,906	7,150	6,847	6,897	6,862	6,767	6,820	6,940	6,956	7,123	6,852	7,074	6,934
White															
Civilian noninstitutional population[1]	139,580	141,614	141,661	141,822	141,981	142,296	142,461	142,645	142,806	142,951	143,115	143,254	143,403	143,565	143,770
Civilian labor force	88,456	90,602	90,659	90,759	91,082	91,147	91,242	91,579	91,852	91,977	91,821	92,083	92,535	92,096	92,456
Employed	83,836	86,025	86,120	85,976	86,425	86,454	86,571	86,894	86,895	87,081	86,822	86,385	86,148	85,792	86,063
Unemployed	4,620	4,577	4,539	4,783	4,657	4,693	4,671	4,685	4,957	4,896	4,999	5,698	6,386	6,303	6,393
Unemployment rate	5.2	5.1	5.0	5.3	5.1	5.1	5.1	5.1	5.4	5.3	5.4	6.2	6.9	6.8	6.9
Not in labor force	51,124	51,011	51,107	51,161	50,900	51,149	51,219	51,066	50,954	50,975	51,294	51,171	50,868	51,469	51,314
Black and other															
Civilian noninstitutional population[1]	19,361	19,918	19,943	19,979	20,032	20,079	20,128	20,163	20,214	20,261	20,301	20,346	20,395	20,448	20,523
Civilian labor force	11,964	12,306	12,386	12,343	12,404	12,512	12,391	12,432	12,453	12,362	12,266	12,319	12,559	12,446	12,739
Employed	10,537	10,920	11,023	10,982	11,063	11,076	11,044	11,024	10,979	10,937	10,823	10,771	10,813	10,751	10,932
Unemployed	1,427	1,386	1,363	1,361	1,341	1,436	1,347	1,408	1,474	1,424	1,443	1,549	1,746	1,696	1,807
Unemployment rate	11.9	11.3	11.0	11.0	10.8	11.5	10.9	11.3	11.8	11.5	11.8	12.6	13.9	13.6	14.2
Not in labor force	7,397	7,612	7,579	7,639	7,264	7,567	7,737	7,731	7,761	7,899	8,035	8,027	7,836	8,002	7,784

[1] As in table 1, population figures are not seasonally adjusted.

c = corrected.

NOTE: The monthly data in this table have been revised to reflect seasonal experience through 1979.

3. Selected employment indicators, seasonally adjusted

[In thousands]

Selected categories	Annual average		1979						1980						
	1978	1979	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May c	June	July
CHARACTERISTIC															
Total employed, 16 years and over	94,373	96,945	97,184	97,004	97,504	97,474	97,608	97,912	97,804	97,953	97,656	97,154	96,988	96,537	96,996
Men	55,491	56,499	56,570	56,408	56,714	56,629	56,580	56,734	56,486	56,732	56,601	55,998	55,823	55,457	55,629
Women	38,882	40,446	40,614	40,596	40,790	40,845	41,028	41,178	41,318	41,221	41,051	41,156	41,165	41,079	41,367
Married men, spouse present	38,686	39,090	39,176	39,180	39,198	39,124	38,845	38,924	38,749	38,955	38,745	38,342	38,147	38,193	37,999
Married women, spouse present	21,881	22,724	22,908	22,869	22,937	22,919	22,940	23,027	23,111	23,178	23,202	23,080	23,155	23,144	23,097
OCCUPATION															
White-collar workers	47,205	49,342	49,536	49,663	49,816	49,738	49,912	49,911	50,313	50,448	50,302	50,405	50,006	50,861	51,114
Professional and technical	14,245	15,050	15,057	15,068	15,141	15,057	15,131	15,272	15,337	15,444	15,397	15,542	15,551	15,712	15,741
Managers and administrators, except farm	10,105	10,516	10,612	10,698	10,659	10,639	10,617	10,535	10,608	10,971	10,755	10,745	10,882	10,911	11,046
Salesworkers	5,951	6,163	6,163	6,145	6,181	6,261	6,362	6,346	6,452	6,185	6,113	5,988	6,022	5,981	6,128
Clerical workers	16,904	17,613	17,704	17,752	17,835	17,781	17,802	17,758	17,915	17,848	18,037	18,129	18,152	18,256	18,199
Blue-collar workers	31,531	32,066	32,051	31,849	32,209	32,205	32,110	32,302	31,882	31,754	31,670	31,127	30,681	30,243	30,149
Craft and kindred workers	12,386	12,880	12,876	12,761	12,993	13,001	12,925	13,041	12,814	12,728	12,767	12,773	12,523	12,301	12,382
Operatives, except transport	10,875	10,909	10,884	10,909	10,964	10,967	10,963	11,042	10,678	10,661	10,579	10,408	10,336	10,131	10,134
Transport equipment operatives	3,541	3,612	3,627	3,604	3,617	3,593	3,628	3,635	3,616	3,571	3,558	3,483	3,421	3,395	3,335
Nonfarm laborers	4,729	4,665	4,664	4,575	4,635	4,644	4,594	4,584	4,774	4,795	4,767	4,463	4,402	4,416	4,299
Service workers	12,839	12,834	12,766	12,621	12,859	12,937	12,899	12,970	12,979	13,080	12,981	13,034	13,932	12,930	13,045
Farmworkers	2,798	2,703	2,678	2,707	2,722	2,695	2,718	2,694	2,660	2,764	2,733	2,658	2,745	2,606	2,680
MAJOR INDUSTRY AND CLASS OF WORKER															
Agriculture:															
Wage and salary workers	1,419	1,413	1,419	1,384	1,399	1,381	1,475	1,451	1,428	1,417	1,449	1,370	1,406	1,365	1,352
Self-employed workers	1,607	1,580	1,558	1,614	1,642	1,602	1,622	1,596	1,554	1,648	1,600	1,591	1,662	1,590	1,631
Unpaid family workers	316	304	291	310	325	313	310	310	293	283	300	281	289	269	292
Nonagricultural industries:															
Wage and salary workers	84,253	86,540	86,454	86,421	86,912	86,982	87,020	87,384	87,578	87,419	87,221	86,741	86,631	86,257	86,407
Government	15,289	15,369	15,393	15,279	15,407	15,423	15,358	15,397	15,414	15,540	15,622	15,668	15,799	15,891	15,760
Private industries	68,966	71,171	71,061	71,142	71,505	71,559	71,662	71,987	72,163	71,879	71,599	71,072	70,832	70,365	70,647
Private households	1,363	1,240	1,219	1,211	1,313	1,261	1,211	1,228	1,132	1,178	1,115	1,123	1,206	1,219	1,245
Other industries	67,603	69,931	69,842	69,931	70,192	70,298	70,451	70,759	71,031	70,702	70,484	69,949	69,625	69,147	69,402
Self-employed workers	6,305	6,652	6,752	6,669	6,731	6,812	6,781	6,737	6,752	6,899	6,825	6,813	6,648	6,686	6,765
Unpaid family workers	472	455	519	450	449	430	417	409	379	367	376	363	411	445	441
PERSONS AT WORK [1]															
Nonagricultural industries	85,693	88,133	88,769	88,855	88,723	88,638	88,617	89,180	89,454	88,985	88,585	87,660	87,680	87,910	87,454
Full-time schedules	70,543	72,647	72,915	73,053	73,159	73,204	72,997	73,137	73,223	73,110	72,749	71,807	71,224	71,206	70,649
Part time for economic reasons	3,216	3,281	3,274	3,298	3,167	3,315	3,392	3,519	3,513	3,406	3,418	3,816	4,349	3,999	4,113
Usually work full time	1,249	1,325	1,334	1,401	1,273	1,354	1,413	1,491	1,549	1,380	1,463	1,709	2,064	1,781	1,847
Usually work part time	1,967	1,956	1,940	1,897	1,894	1,961	1,979	2,028	1,964	2,026	1,955	2,107	2,285	2,217	2,266
Part time for noneconomic reasons	11,934	12,205	12,580	12,504	12,397	12,119	12,228	12,524	12,718	12,469	12,418	12,037	12,106	12,706	12,692

[1] Excludes persons "with a job but not at work" during the survey period for such reasons as vacation, illness, or industrial disputes.

NOTE: The monthly data in this table have been revised to reflect seasonal experience through 1979.
c = corrected.

4. Selected unemployment indicators, seasonally adjusted

[Unemployment rates]

Selected categories	Annual average		1979						1980						
	1978	1979	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May c	June	July
CHARACTERISTIC															
Total, 16 years and over	6.0	5.8	5.7	5.9	5.8	5.9	5.8	5.9	6.2	6.0	6.2	7.0	7.8	7.7	7.8
Men, 20 years and over	4.2	4.1	4.1	4.2	4.2	4.2	4.3	4.2	4.7	4.8	4.9	5.9	6.6	6.7	6.7
Women, 20 years and over	6.0	5.7	5.5	5.9	5.5	5.7	5.6	5.7	5.8	5.7	5.7	6.3	6.6	6.5	6.7
Both sexes, 16–19 years	16.3	16.1	15.8	16.6	16.2	16.4	15.9	16.0	16.3	16.5	15.9	16.2	19.2	18.5	19.0
White, total	5.2	5.1	5.0	5.3	5.1	5.1	5.1	5.1	5.4	5.3	5.4	6.2	6.9	6.8	6.9
Men, 20 years and over	3.7	3.6	3.6	3.7	3.7	3.7	3.7	3.7	4.1	4.0	4.4	5.3	5.9	6.0	6.0
Women, 20 years and over	5.2	5.0	4.8	5.2	4.8	5.0	4.9	5.0	5.1	5.2	4.9	5.5	5.8	5.8	5.9
Both sexes, 16–19 years	13.9	13.9	13.8	14.8	14.3	14.1	13.9	13.9	14.0	13.8	13.8	14.6	17.4	16.4	16.7
Black and other, total	11.9	11.3	11.0	11.0	10.8	11.5	10.9	11.3	11.8	11.5	11.8	12.6	13.9	13.6	14.2
Men, 20 years and over	8.6	8.4	8.4	8.1	8.0	8.6	8.4	8.6	9.6	9.2	9.3	10.9	12.0	12.6	12.7
Women, 20 years and over	10.6	10.1	10.0	10.3	9.8	10.2	9.5	10.0	10.0	9.0	10.5	11.4	11.9	10.9	11.5
Both sexes, 16–19 years	36.3	33.5	31.5	32.6	32.3	35.1	32.8	34.3	34.6	37.9	33.0	29.8	35.2	34.4	36.6
Married men, spouse present	2.8	2.7	2.8	2.9	2.9	2.9	2.9	2.8	3.4	3.1	3.4	4.1	4.7	4.9	5.1
Married women, spouse present	5.5	5.1	4.9	5.3	4.8	5.2	4.8	5.0	5.2	5.4	5.3	5.7	6.3	6.1	6.2
Women who head families	8.5	8.3	8.1	7.9	7.7	8.4	8.4	8.4	9.2	8.5	8.7	9.3	8.3	8.4	8.9
Full-time workers	5.5	5.3	5.3	5.4	5.3	5.4	5.4	5.4	5.7	5.6	5.8	6.6	7.5	7.4	7.6
Part-time workers	9.0	8.7	8.3	8.8	8.4	8.9	8.3	8.5	8.7	8.9	8.3	8.9	9.3	8.8	8.7
Unemployed 15 weeks and over	1.4	1.2	1.0	1.1	1.1	1.2	1.1	1.2	1.3	1.2	1.3	1.6	1.6	1.7	1.8
Labor force time lost[1]	6.5	6.3	6.4	6.4	6.2	6.4	6.4	6.4	6.7	6.6	6.8	7.5	8.8	8.3	8.5
OCCUPATION															
White-collar workers	3.5	3.3	3.3	3.5	3.3	3.4	3.2	3.3	3.4	3.4	3.3	3.7	3.9	3.7	3.7
Professional and technical	2.6	2.4	2.5	2.5	2.4	2.7	2.4	2.3	2.2	2.3	2.3	2.4	2.7	2.6	2.4
Managers and administrators, except farm	2.1	2.1	2.0	2.3	2.2	2.2	1.9	2.0	1.9	2.2	2.4	2.6	2.7	2.4	2.5
Salesworkers	4.1	3.9	3.5	4.0	3.8	3.8	3.7	3.8	4.4	4.5	4.0	4.7	4.5	4.4	4.2
Clerical workers	4.9	4.6	4.5	4.9	4.5	4.7	4.4	4.6	4.8	4.7	4.5	5.1	5.4	5.3	5.4
Blue-collar workers	6.9	6.9	6.8	7.3	7.1	7.2	7.5	7.2	8.0	7.7	8.0	9.7	11.3	11.5	11.5
Craft and kindred workers	4.6	4.5	4.4	4.7	4.3	4.6	4.9	4.4	4.9	4.8	5.4	6.7	8.1	8.0	7.4
Operatives, except transport	8.1	8.4	8.3	8.9	9.0	9.1	9.0	9.0	9.9	9.2	9.3	11.6	14.0	13.8	14.6
Transport equipment operatives	5.2	5.4	5.1	6.2	6.1	5.6	5.2	5.0	6.9	6.7	6.6	8.9	9.0	10.5	10.5
Nonfarm laborers	10.7	10.8	11.0	11.3	11.0	10.7	12.2	12.2	12.3	12.0	13.0	14.1	15.4	16.2	16.1
Service workers	7.4	7.1	7.1	7.1	6.7	6.8	6.6	6.6	6.9	6.9	7.1	8.0	8.5	8.1	8.4
Farmworkers	3.8	3.8	4.2	3.9	4.1	4.3	4.5	4.3	4.4	3.9	4.0	5.0	4.8	4.2	4.8
INDUSTRY															
Nonagricultural private wage and salary workers[2]	5.9	5.7	5.7	6.0	5.8	5.9	5.8	5.8	6.2	6.0	6.2	7.1	8.2	8.3	8.2
Construction	10.6	10.2	10.0	10.1	9.6	9.9	10.2	10.3	10.8	10.5	13.0	15.1	17.5	16.5	16.1
Manufacturing	5.5	5.5	5.7	5.9	6.0	6.0	5.9	5.9	6.7	6.4	6.5	7.9	9.9	9.9	10.3
Durable goods	4.9	5.0	5.4	5.4	5.3	5.5	5.6	5.5	6.7	6.3	6.4	8.3	10.5	11.2	11.2
Nondurable goods	6.3	6.4	6.2	6.8	7.1	6.8	6.3	6.4	6.8	6.7	6.7	7.4	8.8	8.0	8.8
Transportation and public utilities	3.7	3.7	3.8	3.7	4.0	3.8	4.2	4.1	4.4	4.4	3.8	4.6	5.1	5.2	5.8
Wholesale and retail trade	6.9	6.5	6.3	6.5	6.4	6.4	6.5	6.4	6.6	6.4	6.3	7.0	7.6	8.0	7.5
Finance and service industries	5.1	4.9	4.9	5.2	4.7	4.9	4.6	4.7	4.6	4.6	4.9	5.1	5.7	5.7	5.7
Government workers	3.9	3.7	3.6	3.7	3.3	4.0	3.6	3.6	3.8	4.0	4.2	4.4	4.2	3.5	4.1
Agricultural wage and salary workers	8.8	9.1	9.7	9.9	10.0	9.9	10.1	9.4	10.3	9.2	10.2	11.9	11.7	9.7	10.8

[1] Aggregate hours lost by the unemployed and persons on part time for economic reasons as a percent of potentially available labor force hours.

[2] Includes mining, not shown separately.

NOTE: The monthly data in this table have been revised to reflect seasonal experience through 1979.

c = corrected.

5. Unemployment rates, by sex and age, seasonally adjusted

Sex and age	Annual average		1979						1980						
	1978	1979	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May c	June	July
Total, 16 years and over	6.0	5.8	5.7	5.9	5.8	5.9	5.8	5.9	6.2	6.0	6.2	7.0	7.8	7.7	7.8
16 to 19 years	16.3	16.1	15.8	16.6	16.2	16.4	15.9	16.0	16.3	16.5	15.9	16.2	19.2	18.5	19.0
16 to 17 years	19.3	18.1	17.3	18.5	16.9	18.4	17.3	18.0	19.0	18.7	17.4	18.7	21.7	19.8	20.9
18 to 19 years	14.2	14.6	14.5	15.4	15.6	15.0	14.7	14.5	14.0	15.1	14.7	14.4	17.7	18.0	17.7
20 to 24 years	9.5	9.0	9.1	9.3	9.2	9.6	8.8	9.8	10.1	9.5	9.7	11.4	12.7	12.4	12.3
25 years and over	4.0	3.9	3.9	4.0	3.9	4.0	4.0	3.8	4.2	4.1	4.4	5.0	5.5	5.5	5.7
25 to 54 years	4.2	4.1	4.0	4.2	4.1	4.2	4.3	4.1	4.4	4.5	4.7	5.4	5.9	6.0	6.1
55 years and over	3.2	3.0	3.2	3.1	2.9	3.0	2.7	2.7	3.5	2.8	2.8	3.4	3.6	3.4	3.5
Men, 16 years and over	5.2	5.1	5.1	5.2	5.2	5.2	5.2	5.2	5.7	5.5	5.7	6.7	7.7	7.8	7.8
16 to 19 years	15.7	15.8	15.4	16.3	16.1	15.7	15.8	15.6	16.2	15.6	14.8	16.1	19.7	19.5	19.7
16 to 17 years	19.2	17.9	16.1	18.0	16.7	17.1	17.8	17.9	19.0	18.0	15.9	18.3	22.0	21.8	20.8
18 to 19 years	13.2	14.2	14.8	15.1	15.3	14.4	14.0	13.6	13.9	14.1	14.0	14.2	17.9	19.3	18.7
20 to 24 years	9.1	8.6	8.8	8.8	8.8	9.5	8.4	9.4	10.4	9.9	10.4	12.3	13.7	13.8	13.4
25 years and over	3.3	3.3	3.3	3.4	3.3	3.4	3.5	3.2	3.7	3.6	3.9	4.7	5.3	5.5	5.6
25 to 54 years	3.4	3.4	3.4	3.5	3.6	3.5	3.8	3.4	3.8	3.8	4.2	5.0	5.7	5.8	6.1
55 years and over	3.1	2.9	3.3	3.1	2.8	2.8	2.6	2.6	3.5	2.6	2.7	3.4	3.5	3.8	3.9
Women, 16 years and over	7.2	6.8	6.6	7.0	6.6	6.9	6.6	6.8	6.8	6.8	6.8	7.3	7.8	7.5	7.8
16 to 19 years	17.0	16.4	16.2	17.0	16.4	17.2	16.1	16.4	16.3	17.6	17.3	16.3	18.7	17.3	18.2
16 to 17 years	19.5	18.3	18.6	19.0	17.2	19.8	16.7	18.0	19.1	19.5	19.2	19.1	21.4	17.6	20.9
18 to 19 years	15.3	15.0	14.2	15.7	15.9	15.6	15.5	15.5	14.2	16.2	15.6	14.6	17.5	16.6	16.6
20 to 24 years	10.1	9.6	9.4	9.8	9.6	9.7	9.3	10.2	9.8	9.1	9.0	10.2	11.6	10.8	11.1
25 years and over	5.1	4.8	4.7	4.9	4.6	4.9	4.7	4.7	4.9	4.9	5.0	5.5	5.7	5.6	5.7
25 to 54 years	5.4	5.2	5.0	5.3	5.0	5.2	5.0	5.1	5.2	5.4	5.5	6.0	6.1	6.1	6.2
55 years and over	3.3	3.2	3.1	3.2	2.9	3.4	2.9	2.9	3.4	3.0	2.9	3.4	3.8	2.8	3.0

6. Unemployed persons, by reason for unemployment, seasonally adjusted

[Numbers in thousands]

Reason for unemployment	1979						1980						
	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May c	June	July
NUMBER OF UNEMPLOYED													
Lost last job	2,526	2,680	2,632	2,731	2,729	2,728	2,988	2,907	3,047	3,611	4,301	4,625	4,558
On layoff	797	915	855	929	987	944	1,019	1,031	1,129	1,424	1,944	2,117	1,975
Other job losers	1,729	1,765	1,777	1,802	1,742	1,784	1,969	1,876	1,918	2,188	2,357	2,508	2,583
Left last job	846	875	825	835	845	800	779	813	788	926	992	898	857
Reentered labor force	1,762	1,788	1,760	1,762	1,698	1,771	1,797	1,784	1,803	1,967	2,015	1,822	1,868
Seeking first job	726	745	801	804	736	858	811	827	805	743	884	863	930
PERCENT DISTRIBUTION													
Total unemployed	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Job losers	43.1	44.0	43.7	44.5	45.4	44.3	46.9	45.9	47.3	49.8	52.5	56.3	55.5
On layoff	13.6	15.0	14.2	15.2	16.4	15.3	16.0	16.3	17.5	19.6	23.7	25.8	24.0
Other job losers	29.5	29.0	29.5	29.4	29.0	29.0	30.9	29.6	29.8	30.2	28.8	30.6	31.5
Job leavers	14.4	14.4	13.7	13.6	14.1	13.0	12.2	12.8	12.2	12.8	12.1	10.9	10.4
Reentrants	30.1	29.4	29.2	28.7	28.3	28.8	28.2	28.2	28.0	27.1	24.6	22.2	22.7
New entrants	12.4	12.2	13.3	13.1	12.3	13.9	12.7	13.1	12.5	10.3	10.8	10.5	11.3
UNEMPLOYED AS A PERCENT OF THE CIVILIAN LABOR FORCE													
Job losers	2.5	2.6	2.5	2.6	2.6	2.6	2.9	2.8	2.9	3.5	4.1	4.4	4.3
Job leavers	.8	.8	.8	.8	.8	.8	.7	.8	.8	.9	.9	.9	.8
Reentrants	1.7	1.7	1.7	1.7	1.6	1.7	1.7	1.7	1.7	1.9	1.9	1.7	1.8
New entrants	.7	.7	.8	.8	.7	.8	.8	.8	.8	.7	.8	.8	.9

7. Duration of unemployment, seasonally adjusted

[Numbers in thousands]

Weeks of unemployment	Annual average		1979						1980						
	1978	1979	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May c	June	July
Less than 5 weeks	2,793	2,869	2,820	3,168	2,778	2,965	2,919	2,916	3,184	2,995	2,965	3,309	3,872	3,333	3,383
5 to 14 weeks	1,875	1,892	1,934	1,738	2,035	1,963	1,869	1,986	1,907	2,081	2,169	2,391	2,687	2,922	2,700
15 weeks and over	1,379	1,202	1,067	1,185	1,152	1,195	1,191	1,230	1,334	1,286	1,363	1,629	1,722	1,766	1,915
15 to 26 weeks	746	684	615	658	644	678	660	711	795	790	776	953	1,014	1,027	1,057
27 weeks and over	633	518	452	527	508	517	531	519	539	496	587	676	708	739	858
Average (mean) duration, in weeks	11.9	10.8	10.1	10.7	10.7	10.5	10.6	10.5	10.5	10.7	11.0	11.3	10.5	11.7	11.6

NOTE: The monthly data in these tables have been revised to reflect seasonal experience through 1979.

c = corrected.

EMPLOYMENT, HOURS, AND EARNINGS DATA FROM ESTABLISHMENT SURVEYS

EMPLOYMENT, HOURS, AND EARNINGS DATA in this section are compiled from payroll records reported monthly on a voluntary basis to the Bureau of Labor Statistics and its cooperating State agencies by 166,000 establishments representing all industries except agriculture. In most industries, the sampling probabilities are based on the size of the establishment; most large establishments are therefore in the sample. (An establishment is not necessarily a firm; it may be a branch plant, for example, or warehouse.) Self-employed persons and others not on a regular civilian payroll are outside the scope of the survey because they are excluded from establishment records. This largely accounts for the difference in employment figures between the household and establishment surveys.

LABOR TURNOVER DATA in this section are compiled from personnel records reported monthly on a voluntary basis to the Bureau of Labor Statistics and its cooperating State agencies. A sample of 40,000 establishments represents all industries in the manufacturing and mining sectors of the economy.

Definitions

Employed persons are all persons who received pay (including holiday and sick pay) for any part of the payroll period including the 12th of the month. Persons holding more than one job (about 5 percent of all persons in the labor force) are counted in each establishment which reports them.

Production workers in manufacturing include blue-collar worker supervisors and all nonsupervisory workers closely associated with production operations. Those workers mentioned in tables 14–20 include production workers in manufacturing and mining; construction workers in construction; and nonsupervisory workers in transportation and public utilities, in wholesale and retail trade, in finance, insurance, and real estate, and in services industries. These groups account for about four-fifths of the total employment on private nonagricultural payrolls.

Earnings are the payments production or nonsupervisory workers receive during the survey period, including premium pay for overtime or late-shift work but excluding irregular bonuses and other special payments. **Real earnings** are earnings adjusted to eliminate the effects of price change. The **Hourly Earnings Index** is calculated from average hourly earnings data adjusted to exclude the effects of two types of changes that are unrelated to underlying wage-rate developments: fluctuations in overtime premiums in manufacturing (the only sector for which overtime data are available) and the effects of changes and seasonal factors in the proportion of workers in high-wage and low-wage industries. **Spendable earnings** are earnings from which estimated social security and Federal income taxes have been deducted. The Bureau of Labor Statistics computes spendable earnings from gross weekly earnings for only two illustrative cases: (1) a worker with no dependents and (2) a married worker with three dependents.

Hours represent the average weekly hours of production or nonsupervisory workers for which pay was received and are different from standard or scheduled hours. **Overtime hours** represent the portion of gross average weekly hours which were in excess of regular hours and for which overtime premiums were paid.

Labor turnover is the movement of all wage and salary workers from one employment status to another. **Accession rates** indicate the average number of persons added to a payroll in a given period per 100 employees; **separation rates** indicate the average number dropped from a payroll per 100 employees. Although month-to-month changes in employment can be calculated from the labor turnover data, the results are not comparable with employment data from the employment and payroll survey. The labor turnover survey measures changes during the calendar month while the employment and payroll survey measures changes from midmonth to midmonth.

Notes on the data

Establishment data collected by the Bureau of Labor Statistics are periodically adjusted to comprehensive counts of employment (called "benchmarks"). The latest complete adjustment was made with the release of June 1980 data, published in the August 1980 issue of the *Review*. Consequently, data published in the *Review* prior to that issue are not necessarily comparable to current data. Complete comparable historical unadjusted and seasonally adjusted data are published in a Supplement to Employment and Earnings (unadjusted data from April 1977 through March 1980 and seasonally adjusted data from January 1974 through March 1980) and in *Employment and Earnings, United States, 1909–78*, BLS Bulletin 1312–11 (for prior periods).

Data on recalls were shown for the first time in tables 12 and 13 in the January 1978 issue of the *Review*. For a detailed discussion of the recalls series, along with historical data, see "New Series on Recalls from the Labor Turnover Survey," *Employment and Earnings*, December 1977, pp. 10–19.

A comprehensive discussion of the differences between household and establishment data on employment appears in Gloria P. Green, "Comparing employment estimates from household and payroll surveys," *Monthly Labor Review*, December 1969, pp. 9–20. See also *BLS Handbook of Methods for Surveys and Studies*, Bulletin 1910 (Bureau of Labor Statistics, 1976).

The formulas used to construct the spendable average weekly earnings series reflect the latest provisions of the Federal income tax and social security tax laws. For the spendable average weekly earnings formulas for the years 1978–80, see *Employment and Earnings*, March 1980, pp. 10–11. Real earnings data are adjusted using the Consumer Price Index for Urban Wage Earners and Clerical Workers (CPI-W).

8. Employment by industry, 1950–79

[Nonagricultural payroll data, in thousands]

Year	Total	Mining	Construction	Manufacturing	Transportation and public utilities	Wholesale and retail trade	Wholesale trade	Retail trade	Finance, insurance, and real estate	Services	Government		
											Total	Federal	State and local
1950	45,197	901	2,364	15,241	4,034	9,386	2,635	6,751	1,888	5,357	6,026	1,928	4,098
1951	47,819	929	2,637	16,393	4,226	9,742	2,727	7,015	1,956	5,547	6,389	2,302	4,087
1952	48,793	898	2,668	16,632	4,248	10,004	2,812	7,192	2,035	5,699	6,609	2,420	4,188
1953	50,202	866	2,659	17,549	4,290	10,247	2,854	7,393	2,111	5,835	6,645	2,305	4,340
1954	48,990	791	2,646	16,314	4,084	10,235	2,867	7,368	2,200	5,969	6,751	2,188	4,563
1955	50,641	792	2,839	16,882	4,141	10,535	2,926	7,610	2,298	6,240	6,914	2,187	4,727
1956	52,369	822	3,039	17,243	4,244	10,858	3,018	7,840	2,389	6,497	7,278	2,209	5,069
1957	52,853	828	2,962	17,174	4,241	10,886	3,028	7,858	2,438	6,708	7,616	2,217	5,399
1958	51,324	751	2,817	15,945	3,976	10,750	2,980	7,770	2,481	6,765	7,839	2,191	5,648
1959[1]	53,268	732	3,004	16,675	4,011	11,127	3,082	8,045	2,549	7,087	8,083	2,233	5,850
1960	54,189	712	2,926	16,796	4,004	11,391	3,143	8,248	2,629	7,378	8,353	2,270	6,083
1961	53,999	672	2,859	16,326	3,903	11,337	3,133	8,204	2,688	7,620	8,594	2,279	6,315
1962	55,549	650	2,948	16,853	3,906	11,566	3,198	8,368	2,754	7,982	8,890	2,340	6,550
1963	56,653	635	3,010	16,995	3,903	11,778	3,248	8,530	2,830	8,277	9,225	2,358	6,868
1964	58,283	634	3,097	17,274	3,951	12,160	3,337	8,823	2,911	8,660	9,596	2,348	7,248
1965	60,765	632	3,232	18,062	4,036	12,716	3,466	9,250	2,977	9,036	10,074	2,378	7,696
1966	63,901	627	3,317	19,214	4,158	13,245	3,597	9,648	3,058	9,498	10,784	2,564	8,220
1967	65,803	613	3,248	19,447	4,268	13,606	3,689	9,917	3,185	10,045	11,391	2,719	8,672
1968	67,897	606	3,350	19,781	4,318	14,099	3,779	10,320	3,337	10,567	11,839	2,737	9,102
1969	70,384	619	3,575	20,167	4,442	14,705	3,907	10,798	3,512	11,169	12,195	2,758	9,437
1970	70,880	623	3,588	19,367	4,515	15,040	3,993	11,047	3,645	11,548	12,554	2,731	9,823
1971	71,214	609	3,704	18,623	4,476	15,352	4,001	11,351	3,772	11,797	12,881	2,696	10,185
1972	73,675	628	3,889	19,151	4,541	15,949	4,113	11,836	3,908	12,276	13,334	2,684	10,649
1973	76,790	642	4,097	20,154	4,656	16,607	4,277	12,329	4,046	12,857	13,732	2,663	11,068
1974	78,265	697	4,020	20,077	4,725	16,987	4,433	12,554	4,148	13,441	14,170	2,724	11,446
1975	76,945	752	3,525	18,323	4,542	17,060	4,415	12,645	4,165	13,892	14,686	2,748	11,937
1976	79,382	779	3,576	18,997	4,582	17,755	4,546	13,209	4,271	14,551	14,871	2,733	12,138
1977	82,471	813	3,851	19,682	4,713	18,516	4,708	13,808	4,467	15,303	15,127	2,727	12,399
1978	86,697	851	4,229	20,505	4,923	19,542	4,969	14,573	4,724	16,252	15,672	2,753	12,919
1979	89,886	960	4,483	21,062	5,141	20,269	5,204	15,066	4,974	17,078	15,920	2,773	13,147

[1] Data include Alaska and Hawaii beginning in 1959.

9. Employment by State

[Nonagricultural payroll data, in thousands]

State	June 1979	May 1980	June 1980 p	State	June 1979	May 1980	June 1980 p
Alabama	1,368.6	1,360.0	1,344.8	Montana	294.2	286.6	291.0
Alaska	.....	.....	.....	Nebraska	641.2	634.4	634.2
Arizona	954.1	1,003.4	979.9	Nevada	384.5	397.6	399.8
Arkansas	755.1	751.4	747.6	New Hampshire	382.2	381.7	385.8
California	9,707.0	9,803.8	9,820.5	New Jersey	3,087.5	3,046.9	3,066.6
Colorado	1,229.5	1,251.8	1,259.7	New Mexico	466.5	477.3	477.7
Connecticut	1,419.4	1,415.0	1,417.8	New York	7,269.4	7,199.3	7,240.3
Delaware	261.0	260.7	258.8	North Carolina	2,389.5	2,423.9	2,429.9
District of Columbia	621.2	619.5	622.1	North Dakota	250.6	250.7	250.6
Florida	3,380.3	3,534.3	3,519.2	Ohio	4,562.9	4,432.5	4,460.7
Georgia	2,119.3	2,134.2	2,124.5	Oklahoma	1,095.8	1,134.0	1,137.9
Hawaii	395.9	409.5	410.5	Oregon	1,074.0	1,036.2	1,041.2
Idaho	342.7	328.6	329.5	Pennsylvania	4,911.3	4,834.4	4,831.1
Illinois[1]	4,920.0	4,836.7	4,846.6	Rhode Island	404.5	392.3	395.0
Indiana	2,285.2	2,230.2	2,217.9	South Carolina	1,193.7	1,200.7	1,194.1
Iowa	1,141.9	1,125.3	1,107.0	South Dakota	249.0	243.9	247.1
Kansas	957.6	955.5	953.7	Tennessee	1,805.9	1,787.6	1,785.9
Kentucky	1,259.8	1,221.1	1,207.9	Texas	5,621.3	5,761.4	5,779.6
Louisiana	1,494.1	1,521.1	1,530.9	Utah	550.9	567.5	569.7
Maine	426.8	415.9	425.2	Vermont	197.9	197.2	198.6
Maryland	1,652.0	1,642.9	1,639.1	Virginia	2,122.5	2,119.9	2,130.7
Massachusetts	2,617.0	2,667.9	2,689.8	Washington	1,602.8	1,634.4	1,640.3
Michigan	3,684.7	3,423.2	3,439.1	West Virginia	639.8	636.4	634.3
Minnesota	1,800.6	1,798.2	1,814.6	Wisconsin	1,991.8	1,975.8	1,986.0
Mississippi	850.1	830.3	820.2	Wyoming	208.1	216.7	219.7
Missouri	2,027.0	1,994.9	1,986.4				
				Virgin Islands	35.8	36.8	36.7

10. Employment by industry division and major manufacturing group

[Nonagricultural payroll data, in thousands]

Industry division and group	Annual average		1979						1980						
	1978	1979	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June[p]	July[p]
TOTAL	86,697	89,886	90,018	90,080	90,829	91,062	91,288	91,394	89,630	89,781	90,316	90,761	90,849	90,975	89,882
MINING	851	958	979	989	983	984	986	985	992	987	996	1,008	1,024	1,046	1,050
CONSTRUCTION	4,229	4,483	4,813	4,863	4,801	4,782	4,688	4,536	4,194	4,109	4,150	4,311	4,471	4,600	4,631
MANUFACTURING	20,505	21,062	21,054	21,096	21,295	21,193	21,056	20,987	20,777	20,730	20,793	20,533	20,250	20,187	19,683
Production workers	14,734	15,085	15,026	15,048	15,265	15,170	15,034	14,964	14,738	14,678	14,727	14,466	14,172	14,080	13,617
Durable goods	12,274	12,772	12,797	12,683	12,891	12,824	12,744	12,733	12,600	12,599	12,647	12,414	12,150	12,050	11,723
Production workers	8,805	9,120	9,105	8,979	9,190	9,131	9,054	9,040	8,885	8,869	8,909	8,672	8,409	8,293	8,005
Lumber and wood products	754.7	766.1	785.4	788.2	786.0	780.0	757.2	737.4	717.4	718.9	716.9	678.4	654.8	669.2	668.2
Furniture and fixtures	494.1	499.3	496.5	497.1	499.8	502.5	503.1	501.8	486.0	484.6	484.1	468.7	460.1	458.8	432.7
Stone, clay, and glass products	698.2	709.7	726.0	725.5	721.6	718.6	710.3	687.4	670.2	674.7	678.0	675.5	668.1	666.0	658.7
Primary metal industries	1,214.9	1,250.2	1,267.4	1,250.6	1,250.6	1,231.4	1,222.6	1,209.9	1,207.2	1,205.1	1,200.7	1,180.8	1,149.8	1,112.8	1,046.6
Fabricated metal products	1,672.6	1,723.7	1,711.8	1,711.7	1,731.4	1,733.8	1,733.3	1,725.2	1,696.8	1,689.4	1,703.8	1,671.4	1,619.8	1,583.1	1,515.7
Machinery, except electrical	2,325.5	2,461.6	2,504.9	2,489.7	2,513.8	2,485.1	2,468.7	2,471.6	2,538.5	2,536.5	2,539.9	2,523.5	2,508.3	2,487.2	2,446.3
Electric and electronic equipment	2,006.1	2,124.3	2,127.6	2,105.7	2,152.8	2,162.0	2,164.0	2,171.9	2,162.9	2,157.7	2,167.7	2,156.2	2,120.2	2,098.1	2,058.1
Transportation equipment	2,002.8	2,082.8	2,063.0	1,965.5	2,087.4	2,076.5	2,044.2	2,079.3	1,975.8	1,983.1	2,005.6	1,891.1	1,835.1	1,843.4	1,802.7
Instruments and related products	653.1	688.9	681.2	683.7	691.6	694.6	694.9	698.8	687.7	700.5	708.6	702.2	699.4	702.8	693.8
Miscellaneous manufacturing	451.5	445.6	430.2	454.5	457.1	459.7	455.5	439.4	427.7	429.8	432.9	430.0	424.6	418.9	399.6
Nondurable goods	8,231	8,290	8,257	8,413	8,404	8,369	8,311	8,254	8,177	8,131	8,146	8,119	8,100	8,137	7,960
Production workers	5,929	5,965	5,921	6,069	6,075	6,039	5,980	5,924	5,853	5,809	5,818	5,794	5,763	5,787	5,612
Food and kindred products	1,724.1	1,728.1	1,749.5	1,828.8	1,834.5	1,781.8	1,736.3	1,706.2	1,659.9	1,644.1	1,641.1	1,626.2	1,638.5	1,677.3	1,682.9
Tobacco manufactures	70.6	69.9	65.0	73.8	77.5	77.4	69.6	70.8	68.1	67.1	64.4	62.9	62.7	64.8	62.5
Textile mill products	899.1	888.5	872.3	886.5	885.0	886.1	880.4	869.7	864.0	864.6	866.9	862.1	870.6	852.4	812.9
Apparel and other textile products	1,332.3	1,312.5	1,276.0	1,308.1	1,308.8	1,317.3	1,305.8	1,287.1	1,282.0	1,305.8	1,318.4	1,304.2	1,290.0	1,314.2	1,229.6
Paper and allied products	698.7	706.7	711.8	715.6	710.5	709.3	707.8	705.9	700.5	701.9	701.8	698.8	692.4	694.6	676.8
Printing and publishing	1,192.0	1,238.5	1,242.3	1,242.5	1,243.0	1,251.4	1,262.0	1,268.5	1,266.3	1,270.4	1,272.1	1,270.4	1,267.8	1,271.4	1,264.6
Chemicals and allied products	1,095.5	1,110.7	1,120.9	1,119.0	1,112.7	1,113.7	1,113.9	1,114.2	1,113.1	1,112.1	1,118.1	1,120.6	1,119.5	1,121.5	1,107.6
Petroleum and coal products	207.7	210.0	213.9	214.1	213.7	213.5	212.6	210.6	208.6	155.9	153.1	173.6	200.4	206.4	208.3
Rubber and miscellaneous plastics products	754.5	775.6	776.0	774.1	770.2	770.8	765.9	755.6	750.3	746.3	746.5	737.2	702.4	698.5	687.7
Leather and leather products	256.8	248.0	228.8	250.4	247.9	247.9	247.6	245.2	240.3	242.6	243.4	243.3	243.2	246.5	227.5
TRANSPORTATION AND PUBLIC UTILITIES	4,923	5,141	5,187	5,197	5,229	5,233	5,243	5,240	5,136	5,130	5,143	5,147	5,167	5,185	5,152
WHOLESALE AND RETAIL TRADE	19,542	20,269	20,254	20,296	20,425	20,474	20,756	21,114	20,325	20,155	20,226	20,373	20,497	20,540	20,496
WHOLESALE TRADE	4,969	5,204	5,243	5,243	5,239	5,266	5,282	5,264	5,241	5,250	5,269	5,265	5,263	5,283	5,275
RETAIL TRADE	14,573	15,065	15,011	15,053	15,186	15,208	15,474	15,850	15,084	14,905	14,957	15,108	15,234	15,257	15,221
FINANCE, INSURANCE, AND REAL ESTATE	4,724	4,974	5,048	5,068	5,015	5,025	5,039	5,047	5,052	5,061	5,085	5,104	5,137	5,201	5,220
SERVICES	16,252	17,078	17,324	17,315	17,238	17,297	17,284	17,271	17,135	17,317	17,478	17,636	17,747	17,825	17,929
GOVERNMENT	15,672	15,920	15,359	15,269	15,643	16,064	16,227	16,214	16,029	16,292	16,445	16,651	16,556	16,388	15,561
Federal	2,753	2,773	2,838	2,844	2,751	2,756	2,760	2,770	2,763	2,803	2,869	3,103	2,963	2,994	2,918
State and local	12,919	13,147	12,521	12,425	12,892	13,308	13,467	13,444	13,266	13,489	13,576	13,548	13,593	13,394	12,643

11. Employment by industry division and major manufacturing group, seasonally adjusted

[Nonagricultural payroll data, in thousands]

Industry division and group	1979						1980						
	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June p	July p
TOTAL	90,054	90,222	90,280	90,441	90,552	90,678	91,031	91,186	91,144	90,951	90,468	89,973	89,735
MINING	963	974	976	982	985	992	990	1,007	1,009	1,012	1,023	1,026	1,013
CONSTRUCTION	4,481	4,499	4,507	4,529	4,550	4,615	4,745	4,659	4,529	4,467	4,436	4,371	4,320
MANUFACTURING	21,128	21,055	21,071	21,043	20,966	20,983	20,971	20,957	20,938	20,642	20,286	19,999	19,742
Production workers	15,140	15,046	15,058	15,025	14,948	14,956	14,911	14,871	14,880	14,550	14,186	13,919	13,722
Durable goods	12,841	12,782	12,822	12,764	12,693	12,706	12,681	12,715	12,707	12,442	12,140	11,933	11,772
Production workers	9,173	9,103	9,129	9,089	9,001	9,009	8,953	8,967	8,961	8,686	8,386	8,191	8,064
Lumber and wood products	766	764	767	768	757	746	743	745	737	689	654	649	651
Furniture and fixtures	499	499	497	498	498	497	497	495	494	491	472	459	443
Stone, clay, and glass products	709	710	708	709	704	704	705	705	700	680	663	647	644
Primary metal industries	1,260	1,250	1,242	1,236	1,230	1,219	1,215	1,214	1,209	1,193	1,144	1,096	1,040
Fabricated metal products	1,726	1,713	1,723	1,723	1,722	1,718	1,707	1,711	1,711	1,678	1,620	1,579	1,528
Machinery, except electrical	2,513	2,509	2,516	2,478	2,460	2,460	2,532	2,529	2,530	2,518	2,517	2,477	2,454
Electric and electronic equipment	2,140	2,109	2,140	2,149	2,150	2,163	2,169	2,168	2,176	2,167	2,127	2,090	2,071
Transportation equipment	2,092	2,089	2,090	2,063	2,033	2,057	1,970	2,006	2,006	1,885	1,819	1,827	1,837
Instruments and related products	691	693	693	695	695	696	699	702	705	703	700	696	693
Miscellaneous manufacturing	445	446	444	444	444	445	444	440	439	436	424	413	411
Nondurable goods	8,287	8,273	8,249	8,279	8,273	8,277	8,290	8,242	8,231	8,200	8,146	8,066	7,970
Production workers	5,967	5,943	5,929	5,936	5,947	5,947	5,958	5,904	5,880	5,864	5,800	5,728	5,658
Food and kindred products	1,722	1,722	1,712	1,723	1,725	1,724	1,716	1,713	1,704	1,690	1,691	1,677	1,656
Tobacco manufactures	71	70	70	70	64	66	67	68	68	69	70	71	68
Textile mill products	886	883	881	885	887	889	888	888	888	884	869	842	825
Apparel and other textile products	1,316	1,305	1,298	1,302	1,294	1,296	1,305	1,313	1,316	1,302	1,291	1,291	1,269
Paper and allied products	709	708	708	709	708	708	710	709	708	702	692	684	674
Printing and publishing	1,243	1,244	1,245	1,251	1,259	1,261	1,269	1,273	1,274	1,272	1,268	1,269	1,266
Chemicals and allied products	1,112	1,110	1,110	1,114	1,116	1,118	1,121	1,121	1,123	1,123	1,120	1,111	1,099
Petroleum and coal products	208	209	211	212	212	213	214	181	157	175	203	202	203
Rubber and miscellaneous plastics products	781	774	767	766	762	756	755	751	749	740	703	681	672
Leather and leather products	239	248	247	247	246	246	245	245	244	243	239	238	238
TRANSPORTATION AND PUBLIC UTILITIES	5,156	5,182	5,185	5,203	5,216	5,212	5,202	5,198	5,202	5,178	5,167	5,134	5,121
WHOLESALE AND RETAIL TRADE	20,254	20,301	20,352	20,414	20,479	20,448	20,529	20,637	20,610	20,531	20,487	20,437	20,496
WHOLESALE TRADE	5,214	5,222	5,228	5,246	5,269	5,251	5,278	5,302	5,301	5,286	5,268	5,241	5,244
RETAIL TRADE	15,040	15,079	15,124	15,168	15,210	15,197	15,251	15,335	15,309	15,245	15,219	15,196	15,252
FINANCE, INSURANCE, AND REAL ESTATE	4,989	5,019	5,017	5,033	5,049	5,064	5,081	5,101	5,115	5,119	5,137	5,150	5,158
SERVICES	17,114	17,152	17,182	17,254	17,308	17,362	17,462	17,540	17,580	17,618	17,659	17,631	17,716
GOVERNMENT	15,959	16,040	15,983	15,973	15,996	16,002	16,032	16,087	16,161	16,384	16,273	16,225	16,169
Federal	2,784	2,811	2,762	2,769	2,773	2,773	2,791	2,826	2,886	3,115	2,960	2,950	2,861
State and local	13,175	13,229	13,221	13,204	13,223	13,229	13,241	13,261	13,275	13,269	13,313	13,275	13,308

12. Labor turnover rates in manufacturing, 1977 to date

[Per 100 employees]

Year	Annual average	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
							Total accessions						
1977	4.0	3.7	3.7	4.0	3.8	4.6	4.9	4.3	5.3	4.6	3.9	3.1	2.4
1978	4.1	3.8	3.2	3.8	4.0	4.7	4.9	4.4	5.4	4.9	4.3	3.3	2.4
1979	4.0	4.0	3.4	3.8	3.9	4.7	4.8	4.3	5.0	4.5	4.1	3.0	2.2
1980	...	3.8	3.3	3.5	3.1	3.4	p3.9	...	...	...	...	...	...
							New hires						
1977	2.8	2.2	2.1	2.6	2.7	3.5	3.7	3.0	4.0	3.5	3.0	2.2	1.6
1978	3.1	2.5	2.2	2.7	2.9	3.6	3.9	3.3	4.2	3.9	3.5	2.6	1.7
1979	2.9	2.8	2.5	2.8	2.9	3.6	3.8	3.1	3.7	3.4	3.1	2.2	1.5
1980	...	2.4	2.2	2.3	2.1	2.1	p2.4	...	...	...	...	...	...
							Recalls						
1977	.9	1.2	1.3	1.1	.9	.8	.8	.9	1.0	.8	.6	.6	.6
1978	.7	1.0	.7	.8	.8	.8	.7	.8	.9	.7	.6	.5	.5
1979	.7	.9	.7	.7	.7	.8	.7	.9	.9	.8	.7	.5	.5
1980	...	1.1	.9	.9	.8	1.0	p1.2	...	...	...	...	...	...
							Total separations						
1977	3.8	3.9	3.4	3.4	3.4	3.5	3.5	4.3	5.1	4.9	3.8	3.4	3.4
1978	3.9	3.6	3.1	3.5	3.6	3.7	3.8	4.1	5.3	4.9	4.1	3.5	3.4
1979	4.0	3.8	3.2	3.6	3.7	3.8	3.9	4.3	5.7	4.7	4.2	3.8	3.5
1980	...	4.1	3.5	3.7	4.7	4.8	p4.2	...	...	...	...	...	...
							Quits						
1977	1.8	1.4	1.3	1.6	1.7	1.9	1.9	1.9	3.1	2.8	1.9	1.5	1.2
1978	2.1	1.5	1.4	1.8	2.0	2.1	2.2	2.1	3.5	3.1	2.3	1.7	1.3
1979	2.0	1.8	1.6	1.9	2.0	2.1	2.1	2.0	3.3	2.7	2.1	1.6	1.1
1980	...	1.6	1.5	1.6	1.5	1.5	p1.4	...	...	...	...	...	...
							Layoffs						
1977	1.1	1.7	1.4	1.0	.9	.8	.8	1.5	1.0	1.1	1.1	1.1	1.5
1978	.9	1.2	.9	.9	.8	.7	.7	1.1	.8	.8	.9	1.0	1.4
1979	1.1	1.1	.8	.8	.9	.7	.9	1.4	1.3	1.1	1.2	1.5	1.7
1980	...	1.6	1.2	1.3	2.3	2.5	p2.0	...	...	...	...	...	...

13. Labor turnover rates in manufacturing, by major industry group

[Per 100 employees]

Major industry group	Accession rates									Separation rates								
	Total			New hires			Recalls			Total			Quits			Layoffs		
	June 1979	May 1980	June 1980p	June 1979	May 1980	June 1980p	June 1979	May 1980	June 1980p	June 1979	May 1980	June 1980p	June 1979	May 1980	June 1980p	June 1979	May 1980	June 1980p
MANUFACTURING	4.8	3.4	3.9	3.8	2.1	2.4	0.7	1.0	1.2	3.9	4.8	4.2	2.1	1.5	1.4	0.9	2.5	2.0
Seasonally adjusted	4.0	3.0	3.3	3.0	1.8	1.8	...	...	...	4.1	5.7	4.8	2.0	1.4	1.4	1.2	3.5	2.6
Durable goods	4.3	2.8	3.5	3.5	1.6	1.9	.5	.8	1.2	3.5	5.0	4.3	1.8	1.2	1.1	.7	2.9	2.4
Lumber and wood products	7.3	5.5	6.8	6.1	2.4	3.1	1.1	2.9	3.5	5.8	6.5	4.8	3.7	2.1	2.1	.8	3.4	1.8
Furniture and fixtures	4.9	3.1	3.2	4.3	2.2	2.0	.5	.7	1.1	4.9	5.8	4.7	3.0	2.2	1.6	.8	2.5	2.3
Stone, clay, and glass products	5.2	3.9	4.1	4.2	1.8	2.2	.7	1.8	1.5	3.7	5.1	4.4	2.1	1.3	1.2	.6	2.9	2.3
Primary metal industries	3.1	2.0	2.7	2.4	.8	.8	.4	.9	1.6	2.2	6.4	5.7	1.0	.6	.5	.4	5.1	4.4
Fabricated metal products	4.8	3.2	3.8	3.9	1.9	2.1	.6	1.1	1.4	3.9	5.8	4.9	2.2	1.3	1.2	.8	3.5	2.8
Machinery, except electrical	3.7	2.2	2.5	3.2	1.5	1.8	.3	.4	.5	2.8	3.8	3.4	1.5	1.0	.9	.4	2.0	1.7
Electric and electronic equipment	4.0	2.5	2.8	3.2	1.7	1.9	.4	.4	.5	3.3	4.2	3.9	1.8	1.2	1.1	.5	2.1	1.9
Transportation equipment	3.5	2.6	...	2.5	1.1	...	.8	.8	...	3.5	5.6	...	1.2	.8	...	1.4	4.0	...
Instruments and related products	4.2	2.6	3.4	3.7	2.2	2.9	.2	.2	.3	2.5	2.8	2.8	1.6	1.2	1.2	.3	.9	.9
Miscellaneous manufacturing	6.4	3.9	5.3	5.2	2.6	3.0	1.0	1.2	2.1	5.3	6.0	5.1	2.9	1.9	1.7	1.2	3.1	2.4
Nondurable goods	5.5	4.2	4.5	4.3	2.9	3.1	1.0	1.1	1.2	4.6	4.6	4.1	2.6	2.0	1.8	1.1	1.8	1.5
Food and kindred products	9.0	6.8	7.9	6.5	3.9	5.0	2.3	2.3	2.7	6.5	5.6	4.9	3.3	2.4	2.3	2.2	2.4	1.8
Tobacco manufacturers	3.7	3.8	...	1.6	.9	...	.7	1.1	...	2.3	1.9	...	.6	.3	..	.8	.7	...
Textile mill products	5.0	3.8	3.5	4.2	3.0	2.7	.4	.5	.5	4.8	4.8	4.1	3.1	2.4	2.1	.6	1.3	1.0
Apparel and other products	5.7	5.6	4.9	4.1	3.5	3.2	1.4	1.8	1.4	5.8	6.1	5.0	3.3	3.0	2.5	1.6	2.3	1.7
Paper and allied products	3.9	2.7	3.0	3.2	1.7	1.8	.5	.8	.9	2.7	3.0	3.3	1.4	.9	.8	.5	1.4	1.7
Printing and publishing	4.3	3.2	3.5	3.7	2.6	2.8	.5	.5	.6	3.4	3.4	3.3	2.3	1.9	1.8	.5	.8	.9
Chemicals and allied products	2.8	2.0	2.2	2.3	1.5	1.7	.3	.3	.3	1.8	2.0	2.0	.9	.7	.6	.3	.6	.8
Petroleum and coal products	3.1	3.3	3.7	2.6	2.6	2.9	.3	.5	.7	2.0	2.3	1.8	1.0	.6	.6	.5	1.1	.8
Rubber and miscellaneous plastics products	6.0	3.3	4.0	5.1	2.0	2.1	.5	.9	1.5	5.3	6.7	6.0	3.1	1.8	1.7	.9	4.0	3.3
Leather and leather products	6.9	7.0	5.7	5.5	5.4	4.3	1.1	1.4	1.0	7.8	7.2	6.1	4.3	3.5	2.8	2.4	2.7	2.3

14. Hours and earnings, by industry division, 1949–79

[Gross averages, production or nonsupervisory workers on nonagricultural payrolls]

Year	Average weekly earnings	Average weekly hours	Average hourly earnings	Average weekly earnings	Average weekly hours	Average hourly earnings	Average weekly earnings	Average weekly hours	Average hourly earnings	Average weekly earnings	Average weekly hours	Average hourly earnings
	Total private			Mining			Construction			Manufacturing		
1949	$50.24	39.4	$1.275	$62.33	36.3	$1.717	$67.56	37.7	$1.792	$53.88	39.1	$1.378
1950	53.13	39.8	1.335	67.16	37.9	1.772	69.68	37.4	1.863	58.32	40.5	1.440
1951	57.86	39.9	1.45	74.11	38.4	1.93	76.96	38.1	2.02	63.34	40.6	1.56
1952	60.65	39.9	1.52	77.59	38.6	2.01	82.86	38.9	2.13	66.75	40.7	1.64
1953	63.76	39.6	1.61	83.03	38.8	2.14	86.41	37.9	2.28	70.47	40.5	1.74
1954	64.52	39.1	1.65	82.60	38.6	2.14	88.91	37.2	2.39	70.49	39.6	1.78
1955	67.72	39.6	1.71	89.54	40.7	2.20	90.90	37.1	2.45	75.30	40.7	1.85
1956	70.74	39.3	1.80	95.06	40.8	2.33	96.38	37.5	2.57	78.78	40.4	1.95
1957	73.33	38.8	1.89	98.25	40.1	2.45	100.27	37.0	2.71	81.19	39.8	2.04
1958	75.08	38.5	1.95	96.08	38.9	2.47	103.78	36.8	2.82	82.32	39.2	2.10
1959[1]	78.78	39.0	2.02	103.68	40.5	2.56	108.41	37.0	2.93	88.26	40.3	2.19
1960	80.67	38.6	2.09	105.04	40.4	2.60	112.67	36.7	3.07	89.72	39.7	2.26
1961	82.60	38.6	2.14	106.92	40.5	2.64	118.08	36.9	3.20	92.34	39.8	2.32
1962	85.91	38.7	2.22	110.70	41.0	2.70	122.47	37.0	3.31	96.56	40.4	2.39
1963	88.46	38.8	2.28	114.40	41.6	2.75	127.19	37.3	3.41	99.23	40.5	2.45
1964	91.33	38.7	2.36	117.74	41.9	2.81	132.06	37.2	3.55	102.97	40.7	2.53
1965	95.45	38.8	2.46	123.52	42.3	2.92	138.38	37.4	3.70	107.53	41.2	2.61
1966	98.82	38.6	2.56	130.24	42.7	3.05	146.26	37.6	3.89	112.19	41.4	2.71
1967	101.84	38.0	2.68	135.89	42.6	3.19	154.95	37.7	4.11	114.49	40.6	2.82
1968	107.73	37.8	2.85	142.71	42.6	3.35	164.49	37.3	4.41	122.51	40.7	3.01
1969	114.61	37.7	3.04	154.80	43.0	3.60	181.54	37.9	4.79	129.51	40.6	3.19
1970	119.83	37.1	3.23	164.40	42.7	3.85	195.45	37.3	5.24	133.33	39.8	3.35
1971	127.31	36.9	3.45	172.14	42.4	4.06	211.67	37.2	5.69	142.44	39.9	3.57
1972	136.90	37.0	3.70	189.14	42.6	4.44	221.19	36.5	6.06	154.71	40.5	3.82
1973	145.39	36.9	3.94	201.40	42.4	4.75	235.89	36.8	6.41	166.46	40.7	4.09
1974	154.76	36.5	4.24	219.14	41.9	5.23	249.25	36.6	6.81	176.80	40.0	4.42
1975	163.53	36.1	4.53	249.31	41.9	5.95	266.08	36.4	7.31	190.79	39.5	4.83
1976	175.45	36.1	4.86	273.90	42.4	6.46	283.73	36.8	7.71	209.32	40.1	5.22
1977	189.00	36.0	5.25	301.20	43.4	6.94	295.65	36.5	8.10	228.90	40.3	5.68
1978	203.70	35.8	5.69	332.88	43.4	7.67	318.69	36.8	8.66	249.27	40.4	6.17
1979	219.30	35.6	6.16	365.50	43.0	8.50	342.99	37.0	9.27	268.94	40.2	6.69
	Transportation and public utilities			Wholesale and retail trade			Finance, insurance, and real estate			Services		
1949	....	....	....	$42.93	40.5	$1.060	$47.63	37.8	$1.260	....	....	....
1950	....	....	....	44.55	40.5	1.100	50.52	37.7	1.340	....	....	....
1951	....	....	....	47.79	40.5	1.18	54.67	37.7	1.45	....	....	....
1952	....	....	....	49.20	40.0	1.23	57.08	37.8	1.51	....	....	....
1953	....	....	....	51.35	39.5	1.30	59.57	37.7	1.58	....	....	....
1954	....	....	....	53.33	39.5	1.35	62.04	37.6	1.65	....	....	....
1955	....	....	....	55.16	39.4	1.40	63.92	37.6	1.70	....	....	....
1956	....	....	....	57.48	39.1	1.47	65.68	36.9	1.78	....	....	....
1957	....	....	....	59.60	38.7	1.54	67.53	36.7	1.84	....	....	....
1958	....	....	....	61.76	38.6	1.60	70.12	37.1	1.89	....	....	....
1959[1]	....	....	....	64.41	38.8	1.66	72.74	37.3	1.95	....	....	....
1960	....	....	....	66.01	38.6	1.71	75.14	37.2	2.02	....	....	....
1961	....	....	....	67.41	38.3	1.76	77.12	36.9	2.09	....	....	....
1962	....	....	....	69.91	38.2	1.83	80.94	37.3	2.17	....	....	....
1963	....	....	....	72.01	38.1	1.89	84.38	37.5	2.25	....	....	....
1964	$118.78	41.1	$2.89	74.66	37.9	1.97	85.79	37.3	2.30	$70.03	36.1	$1.94
1965	125.14	41.3	3.03	76.91	37.7	2.04	88.91	37.2	2.39	73.60	35.9	2.05
1966	128.13	41.2	3.11	79.39	37.1	2.14	92.13	37.3	2.47	77.04	35.5	2.17
1967	130.82	40.5	3.23	82.35	36.6	2.25	95.72	37.1	2.58	80.38	35.1	2.29
1968	138.85	40.6	3.42	87.00	36.1	2.41	101.75	37.0	2.75	83.97	34.7	2.42
1969	147.74	40.7	3.63	91.39	35.7	2.56	108.70	37.1	2.93	90.57	34.7	2.61
1970	155.93	40.5	3.85	96.02	35.3	2.72	112.67	36.7	3.07	96.66	34.4	2.81
1971	168.82	40.1	4.21	101.09	35.1	2.88	117.85	36.6	3.22	103.06	33.9	3.04
1972	187.86	40.4	4.65	106.45	34.9	3.05	122.98	36.6	3.36	110.85	33.9	3.27
1973	203.31	40.5	5.02	111.76	34.6	3.23	129.20	36.6	3.53	117.29	33.8	3.47
1974	217.48	40.2	5.41	119.02	34.2	3.48	137.61	36.5	3.77	126.00	33.6	3.75
1975	233.44	39.7	5.88	126.45	33.9	3.73	148.19	36.5	4.06	134.67	33.5	4.02
1976	256.71	39.8	6.45	133.79	33.7	3.97	155.43	36.4	4.27	143.52	33.3	4.31
1977	278.90	39.9	6.99	142.52	33.3	4.28	165.26	36.4	4.54	153.45	33.0	4.65
1978	302.80	40.0	7.57	153.64	32.9	4.67	178.00	36.4	4.89	163.67	32.8	4.99
1979	325.98	39.9	8.17	164.96	32.6	5.06	190.77	36.2	5.27	175.27	32.7	5.36

[1] Data include Alaska and Hawaii beginning in 1959.

15. Weekly hours, by industry division and major manufacturing group

[Gross averages, production or nonsupervisory workers on private nonagricultural payrolls]

Industry division and group	Annual average		1979						1980						
	1978	1979	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June p	July p
TOTAL PRIVATE	35.8	35.7	36.0	36.0	35.8	35.7	35.6	35.9	35.1	35.1	35.2	35.0	35.0	35.4	35.3
MINING	43.4	43.0	41.7	43.1	43.4	43.7	43.6	43.9	43.4	43.2	43.4	42.8	42.7	43.3	42.4
CONSTRUCTION	36.8	37.0	37.8	38.1	38.0	37.7	36.6	37.2	35.3	35.7	36.2	36.7	36.9	37.9	37.6
MANUFACTURING	40.4	40.2	39.9	40.0	40.3	40.2	40.3	40.9	39.8	39.8	39.8	39.4	39.3	39.4	38.9
Overtime hours	3.6	3.3	3.2	3.3	3.6	3.4	3.4	3.4	3.0	2.9	3.0	2.7	2.5	2.5	2.4
Durable goods	41.1	40.8	40.4	40.4	40.6	40.8	40.8	41.6	40.3	40.3	40.3	39.9	39.7	39.8	39.2
Overtime hours	3.8	3.5	3.4	3.4	3.6	3.5	3.4	3.5	3.1	3.0	3.1	2.7	2.5	2.4	2.3
Lumber and wood products	39.6	39.4	39.4	39.9	40.1	39.8	38.6	38.2	38.1	38.5	38.3	37.1	37.6	38.6	38.1
Furniture and fixtures	39.3	38.7	38.1	38.8	39.0	39.3	39.3	39.9	38.4	38.4	38.5	37.9	37.3	37.5	37.2
Stone, clay, and glass products	41.6	41.5	41.5	41.8	41.7	41.7	41.7	41.8	40.1	40.1	40.7	40.4	40.6	41.0	40.6
Primary metal industries	41.8	41.4	41.3	40.8	41.3	40.9	40.7	40.9	40.7	40.7	40.7	40.6	39.3	39.2	38.3
Fabricated metal products	41.0	40.7	40.3	40.5	40.5	40.9	41.0	41.9	40.6	40.4	40.6	40.2	39.9	40.2	39.4
Machinery except electrical	42.1	41.6	41.2	41.2	41.8	41.5	41.8	42.7	41.5	41.5	41.5	41.1	40.8	40.9	40.0
Electric and electronic equipment	40.3	40.3	39.6	39.7	40.5	40.3	40.8	41.3	40.2	40.2	40.0	39.6	39.3	39.4	38.5
Transportation equipment	42.2	41.1	40.9	40.5	40.7	41.3	40.8	42.7	40.0	40.4	40.4	39.8	39.9	39.9	39.6
Instruments and related products	40.9	40.8	40.3	40.4	40.7	40.8	41.4	41.7	41.0	40.8	40.6	40.4	40.3	40.6	39.6
Miscellaneous manufacturing	38.6	38.8	38.5	38.8	39.2	39.1	39.4	39.5	38.8	38.6	38.8	38.4	38.2	38.3	38.1
Nondurable goods	39.4	39.3	39.2	39.4	39.6	39.4	39.6	39.9	39.0	38.9	38.9	38.7	38.7	38.7	38.6
Overtime hours	3.2	3.1	3.0	3.2	3.5	3.2	3.3	3.2	2.9	2.8	2.9	2.7	2.5	2.5	2.6
Food and kindred products	39.7	39.9	40.1	40.3	40.6	40.0	40.2	40.4	39.5	39.1	39.0	38.9	39.7	39.5	39.6
Tobacco manufactures	38.1	38.0	38.1	37.6	39.2	38.9	38.8	38.4	37.3	38.9	37.7	38.2	38.7	38.5	35.3
Textile mill products	40.4	40.4	39.9	40.3	40.6	40.8	41.3	41.5	40.9	40.8	40.8	39.9	39.6	39.5	38.8
Apparel and other textile products	35.6	35.3	35.5	35.6	35.3	35.5	35.6	35.9	35.2	35.4	35.4	35.3	35.3	35.6	35.2
Paper and allied products	42.9	42.6	42.5	42.6	42.7	42.7	42.9	43.5	42.7	42.4	42.4	42.2	41.6	41.7	41.7
Printing and publishing	37.6	37.5	37.4	37.9	37.9	37.5	37.9	38.1	37.2	37.0	37.2	36.8	36.9	36.8	36.8
Chemicals and allied products	41.9	41.9	41.7	41.8	41.8	41.7	42.2	42.2	41.7	41.6	41.7	41.6	41.3	41.1	40.9
Petroleum and coal products	43.6	43.8	44.1	43.6	44.7	44.1	44.8	43.5	36.2	39.7	39.4	41.1	42.3	42.3	43.8
Rubber and miscellaneous plastics products	40.9	40.5	40.2	40.0	40.5	40.5	40.3	40.7	40.3	39.9	40.0	39.7	39.0	39.3	38.9
Leather and leather products	37.1	36.5	36.9	36.6	36.8	36.5	36.8	37.3	36.7	36.8	36.4	36.7	37.0	37.3	36.7
TRANSPORTATION AND PUBLIC UTILITIES	40.0	39.9	40.0	40.3	39.9	40.0	40.2	40.0	39.5	39.4	39.5	39.5	39.3	39.6	39.8
WHOLESALE AND RETAIL TRADE	32.9	32.6	33.3	33.2	32.6	32.4	32.4	32.9	31.9	31.9	32.0	31.8	31.9	32.4	32.6
WHOLESALE TRADE	38.8	38.8	39.0	39.0	38.8	38.9	38.9	39.1	38.5	38.4	38.4	38.4	38.5	38.6	38.5
RETAIL TRADE	31.0	30.6	31.5	31.4	30.6	30.4	30.4	31.0	29.8	29.8	29.9	29.7	29.9	30.4	30.7
FINANCE, INSURANCE, AND REAL ESTATE	36.4	36.2	36.2	36.1	36.1	36.2	36.3	36.4	36.2	36.3	36.3	36.2	36.1	36.5	36.4
SERVICES	32.8	32.7	33.3	33.2	32.7	32.6	32.6	32.8	32.5	32.5	32.5	32.4	32.3	32.8	33.1

16. Weekly hours, by industry division and major manufacturing group, seasonally adjusted

[Gross averages, production or nonsupervisory workers on private nonagricultural payrolls]

Industry division and group	1979						1980						
	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June[p]	July[p]
TOTAL PRIVATE	35.6	35.7	35.6	35.6	35.6	35.7	35.6	35.5	35.4	35.3	35.1	35.1	35.0
MINING	41.7	43.1	43.4	43.7	43.6	43.9	43.4	43.2	43.4	42.8	42.7	43.3	42.4
CONSTRUCTION	36.9	37.3	37.5	36.8	37.0	37.2	37.3	37.1	36.6	36.7	36.8	37.1	36.7
MANUFACTURING	40.1	40.1	40.1	40.1	40.1	40.2	40.3	40.1	39.8	39.8	39.3	39.1	39.1
Overtime hours	3.3	3.3	3.2	3.2	3.3	3.2	3.2	3.0	3.1	3.0	2.6	2.4	2.5
Durable goods	40.7	40.7	40.7	40.7	40.6	40.7	40.8	40.6	40.3	40.3	39.7	39.5	39.5
Overtime hours	3.5	3.4	3.3	3.3	3.3	3.2	3.3	3.1	3.2	3.0	2.5	2.4	2.4
Lumber and wood products	39.3	39.6	39.6	39.2	38.9	39.0	39.4	39.1	38.7	37.3	37.5	37.8	38.0
Furniture and fixtures	38.5	38.6	38.7	38.8	38.9	38.9	39.2	39.0	38.5	38.5	37.6	37.2	37.6
Stone, clay, and glass products	41.4	41.4	41.5	41.3	41.4	41.5	41.4	41.2	40.9	40.6	40.3	40.4	40.5
Primary metal industries	41.3	41.0	41.1	41.1	40.8	40.7	40.8	40.8	40.7	40.6	39.2	38.9	38.3
Fabricated metal products	40.7	40.6	40.7	40.8	40.7	40.9	40.9	40.8	40.7	40.8	39.9	39.8	39.8
Machinery, except electrical	41.8	41.6	41.7	41.5	41.5	41.5	41.6	41.5	41.3	41.5	41.0	40.7	40.6
Electric and electronic equipment	40.2	39.9	40.3	40.3	40.4	40.5	40.5	40.3	40.0	39.9	39.5	39.2	39.0
Transportation equipment	41.0	41.5	40.6	41.0	40.5	40.9	40.9	40.8	40.4	40.5	39.7	39.5	39.7
Instruments and related products	40.8	40.6	40.7	40.7	41.0	41.0	41.4	40.9	40.4	40.7	40.3	40.5	40.1
Miscellaneous manufacturing	39.0	38.9	39.0	38.9	38.9	39.0	39.2	39.1	38.6	38.5	38.3	38.2	38.6
Nondurable goods	39.2	39.3	39.3	39.3	39.4	39.4	39.5	39.4	39.0	39.1	38.9	38.5	38.6
Overtime hours	3.0	3.1	3.1	3.1	3.2	3.1	3.1	2.9	3.0	3.0	2.6	2.5	2.6
Food and kindred products	39.8	39.8	40.0	39.9	39.9	39.9	39.8	39.7	39.3	39.6	39.9	39.5	39.4
Tobacco manufactures	38.1	38.1	38.4	38.3	37.8	38.5	38.5	37.9	37.7	38.2	38.2	37.5	37.3
Textile mill products	40.3	40.3	40.7	40.8	41.0	41.0	41.5	41.1	40.8	40.3	39.7	39.0	39.2
Apparel and other textile products	35.3	35.3	35.2	35.4	35.3	35.6	36.0	35.9	35.3	35.8	35.3	35.2	35.0
Paper and allied products	42.5	42.6	42.5	42.6	42.7	42.8	43.0	42.9	42.6	42.5	41.7	41.4	41.7
Printing and publishing	37.5	37.8	37.5	37.4	37.5	37.4	37.8	37.4	37.2	37.2	37.1	36.9	36.9
Chemicals and allied products	41.8	41.9	41.8	41.7	42.0	41.8	42.0	41.9	41.8	41.5	41.3	41.0	41.0
Petroleum and coal products	43.6	43.6	44.0	43.5	44.4	43.4	36.9	40.7	39.7	41.1	42.5	42.3	43.3
Rubber and miscellaneous plastics products	40.6	40.2	40.3	40.2	40.0	40.0	40.7	40.0	39.9	40.1	39.3	39.2	39.3
Leather and leather products	36.6	36.5	36.8	36.5	36.6	37.0	37.2	37.2	36.9	37.3	36.7	36.6	36.4
TRANSPORTATION AND PUBLIC UTILITIES	40.0	40.3	39.9	40.0	40.2	40.0	39.5	39.4	39.5	39.5	39.2	39.6	39.8
WHOLESALE AND RETAIL TRADE	32.6	32.6	32.6	32.6	32.6	32.6	32.6	32.4	32.3	32.0	32.1	32.0	31.8
WHOLESALE TRADE	38.8	38.8	38.8	38.8	38.9	38.9	38.9	38.8	38.5	38.5	38.6	38.4	38.3
RETAIL TRADE	30.6	30.6	30.6	30.6	30.6	30.6	30.6	30.4	30.3	30.0	30.1	30.0	29.8
FINANCE, INSURANCE, AND REAL ESTATE	36.2	36.1	36.1	36.2	36.3	36.4	36.2	36.3	36.3	36.2	36.1	36.5	36.4
SERVICES	32.8	32.7	32.7	32.6	32.7	32.8	32.7	32.7	32.7	32.6	32.5	32.6	32.6

17. Hourly earnings, by industry division and major manufacturing group

[Gross averages, production or nonsupervisory workers on private nonagricultural payrolls]

Industry division and group	Annual average		1979						1980						
	1978	1979	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June[p]	July[p]
TOTAL PRIVATE	$5.69	$6.16	$6.16	$6.18	$6.30	$6.31	$6.34	$6.38	$6.42	$6.46	$6.51	$6.53	$6.57	$6.61	$6.62
MINING	7.67	8.50	8.54	8.50	8.59	8.59	8.73	8.75	8.88	8.90	8.95	9.10	9.09	9.11	9.08
CONSTRUCTION	8.66	9.27	9.26	9.34	9.52	9.50	9.52	9.58	9.49	9.61	9.68	9.69	9.77	9.81	9.92
MANUFACTURING	6.17	6.69	6.72	6.70	6.80	6.82	6.87	6.97	6.96	7.00	7.06	7.09	7.13	7.20	7.20
Durable goods	6.58	7.13	7.15	7.13	7.24	7.25	7.29	7.42	7.39	7.46	7.54	7.59	7.60	7.69	7.74
Lumber and wood products	5.60	6.08	6.22	6.22	6.30	6.23	6.22	6.24	6.21	6.33	6.35	6.28	6.40	6.57	6.69
Furniture and fixtures	4.68	5.06	5.04	5.09	5.18	5.19	5.21	5.26	5.27	5.32	5.37	5.39	5.42	5.47	5.49
Stone, clay, and glass products	6.33	6.85	6.90	6.90	6.99	7.01	7.08	7.11	7.06	7.14	7.27	7.34	7.45	7.52	7.54
Primary metal industries	8.20	8.97	9.04	9.10	9.16	9.11	9.26	9.28	9.30	9.44	9.45	9.53	9.61	9.68	9.87
Fabricated metal products	6.35	6.84	6.83	6.85	6.95	6.98	7.01	7.14	7.09	7.14	7.24	7.27	7.32	7.40	7.38
Machinery, except electrical	6.78	7.32	7.34	7.35	7.48	7.44	7.50	7.63	7.66	7.69	7.76	7.81	7.91	7.98	8.03
Electric and electronic equipment	5.82	6.32	6.28	6.37	6.47	6.49	6.52	6.64	6.67	6.71	6.78	6.79	6.78	6.86	6.89
Transportation equipment	7.91	8.54	8.56	8.45	8.59	8.70	8.72	8.93	8.81	8.86	9.04	9.04	9.06	9.25	9.29
Instruments and related products	5.71	6.17	6.17	6.15	6.21	6.32	6.39	6.50	6.57	6.59	6.63	6.63	6.72	6.78	6.82
Miscellaneous manufacturing	4.69	5.03	5.01	5.02	5.06	5.10	5.13	5.20	5.28	5.30	5.34	5.37	5.40	5.44	5.49
Nondurable goods	5.53	6.00	6.03	6.04	6.11	6.14	6.21	6.26	6.28	6.27	6.30	6.36	6.42	6.49	6.61
Food and kindred products	5.80	6.27	6.26	6.28	6.32	6.35	6.50	6.55	6.61	6.64	6.68	6.75	6.82	6.85	6.95
Tobacco manufactures	6.13	6.65	6.83	6.51	6.43	6.33	6.97	6.98	7.08	7.36	7.57	7.79	7.64	8.07	8.27
Textile mill products	4.30	4.66	4.65	4.77	4.82	4.83	4.86	4.87	4.90	4.90	4.92	4.91	4.90	4.93	4.99
Apparel and other textile products	3.94	4.23	4.23	4.21	4.27	4.31	4.32	4.38	4.44	4.45	4.49	4.46	4.45	4.51	4.45
Paper and allied products	6.52	7.13	7.18	7.24	7.33	7.36	7.43	7.50	7.49	7.52	7.55	7.63	7.65	7.77	8.00
Printing and publishing	6.51	6.95	6.94	6.98	7.08	7.10	7.13	7.21	7.24	7.29	7.34	7.34	7.44	7.46	7.58
Chemicals and allied products	7.02	7.60	7.61	7.66	7.74	7.83	7.88	7.92	7.97	8.01	8.05	8.12	8.17	8.22	8.35
Petroleum and coal products	8.63	9.36	9.38	9.34	9.50	9.48	9.56	9.48	9.46	9.37	9.29	2.83	10.07	10.30	10.42
Rubber and miscellaneous plastics products	5.52	5.96	5.95	5.94	6.03	6.12	6.14	6.21	6.25	6.25	6.27	6.30	6.34	6.42	6.53
Leather and leather products	3.89	4.22	4.18	4.21	4.29	4.31	4.33	4.35	4.45	4.47	4.51	4.52	4.53	4.54	4.57
TRANSPORTATION AND PUBLIC UTILITIES	7.57	8.17	8.19	8.31	8.44	8.43	8.51	8.54	8.55	8.58	8.62	8.71	8.72	8.77	8.81
WHOLESALE AND RETAIL TRADE	4.67	5.06	5.05	5.06	5.13	5.15	5.18	5.18	5.34	5.36	5.40	5.40	5.42	5.43	5.45
WHOLESALE TRADE	5.88	6.39	6.40	6.42	6.52	6.52	6.58	6.69	6.72	6.77	6.83	6.87	6.89	6.94	6.98
RETAIL TRADE	4.20	4.53	4.51	4.52	4.57	4.59	4.62	4.61	4.78	4.78	4.81	4.80	4.82	4.82	4.85
FINANCE, INSURANCE, AND REAL ESTATE	4.89	5.27	5.28	5.28	5.37	5.35	5.41	5.48	5.53	5.60	5.68	5.68	5.70	5.75	5.72
SERVICES	4.99	5.36	5.29	5.31	5.45	5.48	5.55	5.61	5.65	5.70	5.75	5.75	5.79	5.82	5.79

18. Hourly Earnings Index for production or nonsupervisory workers on private nonagricultural payrolls, by industry division

[Seasonally adjusted data: 1967=100]

Industry	1979							1980							June 1980 to July 1980	July 1979 to July 1980
	June[1]	July[1]	Aug.[1]	Sept.[1]	Oct.[1]	Nov.[1]	Dec.[1]	Jan.[1]	Feb.[1]	Mar.[1]	Apr.	May[p]	June[p]	July[p]		
TOTAL PRIVATE (in current dollars)	229.2	230.8	232.3	234.3	235.0	237.3	239.4	240.3	242.4	245.2	246.2	248.3	250.7	251.3	0.2	8.9
Mining	263.4	265.0	264.7	265.6	267.7	272.0	274.6	277.0	278.5	280.9	283.7	284.2	285.1	284.5	−.2	7.4
Construction	220.4	222.1	223.2	224.5	224.7	226.5	228.1	225.8	229.8	232.2	233.0	234.2	235.4	237.0	.7	6.7
Manufacturing	234.1	235.5	337.0	238.6	239.9	241.9	244.1	245.2	247.8	250.2	252.4	255.0	258.2	260.2	.8	10.5
Transportation and public utilities	247.1	249.9	252.4	255.1	255.8	258.7	260.1	260.8	262.4	265.9	267.2	268.7	271.0	270.2	−.3	8.1
Wholesale and retail trade	222.8	223.9	225.5	227.2	227.6	229.7	231.4	234.2	235.2	237.8	238.0	239.8	241.3	242.4	.5	8.3
Finance, insurance, and real estate	208.4	210.1	211.4	214.0	212.9	215.7	217.9	218.4	221.1	225.7	224.9	226.3	229.3	227.0	−1.0	8.0
Services	225.9	227.5	228.7	231.6	232.3	234.9	237.8	237.7	239.7	242.7	243.0	245.7	248.5	247.7	−.3	8.9
TOTAL PRIVATE (in constant dollars)	105.9	105.5	105.2	104.9	104.2	104.1	103.8	102.7	102.2	102.0	101.4	101.4	101.5	([2])	([2])	([2])

[1] Includes corrections for data listed in August issue.

[2] Not available.

19. Weekly earnings, by industry division and major manufacturing group

[Gross averages, production or nonsupervisory workers on private nonagricultural payrolls]

Industry division and group	Annual average		1979						1980						
	1978	1979	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June^{p}	July^{p}
TOTAL PRIVATE	$203.70	$219.30	$221.76	$222.48	$225.54	$225.27	$225.70	$229.04	$225.34	$226.75	$229.15	$228.55	$229.95	$233.99	$233.69
MINING	332.88	365.50	356.12	366.35	372.81	375.38	380.63	384.13	385.39	384.48	388.43	389.48	387.72	394.46	384.99
CONSTRUCTION	318.69	342.99	350.03	355.85	361.76	358.15	348.43	356.38	335.00	343.08	350.42	355.62	360.51	371.80	372.99
MANUFACTURING	249.27	268.94	268.13	268.00	274.04	274.16	276.86	285.07	277.01	278.60	280.99	279.35	280.21	283.68	283.19
Durable goods	270.44	290.90	288.86	288.05	295.39	295.80	297.43	308.67	297.82	300.64	303.86	301.64	301.72	306.06	303.41
Lumber and wood products	222.88	239.55	245.07	248.18	252.63	247.95	241.34	244.61	236.60	243.71	243.21	232.99	240.64	253.60	254.89
Furniture and fixtures	183.92	195.82	192.02	197.49	202.02	203.97	204.75	209.87	202.37	204.29	206.75	204.28	202.17	205.13	204.23
Stone, clay, and glass products	263.33	284.28	286.35	288.42	291.48	292.32	295.24	297.20	283.11	286.31	295.89	296.54	302.47	308.32	306.12
Primary metal industries	342.76	371.36	373.35	371.28	378.31	372.60	376.88	379.55	378.51	384.21	384.62	386.92	377.67	379.46	378.02
Fabricated metal products	260.35	278.39	275.25	277.43	283.56	285.48	287.41	299.17	287.85	288.46	293.94	292.25	292.07	297.48	290.77
Machinery except electrical	285.44	305.98	302.41	302.82	312.66	308.76	313.50	325.80	317.89	319.14	322.04	320.21	322.73	325.58	321.20
Electric and electronic equipment	234.55	254.70	248.69	252.89	262.04	261.55	266.02	274.23	268.13	269.74	271.20	268.88	266.45	270.28	265.27
Transportation equipment	333.80	350.99	350.10	342.23	349.61	359.31	355.78	381.31	352.40	357.94	365.22	359.79	361.49	369.08	367.88
Instruments and related products	233.54	251.74	248.65	248.46	252.75	257.86	264.55	271.05	269.37	268.87	269.18	267.85	270.82	275.27	270.07
Miscellaneous manufacturing	181.97	195.16	192.89	194.78	198.35	199.41	202.12	205.40	204.86	204.58	207.19	208.21	206.28	208.35	209.17
Nondurable goods	217.88	235.80	236.38	237.98	241.96	241.92	245.92	249.77	244.92	243.90	245.07	246.13	248.45	250.78	255.15
Food and kindred products	230.26	250.17	251.83	253.08	256.59	254.00	261.30	264.62	261.10	259.62	260.52	262.58	270.75	270.58	275.22
Tobacco manufactures	233.55	252.70	246.56	244.78	252.06	246.24	270.44	275.01	264.08	271.58	285.39	297.58	295.67	310.70	291.93
Textile mill products	173.72	188.26	185.54	192.23	196.66	197.06	200.72	202.11	200.41	199.92	201.23	195.91	195.02	194.74	193.61
Apparel and other textile products	140.26	149.32	150.17	149.88	150.73	153.01	153.79	157.24	156.29	157.53	158.95	157.44	157.09	160.56	156.64
Paper and allied products	279.71	303.74	305.15	308.42	312.99	314.27	318.75	326.25	319.82	318.85	320.12	321.99	318.24	324.01	333.60
Printing and publishing	244.78	260.63	259.56	264.54	268.33	266.25	270.23	274.70	269.33	269.73	273.05	270.11	274.54	274.53	278.94
Chemicals and allied products	294.14	318.44	317.34	320.19	323.53	326.51	332.54	334.22	332.35	333.22	335.69	337.79	337.42	337.84	341.52
Petroleum and coal products	376.27	409.97	413.66	407.22	424.65	418.07	428.29	412.38	342.45	371.99	366.03	404.01	425.96	435.69	456.40
Rubber and miscellaneous plastics products	225.77	241.38	239.19	237.60	244.22	247.86	247.44	252.75	251.88	249.38	250.80	250.11	247.26	252.31	254.02
Leather and leather products	144.32	154.03	154.24	154.09	157.87	157.32	159.34	162.26	163.32	164.50	164.16	165.88	167.61	169.34	167.72
TRANSPORTATION AND PUBLIC UTILITIES	302.80	325.98	327.60	334.89	336.76	337.20	342.10	341.60	337.73	338.05	340.49	344.05	342.70	347.29	350.64
WHOLESALE AND RETAIL TRADE	153.64	164.96	168.17	167.99	167.24	166.86	167.83	170.42	170.35	170.98	172.80	171.72	172.90	175.93	177.67
WHOLESALE TRADE	228.14	247.93	249.60	250.38	252.98	253.63	255.96	261.58	258.72	259.97	262.27	263.81	265.27	267.88	268.73
RETAIL TRADE	130.20	138.62	142.07	141.93	139.84	139.54	140.45	142.91	142.44	142.44	143.82	142.56	144.12	146.53	148.90
FINANCE, INSURANCE, AND REAL ESTATE	178.00	190.77	191.14	c190.61	193.86	193.67	196.38	199.47	200.19	203.28	206.18	205.62	205.77	209.88	208.21
SERVICES	163.67	175.27	176.16	176.29	178.22	178.65	180.93	184.01	183.63	185.25	186.88	186.30	187.02	190.90	191.65

c = corrected.

20. Gross and spendable weekly earnings, in current and 1967 dollars, 1960 to date

[Averages for production or nonsupervisory workers on private nonagricultural payrolls]

Year and month	Private nonagricultural workers						Manufacturing workers					
	Gross average weekly earnings		Spendable average weekly earnings				Gross average weekly earnings		Spendable average weekly earnings			
			Worker with no dependents		Married worker with 3 dependents				Worker with no dependents		Married worker with 3 dependents	
	Current dollars	1967 dollars	Current dollars	1967 dollars	Current dollars	1967 dollars	Current dollars	1967 dollars	Current dollars	1967 dollars	Current dollars	1967 dollars
1960	$80.67	$90.95	$65.59	$73.95	$72.96	$82.25	$89.72	$101.15	$72.57	$81.82	$80.11	$90.32
1961	82.60	92.19	67.08	74.87	74.48	83.13	92.34	103.06	74.60	83.26	82.18	91.72
1962	85.91	94.82	69.56	76.78	76.99	84.98	96.56	106.58	77.86	85.94	85.53	94.40
1963	88.46	96.47	71.05	77.48	78.56	85.67	99.23	108.21	79.51	86.71	87.25	95.15
1964	91.33	98.31	75.04	80.78	82.57	88.88	102.97	110.84	84.40	90.85	92.18	99.22
1965	95.45	101.01	79.32	83.94	86.63	91.67	107.53	113.79	89.08	94.26	96.78	102.41
1966	98.82	101.67	81.29	83.63	88.66	91.21	112.19	115.42	91.45	94.08	99.33	102.19
1967	101.84	101.84	83.38	83.38	90.86	90.86	114.49	114.49	92.97	92.97	100.93	100.93
1968	107.73	103.39	86.71	83.21	95.28	91.44	122.51	117.57	97.70	93.76	106.75	102.45
1969	114.61	104.38	90.96	82.84	99.99	91.07	129.51	117.95	101.90	92.81	111.44	101.49
1970	119.83	103.04	96.21	82.73	104.90	90.20	133.33	114.64	106.32	91.42	115.58	99.38
1971	127.31	104.95	103.80	85.57	112.43	92.69	142.44	117.43	114.97	94.78	124.24	102.42
1972	136.90	109.26	112.19	89.54	121.68	97.11	154.71	123.47	125.34	100.03	135.57	108.20
1973	145.39	109.23	117.51	88.29	127.38	95.70	166.46	125.06	132.57	99.60	143.50	107.81
1974	154.76	104.78	124.37	84.20	134.61	91.14	176.80	119.70	140.19	94.92	151.56	102.61
1975	163.53	101.45	132.49	82.19	145.65	90.35	190.79	118.36	151.61	94.05	166.29	103.16
1976	175.45	102.90	143.30	84.05	155.87	91.42	209.32	122.77	167.83	98.43	181.32	106.35
1977	189.00	104.13	155.19	85.50	169.93	93.63	228.90	126.12	183.80	101.27	200.06	110.23
1978	203.70	104.30	165.39	84.69	180.71	92.53	249.27	127.63	197.40	101.08	214.87	110.02
1979	219.30	100.73	177.55	81.56	194.35	89.27	268.94	123.54	212.43	97.58	232.07	106.60
1979: July	221.76	101.08	179.35	81.75	196.26	89.45	268.13	122.21	211.88	96.57	231.46	105.50
August	222.48	100.44	179.87	81.21	196.83	88.86	268.00	120.99	211.79	95.62	231.36	104.45
September	225.54	100.82	182.10	81.40	199.15	89.03	274.04	122.50	215.89	96.51	235.94	105.47
October	225.27	99.85	181.90	80.63	198.94	88.18	274.16	121.52	215.97	95.73	236.04	104.63
November	225.70	99.17	182.22	80.06	199.27	87.55	276.86	121.64	217.80	95.69	238.08	104.60
December	229.04	99.58	184.59	80.26	201.80	87.74	285.07	123.94	223.38	97.12	244.31	106.22
1980: January	225.34	96.59	181.96	77.99	199.00	85.30	277.01	118.74	217.91	93.40	238.20	102.10
February	226.75	95.88	182.96	77.37	200.07	84.60	278.60	117.80	218.99	92.60	239.40	101.23
March	229.15	95.52	184.67	76.98	201.89	84.16	280.99	117.13	220.61	91.96	241.22	100.55
April	228.55	94.21	184.25	75.95	201.43	83.03	279.35	115.15	219.49	90.47	239.97	98.92
May	229.96	93.82	185.23	75.57	202.49	82.62	280.21	114.32	220.06	89.79	240.63	98.18
June^p	233.99	94.43	188.05	75.89	205.56	82.95	283.69	114.48	222.43	89.76	243.26	98.17
July^p	233.69	([1])	187.84	([1])	205.33	([1])	283.19	([1])	222.10	([1])	242.89	([1])

[1] Not available.

NOTE: The earnings expressed in 1967 dollars have been adjusted for changes in price level as measured by the Bureau's Consumer Price Index for Urban Wage Earners and Clerical Workers. These series are described in "The Spendable Earnings Series: A Technical Note on its Calculation," **Employment and Earnings and Monthly Report on the Labor Force**, February 1969, pp. 6–13. See also "Spendable Earnings Formulas, 1978–80," **Employment and Earnings**, March 1980, pp. 10–11.

UNEMPLOYMENT INSURANCE DATA

UNEMPLOYMENT INSURANCE DATA are compiled monthly by the Employment and Training Administration of the U.S. Department of Labor from records of State and Federal unemployment insurance claims filed and benefits paid. Railroad unemployment insurance data are prepared by the U.S. Railroad Retirement Board.

Definitions

Data for **all programs** represent an unduplicated count of insured unemployment under State programs, Unemployment Compensation for Ex-Servicemen, and Unemployment Compensation for Federal Employees, and the Railroad Insurance Act.

Under both State and Federal unemployment insurance programs for civilian employees, insured workers must report the completion of at least 1 week of unemployment before they are defined as unemployed. Persons not covered by unemployment insurance (about one-third of the labor force) and those who have exhausted or not yet earned benefit rights are excluded from the scope of the survey. **Initial claims** are notices filed by persons in unemployment insurance programs to indicate they are out of work and wish to begin receiving compensation. A claimant who continued to be unemployed a full week is then counted in the insured unemployment figure. The **rate of insured unemployment** expresses the number of insured unemployed as a percent of the average insured employment in a 12-month period.

An **application** for benefits is filed by a railroad worker at the beginning of his first period of unemployment in a benefit year; no application is required for subsequent periods in the same year. **Number of payments** are payments made in 14-day registration periods. The **average amount of benefit payment** is an average for all compensable periods, not adjusted for recovery of overpayments or settlement of underpayments. However, **total benefits** paid have been adjusted.

21. Unemployment insurance and employment service operations

[All items except average benefits amounts are in thousands]

Item	1979							1980					
	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
All programs:													
Insured unemployment	2,119	2,429	2,377	2,164	2,236	2,589	3,047	3,740	3,730	3,882	3,827	r3,880	3,790
State unemployment insurance program:[1]													
Initial claims[2]	1,400	1,978	1,546	1,219	1,941	1,827	2,263	2,837	1,818	1,706	2,192	......	......
Insured unemployment (average weekly volume)	1,991	2,300	2,245	2,024	2,057	2,384	2,864	3,537	3,518	3,356	3,278	r3,343	3,456
Rate of insured unemployment	2.5	2.8	2.7	2.4	2.4	2.8	3.4	4.1	4.1	3.9	3.8	3.9	4.0
Weeks of unemployment compensated	7,107	7,889	8,830	6,993	7,938	8,107	9,171	13,792	r12,801	13,170	12,889	......	......
Average weekly benefit amount for total unemployment	$87.25	$86.40	$88.56	$89.07	$90.59	$92.39	$94.54	$96.41	r$98.39	$99.15	$99.52	......	......
Total benefits paid	$610,269	$665,687	$767,025	$806,095	$673,965	$728,370	$843,869	$1,283,946	$1,229,877	$1,218,231	$1,232,173	$1,196,836	......
Unemployment compensation for ex-servicemen:[3]													
Initial claims[1]	24	28	28	23	26	24	24	25	21	21	21	......	......
Insured unemployment (average weekly volume)	45	51	52	52	52	54	56	60	68	63	52	60	46
Weeks of unemployment compensated	193	216	234	211	236	232	233	299	255	249	246	......	......
Total benefits paid	$18,623	$20,965	$23,861	$19,634	$23,325	$23,093	$23,093	$29,635	r$25,308	$24,928	$24,518	$22,025	......
Unemployment compensation for Federal civilian employees:[4]													
Initial claims	13	16	13	13	18	15	15	19	11	12	11	......	......
Insured unemployment (average weekly volume)	23	25	25	25	28	29	31	34	32	30	26	22	20
Weeks of unemployment compensated	91	96	107	91	109	118	118	150	129	123	108	......	......
Total benefits paid	$8,341	$8,802	$9,829	$8,453	$10,093	$11,063	$11,047	$14,118	r$12,226	$11,901	$10,323	$6,260	......
Railroad unemployment insurance:													
Applications	9	15	8	13	11	10	11	22	7	5	4	6	24
Insured unemployment (average weekly volume)	8	11	12	21	18	20	19	40	39	30	27	23	27
Number of payments	19	20	26	32	51	36	41	80	71	66	62	54	55
Average amount of benefit payment	$183.13	$190.10	$195.61	$189.08	$189.61	$183.38	$197.22	$199.01	$208.73	$210.79	$201.87	$193.44	$196.06
Total benefits paid	$3,314	$3,699	$3,767	$5,747	$8,003	$6,462	$8,085	$14,967	$14,573	$13,884	$13,002	$9,953	$10,140
Employment service:[5]													
New applications and renewals	11,907	13,186	14,479	15,525	1,855	3,183	4,378	......	7,285	r8,708	10,021	......	......
Nonfarm placements	3,051	3,482	3,935	4,349	458	768	1,044	......	1,561	r1,853	2,143	......	......

[1] Initial claims and State insured unemployment include data under the program for Puerto Rican sugarcane workers.

[2] Includes interstate claims for the Virgin Islands. Excludes transition claims under State programs.

[3] Excludes data on claims and payments made jointly with other programs.

[4] Includes the Virgin Islands. Excludes data on claims and payments made jointly with State programs.

[5] Cumulative total for fiscal year (October 1 - September 30).

NOTE: Data for Puerto Rico included. Dashes indicate data not available.

r = revised.

PRICE DATA

PRICE DATA are gathered by the Bureau of Labor Statistics from retail and primary markets in the United States. Price indexes are given in relation to a base period (1967 = 100, unless otherwise noted).

Definitions

The **Consumer Price Index** is a monthly statistical measure of the average change in prices in a fixed market basket of goods and services. Effective with the January 1978 index, the Bureau of Labor Statistics began publishing CPI's for two groups of the population. One index, a new CPI for All Urban Consumers, covers 80 percent of the total noninstitutional population; and the other index, a revised CPI for Urban Wage Earners and Clerical Workers, covers about half the new index population. The All Urban Consumers index includes, in addition to wage earners and clerical workers, professional, managerial, and technical workers, the self-employed, short-term workers, the unemployed, retirees, and others not in the labor force.

The CPI is based on prices of food, clothing, shelter, fuel, drugs, transportation fares, doctor's and dentist's fees, and other goods and services that people buy for day-to-day living. The quantity and quality of these items is kept essentially unchanged between major revisions so that only price changes will be measured. Prices are collected from over 18,000 tenants, 24,000 retail establishments, and 18,000 housing units for property taxes in 85 urban areas across the country. All taxes directly associated with the purchase and use of items are included in the index. Because the CPI's are based on the expenditures of two population groups in 1972–73, they may not accurately reflect the experience of individual families and single persons with different buying habits.

Though the CPI is often called the "Cost-of-Living Index," it measures only price change, which is just one of several important factors affecting living costs. Area indexes do not measure differences in the level of prices among cities. They only measure the average change in prices for each area since the base period.

Producer Price Indexes measure average changes in prices received in primary markets of the United States by producers of commodities in all stages of processing. The sample used for calculating these indexes contains about 2,800 commodities and about 10,000 quotations per month selected to represent the movement of prices of all commodities produced in the manufacturing, agriculture, forestry, fishing, mining, gas and electricity, and public utilities sectors. The universe includes all commodities produced or imported for sale in commercial transactions in primary markets in the United States.

Producer Price Indexes can be organized by stage of processing or by commodity. The stage of processing structure organizes products by degree of fabrication (that is, finished goods, intermediate or semifinished goods, and crude materials). The commodity structure organizes products by similarity of end-use or material composition.

To the extent possible, prices used in calculating Producer Price Indexes apply to the first significant commercial transaction in the United States, from the production or central marketing point. Price data are generally collected monthly, primarily by mail questionnaire. Most prices are obtained directly from producing companies on a voluntary and confidential basis. Prices generally are reported for the Tuesday of the week containing the 13th day of the month.

In calculating Producer Price Indexes, price changes for the various commodities are averaged together with implicit quantity weights representing their importance in the total net selling value of all commodities as of 1972. The detailed data are aggregated to obtain indexes for stage of processing groupings, commodity groupings, durability of product groupings, and a number of special composite groupings.

Price indexes for the output of selected SIC industries measure average price changes in commodities produced by particular industries, as defined in the *Standard Industrial Classification Manual 1972* (Washington, U.S. Office of Management and Budget, 1972). These indexes are derived from several price series, combined to match the economic activity of the specified industry and weighted by the value of shipments in the industry. They use data from comprehensive industrial censuses conducted by the U.S. Bureau of the Census and the U.S. Department of Agriculture.

Notes on the data

Beginning with the May 1978 issue of the *Review*, regional CPI's cross classified by population size, were introduced. These indexes will enable users in local areas for which an index is not published to get a better approximation of the CPI for their area by using the appropriate population size class measure for their region. The cross-classified indexes will be published bimonthly. (See table 24.)

For further details about the new and the revised indexes and a comparison of various aspects of these indexes with the old unrevised CPI, see *Facts About the Revised Consumer Price Index*, a pamphlet in the Consumer Price Index Revision 1978 series. See also *The Consumer Price Index: Concepts and Content Over the Years*. Report 517, revised edition (Bureau of Labor Statistics, May 1978).

For interarea comparisons of living costs at three hypothetical standards of living, see the family budget data published in the *Handbook of Labor Statistics, 1977*, Bulletin 1966 (Bureau of Labor Statistics, 1977), tables 122–133. Additional data and analysis on price changes are provided in the *CPI Detailed Report* and *Producer Prices and Price Indexes*, both monthly publications of the Bureau.

As of January 1976, the Wholesale Price Index (as it was then called) incorporated a revised weighting structure reflecting 1972 values of shipments. From January 1967 through December 1975, 1963 values of shipments were used as weights.

For a discussion of the general method of computing consumer, producer, and industry price indexes, see *BLS Handbook of Methods for Surveys and Studies*, Bulletin 1910 (Bureau of Labor Statistics, 1976), chapters 13–15. See also John F. Early, "Improving the measurement of producer price change," *Monthly Labor Review*, April 1978, pp. 7–15. For industry prices, see also Bennett R. Moss, "Industry and Sector Price Indexes," *Monthly Labor Review*, August 1965, pp. 974–82.

22. Consumer Price Index for Urban Wage Earners and Clerical Workers, annual averages and changes, 1967–79

[1967 = 100]

Year	All items		Food and beverages		Housing		Apparel and upkeep		Transportation		Medical care		Entertainment		Other goods and services	
	Index	Percent change	Index	Percent change	Index	Percent change	Index	Percent change	Index	Percent change	Index	Percent change	Index	Percent change	Index	Percent change
1967	100.0	. . .	100.0	. . .	100.0	. . .	100.0	. . .	100.0	. . .	100.0	. . .	100.0	. . .	100.0	. . .
1968	104.2	4.2	103.6	3.6	104.0	4.0	105.4	5.4	103.2	3.2	106.1	6.1	105.7	5.7	105.2	5.2
1969	109.8	5.4	108.8	5.0	110.4	6.2	111.5	5.8	107.2	3.9	113.4	6.9	111.0	5.0	110.4	4.9
1970	116.3	5.9	114.7	5.4	118.2	7.1	116.1	4.1	112.7	5.1	120.6	6.3	116.7	5.1	116.8	5.8
1971	121.3	4.3	118.3	3.1	123.4	4.4	119.8	3.2	118.6	5.2	128.4	6.5	122.9	5.3	122.4	4.8
1972	125.3	3.3	123.2	4.1	128.1	3.8	122.3	2.1	119.9	1.1	132.5	3.2	126.5	2.9	127.5	4.2
1973	133.1	6.2	139.5	13.2	133.7	4.4	126.8	3.7	123.8	3.3	137.7	3.9	130.0	2.8	132.5	3.9
1974	147.7	11.0	158.7	13.8	148.8	11.3	136.2	7.4	137.7	11.2	150.5	9.3	139.8	7.5	142.0	7.2
1975	161.2	9.1	172.1	8.4	164.5	10.6	142.3	4.5	150.6	9.4	168.6	12.0	152.2	8.9	153.9	8.4
1976	170.5	5.8	177.4	3.1	174.6	6.1	147.6	3.7	165.5	9.9	184.7	9.5	159.8	5.0	162.7	5.7
1977	181.5	6.5	188.0	6.0	186.5	6.8	154.2	4.5	177.2	7.1	202.4	9.6	167.7	4.9	172.2	5.8
1978	195.3	7.6	206.2	9.7	202.6	8.6	159.5	3.4	185.8	4.9	219.4	8.4	176.2	5.1	183.2	6.4
1979	217.7	11.5	228.7	10.9	227.5	12.3	166.4	4.3	212.8	14.5	240.1	9.4	187.6	6.5	196.3	7.2

23. Consumer Price Index for All Urban Consumers and revised CPI for Urban Wage Earners and Clerical Workers, U.S. city average—general summary and groups, subgroups, and selected items

[1967 = 100 unless otherwise specified]

General summary	All Urban Consumers							Urban Wage Earners and Clerical Workers (revised)						
	1979	1980						1979	1980					
	June	Jan.	Feb.	Mar.	Apr.	May	June	June	Jan.	Feb.	Mar.	Apr.	May	June
All items	216.6	233.2	236.4	239.8	242.5	244.9	247.6	216.9	233.3	236.5	239.9	242.6	245.1	247.8
Food and beverages	229.3	237.5	238.6	241.0	242.8	244.1	245.7	229.3	237.8	239.0	241.2	243.2	244.7	246.4
Housing	225.5	247.3	250.5	254.5	257.9	261.7	266.7	225.5	247.3	250.5	254.4	257.8	261.7	266.9
Apparel and upkeep	165.7	171.0	171.9	176.0	177.3	177.5	177.2	165.3	169.8	171.5	175.1	176.1	176.8	176.0
Transportation	212.6	233.5	239.6	243.7	246.8	249.0	249.7	213.7	234.1	240.2	244.3	247.7	249.9	250.6
Medical care	237.7	253.9	257.9	260.2	262.0	263.4	264.7	238.2	254.9	258.7	260.9	263.1	264.9	265.9
Entertainment	188.2	195.3	197.8	200.6	202.5	204.0	205.3	187.5	193.9	196.2	199.5	201.3	202.4	204.0
Other goods and services	187.9	206.3	208.1	208.9	209.8	211.2	212.5	194.3	206.0	207.7	208.3	209.2	210.6	212.1
Commodities	208.4	222.4	225.2	228.0	229.9	231.4	232.8	208.7	222.3	225.3	228.1	230.1	231.7	233.0
Commodities less food and beverages	196.0	212.0	215.5	218.4	220.4	222.0	223.2	196.3	212.0	215.7	218.7	220.6	222.3	223.4
Nondurables less food and beverages	200.5	224.6	231.8	237.5	239.5	240.3	241.1	201.6	226.3	234.1	239.8	241.7	242.6	243.2
Durables	191.1	201.3	202.1	203.0	204.9	207.1	208.6	190.8	199.6	200.3	201.2	203.3	205.4	206.8
Services	232.1	253.1	256.8	261.3	265.3	269.2	274.2	232.3	253.6	257.3	261.7	265.8	269.9	275.1
Rent, residential	174.7	184.1	185.6	186.6	187.0	188.9	191.1	174.7	183.9	185.5	186.4	186.9	188.7	190.8
Household services less rent	264.5	295.1	300.2	307.3	313.4	319.6	328.8	265.6	297.2	302.4	309.6	315.8	322.2	331.9
Transportation services	210.9	226.8	229.6	233.4	238.1	241.5	242.6	211.6	226.6	229.3	232.7	238.0	241.5	242.7
Medical care services	255.9	274.4	279.0	281.5	283.4	284.7	285.9	256.1	275.6	279.8	282.2	284.5	286.3	287.3
Other services	198.4	209.0	211.1	212.9	214.5	215.9	216.9	198.7	209.3	211.4	213.5	214.8	216.5	217.9
Special indexes:														
All items less food	211.8	229.9	233.5	237.1	239.9	242.6	245.5	212.0	230.0	233.7	237.3	240.2	242.9	245.7
All items less mortgage interest costs	211.0	224.3	227.1	229.8	231.8	233.7	235.4	211.5	224.7	227.6	230.2	232.4	234.2	235.7
Commodities less food	194.7	210.4	213.8	216.7	218.6	220.2	221.4	194.9	210.3	214.0	216.9	218.9	220.5	221.6
Nondurables less food	197.6	220.5	227.3	232.6	234.6	235.5	236.3	198.6	222.1	229.4	234.8	236.7	237.7	238.3
Nondurables less food and apparel	217.0	248.6	258.2	264.1	266.5	267.9	269.3	218.0	250.2	260.1	266.3	268.7	270.0	271.4
Nondurables	215.7	232.0	236.3	240.3	242.2	243.2	244.5	216.3	232.9	237.4	241.4	243.3	244.6	245.7
Services less rent	242.6	266.1	270.2	275.4	280.0	284.4	290.0	243.0	266.7	270.8	275.9	280.8	285.4	291.2
Services less medical care	228.0	249.2	252.7	257.4	261.5	265.7	271.0	228.2	249.5	253.1	257.7	261.9	266.3	271.8
Domestically produced farm foods	224.9	229.2	229.1	231.2	232.7	233.6	234.8	224.6	229.0	229.2	231.0	232.4	233.4	234.7
Selected beef cuts	268.3	265.7	267.2	270.2	268.0	265.6	264.8	269.9	268.1	270.3	272.3	269.5	267.5	267.1
Energy	275.4	327.9	344.6	355.0	358.8	363.2	367.8	277.3	331.5	348.7	359.6	363.3	367.3	371.8
All items less energy	212.2	225.9	228.0	230.8	233.4	235.7	238.3	212.3	225.3	227.3	230.0	232.7	235.1	237.6
All items less food and energy	205.8	220.6	222.8	225.7	228.5	231.0	233.7	205.5	219.6	221.8	224.6	227.5	230.0	232.7
Commodities less food and energy	184.8	193.7	194.9	196.5	198.2	199.9	201.2	184.5	192.4	193.5	195.1	196.9	198.6	199.8
Energy commodities	284.9	361.5	385.0	398.5	402.3	403.0	404.1	286.2	362.8	386.4	400.3	404.0	404.7	405.6
Services less energy	229.9	251.6	255.2	259.6	263.5	267.0	271.5	230.1	252.2	256.7	260.0	264.2	267.8	272.5
Purchasing power of the consumer dollar, 1967 = $1	$0.462	$0.429	$0.423	$0.417	$0.412	$0.408	$0.404	$0.461	$0.429	$0.423	$0.417	$0.412	$0.408	$0.404

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23. Continued—Consumer Price Index—U.S. city average

[1967 = 100 unless otherwise specified]

General summary	All Urban Consumers							Urban Wage Earners and Clerical Workers (revised)						
	1979	1980						1979	1980					
	June	Jan.	Feb.	Mar.	Apr.	May	June	June	Jan.	Feb.	Mar.	Apr.	May	June
FOOD AND BEVERAGES	229.3	237.5	238.6	241.0	242.8	244.1	245.7	229.3	237.8	239.0	241.2	243.2	244.7	246.4
Food	235.4	243.8	244.9	247.3	249.1	250.4	252.0	235.4	244.0	245.2	247.5	249.5	251.0	252.7
Food at home	234.2	240.6	241.3	243.6	245.3	246.5	248.0	233.6	240.1	241.1	243.1	245.0	246.1	247.7
Cereals and bakery products	217.8	234.2	236.8	238.6	242.0	244.5	245.9	218.2	234.7	237.4	239.3	242.2	244.4	245.7
Cereals and cereal products (12/77 = 100)	115.5	125.0	125.8	126.6	129.4	131.5	133.1	115.4	126.1	127.2	127.7	130.1	132.4	133.9
Flour and prepared flour mixes (12/77 = 100)	117.8	125.7	125.7	126.6	127.8	129.0	131.1	118.4	126.9	127.3	127.5	128.9	129.9	131.4
Cereal (12/77 = 100)	115.8	123.7	124.9	126.0	129.4	131.5	133.0	116.0	124.2	125.5	126.6	129.7	132.0	133.3
Rice, pasta, and cornmeal (12/77 = 100)	112.8	126.4	127.4	127.6	130.8	133.8	135.2	111.8	127.9	129.2	129.4	131.9	135.2	137.0
Bakery products (12/77 = 100)	115.2	123.5	125.1	126.1	127.6	128.7	129.1	115.5	123.6	125.1	126.2	127.5	128.3	128.8
White bread	190.3	208.6	210.7	212.0	215.1	216.7	216.9	189.5	207.4	209.7	212.1	215.1	216.0	215.4
Other breads (12/77 = 100)	115.3	123.8	124.6	125.6	127.0	128.3	128.1	117.1	126.9	127.5	129.3	129.3	130.6	130.8
Fresh biscuits, rolls, and muffins (12/77 = 100)	115.8	124.8	126.2	127.0	126.9	127.8	129.5	115.4	123.1	124.3	124.9	125.3	126.4	127.9
Fresh cakes and cupcakes (12/77 = 100)	114.0	121.7	122.8	124.4	126.5	127.4	127.6	114.8	120.8	122.2	123.2	125.4	126.5	126.9
Cookies (12/77 = 100)	114.1	119.7	122.8	124.4	125.3	126.1	126.3	116.2	121.5	124.0	125.6	126.3	126.8	126.9
Crackers and bread and cracker products (12/77 = 100)	112.2	117.5	119.9	120.2	122.0	122.2	123.6	112.7	118.4	121.0	121.8	122.2	123.0	124.5
Fresh sweetrolls, coffeecake, and donuts (12/77 = 100)	115.8	122.2	123.8	125.0	126.6	128.4	129.1	117.8	124.1	125.4	126.2	128.0	129.2	130.0
Frozen and refrigerated bakery products and fresh pies, tarts, and turnovers (12/77 = 100)	117.6	125.7	127.2	127.9	129.7	131.0	131.2	113.9	122.5	123.8	124.0	125.3	126.0	127.2
Meats, poultry, fish, and eggs	239.8	236.0	236.2	237.8	235.1	231.5	231.2	239.0	237.5	236.4	237.1	234.3	230.7	230.4
Meats, poultry, and fish	246.1	243.0	242.6	243.8	241.1	238.2	237.9	245.3	242.5	242.8	243.0	240.2	237.2	237.1
Meats	249.6	244.1	244.1	245.7	242.6	239.2	238.1	248.8	243.7	244.3	245.0	241.3	238.1	237.5
Beef and veal	266.9	264.6	266.2	269.1	267.0	264.8	263.8	268.2	266.7	268.9	270.8	268.2	266.3	265.6
Ground beef other than canned	278.7	271.4	273.3	275.3	272.9	269.4	266.9	278.8	272.7	276.2	278.7	274.7	270.6	269.0
Chuck roast	279.7	274.7	277.7	286.2	277.9	273.0	268.6	286.0	283.6	288.7	293.4	286.1	280.0	275.0
Round roast	236.8	241.9	244.5	244.2	242.7	243.4	240.9	240.0	245.1	245.8	244.5	242.1	245.5	243.8
Round steak	250.0	249.8	252.3	254.2	253.5	250.6	247.4	247.5	249.4	250.5	251.1	249.6	250.2	247.3
Sirloin steak	259.8	250.9	251.1	254.3	256.1	256.2	264.8	261.1	253.5	253.0	256.0	257.8	257.5	268.3
Other beef and veal (12/77 = 100)	151.3	151.8	152.2	153.8	153.3	152.4	152.5	151.6	151.9	152.8	153.7	153.1	152.2	152.4
Pork	217.2	206.4	202.8	202.6	197.1	191.8	190.4	217.2	206.8	204.1	203.0	196.7	191.8	190.5
Bacon	203.9	194.5	190.1	187.6	182.1	177.4	173.1	206.0	195.3	193.8	189.4	183.9	177.7	175.6
Pork chops	206.4	192.1	189.7	190.7	187.0	182.4	182.7	207.4	194.8	191.0	190.5	184.7	180.9	180.6
Ham other than canned (12/77 = 100)	99.5	99.1	95.7	95.8	90.6	87.4	87.8	97.0	96.5	95.2	94.7	88.7	85.4	86.1
Sausage	276.1	256.6	255.1	257.6	255.1	250.2	246.2	276.0	260.3	257.0	259.8	258.0	253.9	249.6
Canned ham	226.0	220.8	219.5	219.3	213.5	210.0	208.1	226.4	219.3	218.9	217.4	214.5	213.0	210.1
Other pork (12/77 = 100)	124.4	116.2	114.3	113.6	110.7	107.1	108.3	124.4	116.2	114.6	113.7	110.0	106.5	105.9
Other meats	248.9	243.2	244.7	245.8	243.9	240.2	239.4	245.2	239.3	240.9	241.5	239.0	235.6	235.9
Frankfurters	249.3	239.0	242.7	244.6	240.6	234.8	230.9	249.0	239.5	242.1	242.8	239.3	234.0	231.0
Bologna, liverwurst, and salami (12/77 = 100)	136.7	134.1	135.6	135.5	134.9	133.5	133.4	133.4	130.5	132.3	132.2	131.1	129.5	130.7
Other lunchmeats (12/77 = 100)	123.1	121.2	120.7	121.8	121.9	121.4	121.0	120.6	118.7	118.6	118.8	118.4	117.6	118.1
Lamb and organ meats (12/77 = 100)	143.9	141.6	142.4	142.3	140.1	136.3	137.6	145.9	142.5	143.4	144.3	141.3	138.4	139.3
Poultry	187.2	187.8	182.6	180.7	177.2	176.5	177.9	185.1	184.3	118.1	177.4	176.0	173.8	175.7
Fresh whole chicken	185.8	191.1	183.6	179.5	174.7	172.9	176.3	181.5	183.8	178.9	172.5	170.6	168.0	170.7
Fresh and frozen chicken parts (12/77 = 100)	120.3	120.7	116.8	116.8	114.5	114.4	115.7	120.1	118.7	117.0	116.3	114.7	112.7	115.6
Other poultry (12/77 = 100)	123.4	119.3	118.8	118.2	117.3	117.4	115.9	122.7	120.1	119.4	117.7	118.1	117.7	116.1
Fish and seafood	301.0	316.7	320.4	322.6	325.3	324.5	329.1	295.9	315.4	317.9	320.2	325.1	323.0	324.9
Canned fish and seafood (12/77 = 100)	110.3	118.5	120.3	120.4	122.9	125.4	127.3	109.2	118.4	119.7	119.5	121.8	124.0	125.7
Fresh and frozen fish and seafood (12/77 = 100)	117.2	121.9	123.0	124.3	124.5	122.5	124.2	114.9	121.2	122.0	123.5	125.1	122.4	122.6
Eggs	161.9	178.2	157.2	164.5	161.2	148.4	147.9	161.6	177.0	156.7	164.3	161.5	148.9	147.2
Dairy products	205.5	218.4	219.5	220.3	222.4	226.2	227.2	205.9	218.3	219.8	221.1	223.1	226.9	227.8
Fresh milk and cream (12/77 = 100)	115.7	123.2	123.7	124.1	124.7	127.0	127.1	116.0	123.2	123.6	124.2	124.9	127.2	127.4
Fresh whole milk	189.4	202.3	203.2	204.0	204.9	208.5	208.6	189.8	201.8	202.7	203.8	204.8	208.4	208.7
Other fresh milk and cream (12/77 = 100)	115.6	122.1	122.7	122.7	123.5	125.9	126.0	116.0	122.8	123.0	123.1	124.1	126.8	127.2
Processed dairy products (12/77 = 100)	116.8	123.8	124.5	125.1	127.0	129.1	130.4	117.0	124.5	125.1	126.2	128.0	129.9	130.7
Butter	199.9	216.9	218.3	218.3	219.9	222.2	225.0	202.0	219.8	220.9	220.9	222.7	225.3	227.2
Cheese (12/77 = 100)	116.9	123.5	124.2	124.9	126.2	127.8	128.8	116.3	123.6	124.4	125.5	126.8	128.5	129.0
Ice cream and related products (12/77 = 100)	116.9	124.0	124.6	125.1	128.6	131.9	133.7	117.8	125.6	125.6	127.2	130.4	132.9	133.8
Other dairy products (12/77 = 100)	114.5	119.8	120.9	121.6	124.0	126.1	127.3	114.6	120.4	121.3	121.9	123.6	125.7	127.4
Fruits and vegetables	233.8	229.8	228.3	232.4	240.9	246.6	250.1	231.5	227.2	225.9	230.1	239.8	245.5	250.2
Fresh fruits and vegetables	243.3	227.2	223.1	229.9	245.2	255.1	260.0	240.4	224.9	220.6	227.4	244.8	254.4	261.4
Fresh fruits	266.0	233.6	235.8	245.4	257.0	264.7	273.9	261.1	232.7	234.7	245.4	255.6	263.8	274.9
Apples	232.9	230.4	239.6	250.2	265.5	276.3	293.3	233.7	230.1	237.6	249.0	264.4	277.3	297.4
Bananas	225.3	221.9	238.5	243.9	242.8	249.7	242.6	221.7	219.5	234.6	240.8	243.5	244.5	237.7
Oranges	311.5	236.2	231.1	238.1	240.6	243.9	264.4	293.0	231.3	228.4	240.9	234.3	237.6	251.0
Other fresh fruits (12/77 = 100)	141.4	122.5	121.4	127.4	136.5	140.8	143.7	140.7	122.7	121.3	126.9	136.7	140.9	146.5
Fresh vegetables	222.0	221.2	211.2	215.5	234.2	246.2	247.0	221.8	217.9	207.9	211.3	235.2	246.0	249.4
Potatoes	221.5	203.8	203.3	203.3	201.7	210.1	248.3	224.3	200.9	199.8	200.3	198.2	205.6	244.4
Lettuce	193.1	197.6	198.7	208.3	271.9	279.9	238.6	188.0	193.2	191.7	203.8	281.9	288.6	241.7
Tomatoes	222.0	216.7	184.9	201.4	201.2	230.8	230.6	223.0	213.2	184.3	197.2	197.7	228.4	228.6
Other fresh vegetables (12/77 = 100)	128.1	132.0	125.1	125.4	134.6	140.1	140.2	128.7	130.5	123.9	123.0	135.3	139.7	143.4
Processed fruits and vegetables	226.4	234.7	236.2	237.2	238.4	239.4	241.4	223.5	231.8	233.9	235.0	236.2	237.6	238.7
Processed fruits (12/77 = 100)	117.6	122.9	123.4	123.9	125.0	125.4	126.4	117.0	122.4	123.6	123.9	124.9	125.7	126.7
Frozen fruit and fruit juices (12/77 = 100)	114.3	117.2	117.6	117.7	119.3	118.1	120.1	114.4	116.5	117.8	116.5	118.4	117.5	118.9
Fruit juices and other than frozen (12/77 = 100)	115.6	125.1	126.0	127.2	128.3	129.3	129.5	115.1	124.5	126.3	127.4	128.4	129.8	130.4
Canned and dried fruits (12/77 = 100)	122.5	125.3	125.5	125.5	128.3	127.5	128.3	121.2	124.8	125.3	125.9	126.4	127.8	128.9
Processed vegetables (12/77 = 100)	108.9	113.0	114.0	114.6	114.5	115.2	116.2	108.1	111.2	112.2	113.0	113.2	113.9	115.0
Frozen vegetables (12/77 = 100)	107.1	111.9	113.0	112.6	113.3	114.7	116.4	107.7	111.4	111.7	111.9	113.0	114.6	116.3

23. Continued—Consumer Price Index—U.S. city averag

[1967=100 unless otherwise specified]

General summary	All Urban Consumers							Urban Wage Earners and Clerical Workers (revised)						
	1979	1980						1979	1980					
	June	Jan.	Feb.	Mar.	Apr.	May	June	June	Jan.	Feb.	Mar.	Apr.	May	June
FOOD AND BEVERAGES—Continued														
Food—Continued														
Food at home—Continued														
Fruits and vegetables—Continued														
Cut corn and canned beans except lima (12/77=100)	113.2	114.5	115.2	116.0	115.6	116.0	116.6	112.0	112.7	113.4	115.4	114.3	114.2	115.2
Other canned and dried vegetables (12/77=100)	107.7	112.9	113.9	114.8	114.7	115.1	115.9	106.3	110.4	111.9	112.3	112.7	113.3	114.2
Other foods at home	267.1	283.5	288.0	292.0	295.1	298.1	301.8	266.2	282.6	287.3	290.9	294.6	298.0	301.4
Sugar and sweets	277.4	289.8	297.5	313.5	319.5	326.8	342.0	276.6	289.6	297.1	314.1	320.8	326.0	342.9
Candy and chewing gum (12/77=100)	117.4	121.3	122.4	123.8	126.3	128.9	130.5	117.0	121.2	122.2	123.9	126.5	129.0	130.8
Sugar and artificial sweeteners (12/77=100)	115.4	122.2	131.5	153.0	156.9	161.4	180.3	115.3	122.7	131.6	153.8	158.6	163.3	180.7
Other sweets (12/77=100)	112.6	118.7	119.5	120.4	121.3	123.6	125.8	111.9	117.5	118.5	119.3	120.0	122.2	124.6
Fats and oils (12/77=100)	226.3	233.9	235.9	236.8	238.3	239.5	240.0	226.6	234.9	236.5	236.8	238.3	240.1	240.5
Margarine	239.1	248.3	247.9	248.8	247.9	246.1	249.0	238.4	248.8	247.9	248.3	248.3	248.4	249.4
Nondairy substitutes and peanut butter (12/77=100)	112.8	115.3	116.4	117.9	119.8	121.4	123.1	112.5	116.1	117.2	118.5	120.0	121.6	123.5
Other fats, oils, and salad dressings (12/77=100)	117.8	121.9	123.6	123.7	124.8	125.8	124.9	118.2	122.3	123.8	123.4	124.4	125.5	124.9
Nonalcoholic beverages	350.4	378.5	384.5	387.1	390.3	393.0	395.9	348.5	375.6	383.0	384.4	389.2	392.3	395.1
Cola drinks, excluding diet cola	237.9	249.5	255.9	259.3	261.7	265.4	267.8	234.7	246.5	253.6	255.4	260.1	263.2	267.1
Carbonated drinks, including diet cola (12/77=100)	115.3	119.9	122.3	123.5	125.6	126.2	128.3	112.5	116.4	120.2	121.1	123.4	124.8	125.2
Roasted coffee	347.3	443.2	439.6	437.6	434.0	433.5	432.4	347.3	440.1	436.8	432.3	430.4	430.0	429.2
Freeze dried and instant coffee	330.2	378.2	382.2	381.7	380.2	381.9	380.2	328.9	376.8	380.4	380.3	379.2	380.4	378.7
Other noncarbonated drinks (12/77=100)	113.4	116.8	118.3	118.6	120.7	120.7	121.8	112.3	116.2	117.5	118.1	119.6	120.0	120.8
Other prepared foods	207.8	218.8	221.8	224.1	226.8	229.1	230.9	207.9	219.1	221.7	224.0	226.6	228.6	230.8
Canned and packaged soup (12/77=100)	112.6	116.5	118.1	118.0	120.5	122.0	122.9	112.6	116.8	117.9	117.6	120.6	122.5	123.7
Frozen prepared foods (12/77=100)	119.2	126.0	126.6	128.2	130.4	131.3	132.0	118.6	125.1	125.5	127.1	128.8	131.0	130.8
Snacks (12/77=100)	113.3	121.8	123.4	124.1	124.8	126.1	127.2	113.7	122.8	124.7	125.3	126.0	127.3	127.9
Seasonings, olives, pickles, and relish (12/77=100)	114.4	121.4	123.6	124.9	125.2	125.4	127.5	114.0	121.1	123.1	124.0	124.5	125.5	127.3
Other condiments (12/77=100)	113.6	120.8	123.7	126.0	127.1	127.9	128.8	114.9	121.4	124.6	126.6	128.1	129.2	129.9
Miscellaneous prepared foods (12/77=100)	115.1	119.6	120.7	122.2	124.4	127.6	128.6	114.8	119.7	120.5	122.2	123.7	127.0	128.3
Other canned and packaged prepared foods (12/77=100)	115.6	119.4	121.2	122.2	123.1	124.6	125.2	115.3	119.5	120.3	122.0	123.3	124.3	124.1
Food away from home	242.7	256.1	258.3	260.9	263.0	264.6	266.6	244.4	258.0	260.1	262.7	265.3	267.6	269.9
Lunch (12/77=100)	118.5	124.6	125.9	127.0	127.9	128.5	129.3	119.6	125.7	126.7	127.6	128.9	129.9	130.7
Dinner (12/77=100)	117.7	124.8	125.8	127.0	127.9	128.7	129.5	118.2	125.6	126.8	128.1	129.1	130.5	131.0
Other meals and snacks (12/77=100)	116.6	122.5	123.2	124.9	126.4	127.4	129.0	117.4	123.7	124.4	126.2	127.7	128.6	131.1
Alcoholic beverages	172.1	179.3	180.4	181.7	183.9	185.4	186.4	172.4	179.7	181.1	182.8	185.0	186.9	188.0
Alcoholic beverages at home (12/77=100)	111.9	116.8	117.4	118.2	119.9	120.9	121.4	112.7	117.6	118.3	119.3	120.8	122.0	122.7
Beer and ale	170.0	179.0	179.9	182.0	185.9	187.7	188.2	169.8	178.8	179.9	181.7	185.1	187.5	188.8
Whiskey	126.8	131.6	132.6	132.8	133.4	133.9	134.7	128.2	132.9	133.8	134.4	134.6	135.1	135.4
Wine	193.2	201.6	202.5	204.1	206.6	208.5	211.5	196.2	203.8	206.1	208.4	209.8	212.0	213.7
Other alcoholic beverages (12/77=100)	105.2	107.1	107.3	107.4	108.2	109.0	108.7	104.9	106.4	106.7	107.2	107.8	108.7	108.9
Alcoholic beverages away from home (12/77=100)	113.9	118.0	119.2	120.0	120.5	121.5	122.3	111.7	115.9	117.6	119.1	120.5	121.7	122.5
HOUSING	225.5	247.3	250.5	254.5	257.9	261.7	266.7	225.5	247.3	250.5	254.4	257.8	261.7	266.9
Shelter	236.7	264.0	267.2	271.6	276.0	280.2	286.3	237.2	265.1	268.3	272.7	277.2	281.6	288.0
Rent, residential	174.7	184.1	185.6	186.6	187.0	188.9	191.1	174.7	183.9	185.5	186.4	186.9	188.7	190.8
Other rental costs	232.3	251.1	255.7	258.6	260.7	261.9	264.2	231.8	251.1	255.6	258.6	260.5	261.7	263.9
Lodging while out of town	244.3	267.0	272.8	276.8	279.3	279.9	282.1	243.1	266.1	271.6	275.7	278.0	278.6	280.8
Tenants' insurance (12/77=100)	108.0	116.2	117.8	118.5	119.9	121.2	122.6	108.2	116.8	118.5	119.3	120.1	121.4	122.7
Homeownership	258.8	292.5	296.3	302.0	307.7	312.9	320.4	259.9	294.6	298.4	304.0	310.0	315.4	323.4
Home purchase	220.9	242.1	243.0	244.0	246.5	249.7	252.6	220.8	242.3	243.0	243.8	246.5	249.8	253.0
Financing, taxes, and insurance	302.2	359.8	367.7	379.9	390.6	399.7	416.1	304.2	363.4	371.6	384.1	395.3	404.9	422.0
Property insurance	310.6	327.7	333.7	335.7	338.9	344.9	351.8	310.1	328.8	335.2	337.4	340.4	348.4	352.7
Property taxes	181.3	186.7	188.2	188.2	188.4	187.6	187.7	182.8	188.2	189.9	189.9	190.1	189.3	189.4
Contracted mortgage interest cost	366.0	452.8	464.0	463.0	499.4	513.6	538.9	366.2	453.7	465.0	484.1	500.9	515.6	541.5
Mortgage interest rates	163.0	183.7	187.5	194.4	199.4	202.4	210.3	163.1	183.8	187.8	194.8	199.8	202.8	210.8
Maintenance and repairs	255.5	270.6	273.7	278.8	282.9	284.9	285.9	256.7	271.9	274.4	278.2	281.7	283.4	283.8
Maintenance and repair services	277.4	293.2	297.1	303.2	307.9	310.1	310.6	280.2	295.9	299.3	303.5	307.7	309.1	308.5
Maintenance and repair commodities	204.4	217.6	218.9	221.4	224.3	225.8	228.0	204.9	216.4	219.5	222.3	224.3	226.5	228.8
Paint and wallpaper, supplies, tools, and equipment (12/77=100)	111.8	122.5	123.5	125.0	126.6	128.7	131.3	112.1	122.2	122.3	123.6	126.0	128.7	130.9
Lumber, awnings, glass, and masonry (12/77=100)	112.9	115.9	115.8	117.6	118.8	118.0	118.9	113.9	118.6	119.3	119.0	119.7	118.4	118.5
Plumbing, electrical, heating, and cooling supplies (12/77=100)	108.6	114.7	115.3	116.4	119.1	119.3	119.9	109.3	117.0	117.9	119.3	120.0	122.0	123.8
Miscellaneous supplies and equipment (12/77=100)	109.3	115.4	116.4	117.0	118.2	118.7	119.1	107.6	113.2	114.5	118.2	119.4	120.1	120.7
Fuel and other utilities	239.0	256.6	263.8	268.0	270.5	275.9	282.2	239.4	259.2	264.4	268.7	271.0	276.4	283.0
Fuels	296.2	318.0	327.1	333.9	337.8	346.4	355.8	296.1	318.1	327.0	333.9	337.6	346.0	355.8
Fuel oil, coal, and bottled gas	391.2	514.0	530.1	553.4	556.4	556.0	558.7	391.6	515.1	540.3	554.1	557.1	557.1	559.8
Fuel oil	405.9	534.4	561.9	577.9	580.7	580.4	583.2	406.1	534.9	562.5	577.9	580.7	580.5	583.3
Other fuels (6/78 = 100)	102.6	132.7	136.6	138.3	138.6	139.4	140.1	102.6	133.7	137.9	139.5	140.8	141.3	141.9
Gas (piped) and electricity	259.9	273.0	278.8	284.0	288.0	298.2	308.8	259.8	273.0	278.5	283.9	287.6	297.5	309.5
Electricity	223.7	226.6	233.8	237.9	241.5	248.1	261.9	224.3	226.6	233.9	238.1	241.5	249.0	262.3
Utility (piped) gas	301.8	335.1	336.8	343.9	347.9	364.6	366.7	300.1	333.8	336.4	342.8	346.4	362.3	364.9

23. Continued—Consumer Price Index—U.S. city average

[1967 = 100 unless otherwise specified]

General summary	All Urban Consumers							Urban Wage Earners and Clerical Workers (revised)						
	1979	1980						1979	1980					
	June	Jan.	Feb.	Mar.	Apr.	May	June	June	Jan.	Feb.	Mar.	Apr.	May	June
HOUSING—Continued														
Fuel and other utilities—Continued														
Other utilities and public services	158.2	161.5	161.3	161.9	162.3	163.1	164.9	158.2	161.5	161.4	161.9	162.3	163.1	164.9
Telephone services	132.0	133.4	132.8	133.2	133.4	134.0	135.5	132.0	133.4	132.8	133.1	133.2	133.9	135.4
Local charges (12/77 = 100)	100.0	102.6	102.7	103.3	103.5	104.3	105.3	100.1	102.6	102.7	103.2	103.3	104.9	105.1
Interstate toll calls (12/77 = 100)	98.4	97.7	97.4	97.4	97.3	97.3	99.5	98.5	97.7	97.5	97.5	97.4	97.4	99.5
Intrastate toll calls (12/77 = 100)	102.0	100.8	98.8	98.7	99.0	99.4	99.6	101.1	100.6	98.7	98.6	98.9	99.3	99.5
Water and sewerage maintenance	243.1	250.0	252.3	253.9	255.2	256.5	259.3	243.3	250.5	253.0	254.7	256.2	257.8	260.5
Household furnishings and operations	190.1	196.9	199.0	201.3	203.0	204.2	205.5	186.8	194.9	196.4	199.2	200.7	201.9	202.9
Housefurnishings	163.1	167.6	169.3	171.5	172.7	173.4	174.6	162.8	166.5	167.9	170.4	171.5	172.2	172.9
Textile housefurnishings	174.9	176.7	182.9	187.2	188.2	187.3	189.4	174.0	175.3	181.2	185.3	186.3	186.1	188.6
Household linens (12/77 = 100)	106.8	105.4	110.1	113.9	114.8	114.4	116.0	105.1	106.0	109.8	113.2	113.8	113.4	116.2
Curtains, drapes, slipcovers, and sewing materials (12/77 = 100)	111.4	115.1	118.2	119.7	119.9	119.3	120.1	112.3	113.2	116.6	118.2	118.9	119.0	120.5
Furniture and bedding	177.5	184.0	185.2	189.2	190.9	191.9	193.6	177.6	183.6	184.3	187.9	189.4	190.1	190.8
Bedroom furniture (12/77 = 100)	112.9	119.1	120.5	122.5	124.3	125.0	126.2	111.7	116.8	117.5	119.2	120.9	121.7	123.1
Sofas (12/77 = 100)	107.8	108.2	108.5	110.9	111.6	111.4	113.0	110.1	110.6	110.3	112.7	111.8	112.0	112.7
Living room chairs and tables (12/77 = 100)	103.5	108.9	110.0	110.8	110.9	110.8	110.6	105.4	109.4	111.2	111.9	112.6	112.6	111.7
Other furniture (12/77 = 100)	114.7	116.1	118.3	122.6	124.0	125.6	127.1	113.3	117.8	117.5	121.3	123.1	123.5	123.9
Appliances including TV and sound equipment	135.6	137.8	138.3	138.8	139.3	139.9	140.2	135.3	137.2	137.8	139.0	139.7	140.2	140.1
Television and sound equipment (12/77 = 100)	104.0	105.3	105.4	105.7	105.7	105.7	105.6	103.3	104.9	104.9	105.5	105.4	105.4	105.2
Television	102.7	103.7	103.7	104.0	104.0	104.1	104.2	102.0	102.2	102.3	102.9	102.8	102.8	103.1
Sound equipment (12/77 = 100)	108.3	107.8	108.1	108.3	108.3	108.3	107.9	105.5	108.2	108.2	108.7	108.6	108.7	108.0
Household appliances	155.4	158.5	159.4	160.2	161.4	162.6	163.4	155.6	157.7	158.8	160.7	162.3	163.4	163.6
Refrigerators and home freezer	151.9	156.7	156.5	157.9	160.6	162.7	163.2	156.0	158.4	159.7	161.4	163.5	166.0	166.8
Laundry equipment (12/77 = 100)	110.8	114.1	115.0	116.8	117.5	118.2	119.1	110.5	113.8	114.7	116.6	117.8	118.5	118.9
Other household appliances (12/77 = 100)	109.5	110.5	111.3	111.2	111.5	112.1	112.7	108.3	108.6	109.5	110.7	111.6	111.8	111.7
Stoves, dishwashers, vacuums, and sewing machines (12/77 = 100)	109.8	110.0	110.8	110.9	110.0	110.3	111.2	108.9	109.2	110.5	111.1	111.6	111.9	111.4
Office machines, small electric appliances, and air conditioners (12/77 = 100)	109.2	111.1	112.0	111.6	113.1	114.2	114.4	107.6	107.8	108.4	110.2	111.6	111.7	112.0
Other household equipment (12/77 = 100)	109.5	114.6	115.9	117.3	118.4	119.0	120.2	109.6	113.3	114.4	116.0	117.0	117.8	118.5
Floor and window coverings, infants' laundry cleaning and outdoor equipment (12/77 = 100)	108.5	113.1	114.5	116.4	118.2	117.6	120.2	104.2	108.9	109.4	110.8	113.1	113.2	114.3
Clocks, lamps, and decor items (12/77 = 100)	105.9	111.6	112.7	114.9	115.6	117.6	118.8	106.3	109.4	109.8	112.3	112.6	114.4	115.9
Tableware, serving pieces, and nonelectric kitchenware (12/77 = 100)	113.2	119.9	121.4	122.6	123.4	124.1	125.4	112.9	117.3	118.9	120.8	121.4	121.7	122.2
Lawn equipment, power tools, and other hardware (12/77 = 100)	107.9	110.6	111.7	112.2	113.5	114.0	113.7	110.6	113.0	114.2	115.0	115.9	117.4	117.6
Housekeeping supplies	221.5	231.1	235.0	238.0	240.7	243.6	245.4	219.9	228.8	232.8	235.5	238.1	241.2	243.0
Soaps and detergents	210.2	224.1	228.9	232.1	233.2	235.0	234.9	208.8	222.2	226.5	230.0	231.1	232.1	232.3
Other laundry and cleaning products (12/77 = 100)	110.7	116.1	117.2	117.0	117.6	119.8	121.1	110.8	115.6	117.1	116.9	118.1	119.5	120.8
Cleansing and toilet tissue, paper towels and napkins (12/77 = 100)	116.7	120.6	121.2	123.9	126.2	128.6	129.4	117.2	121.8	123.4	125.8	128.1	130.8	131.5
Stationery, stationery supplies, and gift wrap (12/77 = 100)	108.2	111.6	112.7	113.8	115.6	116.3	116.9	107.0	109.0	112.3	113.6	114.9	116.0	116.5
Miscellaneous household products (12/77 = 100)	111.8	117.7	119.4	120.9	122.0	123.0	124.4	110.1	115.0	116.6	118.3	119.2	120.8	122.1
Lawn and garden supplies (12/77 = 100)	112.3	114.4	119.4	121.4	123.6	125.2	126.8	110.3	111.3	113.3	114.0	116.5	118.9	121.0
Housekeeping services	248.0	260.0	261.6	263.6	266.0	267.6	269.1	247.0	259.2	261.1	262.7	264.3	265.6	267.0
Postage	257.3	257.3	257.3	257.3	257.3	257.3	257.3	257.2	257.2	257.2	257.2	257.3	257.3	257.3
Moving, storage, freight, household laundry, and drycleaning services (12/77 = 100)	115.1	122.9	124.2	125.4	128.3	129.4	130.5	115.5	123.3	124.6	126.1	127.8	128.5	129.2
Appliance and furniture repair (12/77 = 100)	109.1	114.0	114.7	115.8	116.5	117.2	117.7	108.8	114.4	115.5	116.0	116.2	116.7	117.4
APPAREL AND UPKEEP	165.7	171.0	171.9	176.0	177.3	177.5	177.2	165.3	169.8	171.5	175.1	176.1	176.8	176.0
Apparel commodities	160.2	164.3	165.1	169.2	170.2	170.1	169.7	160.0	163.6	165.2	168.7	169.5	169.8	168.8
Apparel commodities less footwear	157.4	161.1	161.8	166.2	167.2	166.9	166.4	157.2	160.2	161.9	165.7	166.3	166.4	165.3
Men's and boys'	160.4	162.8	162.7	165.6	166.9	166.0	166.8	160.9	162.4	162.9	166.0	167.3	168.9	168.1
Men's (12/77 = 100)	101.1	102.6	102.3	104.3	105.0	105.7	104.8	101.6	102.3	102.4	104.4	105.2	106.3	105.5
Suits, sport coats, and jackets (12/77 = 100)	98.5	98.8	98.2	99.9	101.1	101.2	99.7	98.8	94.9	94.4	96.4	97.3	97.1	95.4
Coats and jackets (12/77 = 100)	94.5	95.5	93.6	96.9	96.5	97.3	96.3	97.8	95.6	92.2	96.9	97.0	97.2	97.1
Furnishings and special clothing (12/77 = 100)	108.1	112.2	112.7	115.0	116.6	117.9	118.2	108.2	109.3	111.1	113.2	114.2	116.4	115.4
Shirts (12/77 = 100)	103.5	108.6	109.3	111.9	111.5	112.2	110.8	104.5	108.3	108.4	112.0	111.7	113.7	112.9
Dungarees, jeans, and trousers (12/77 = 100)	99.9	98.2	97.7	98.7	99.4	100.2	99.5	101.7	102.2	102.2	102.7	104.2	105.2	105.0
Boys' (12/77 = 100)	103.5	105.6	106.3	107.5	108.9	109.7	109.5	103.1	104.7	105.9	107.5	108.7	109.6	109.8
Coats, jackets, sweaters, and shirts (12/77 = 100)	100.0	99.3	99.9	102.5	104.4	105.2	104.6	99.4	99.8	101.9	105.0	107.2	107.7	107.8
Furnishings (12/77 = 100)	108.3	111.5	110.9	112.0	113.3	114.3	114.6	107.8	109.7	109.5	110.7	111.6	112.7	113.3
Suits, trousers, sport coats, and jackets (12/77 = 100)	104.4	108.2	109.5	108.8	110.7	111.3	111.3	104.1	108.6	107.7	108.2	108.6	108.9	110.1
Women's and girls'	150.8	151.5	151.1	155.5	155.9	154.1	153.0	149.9	149.9	151.3	154.9	154.7	154.1	151.2
Women's (12/77 = 100)	100.6	100.8	100.8	103.8	103.9	102.4	101.7	100.6	100.1	101.4	103.7	103.3	103.0	100.8
Coats and jackets	152.4	166.4	163.1	167.6	168.3	162.0	158.1	166.9	165.0	162.4	167.0	167.8	162.4	155.2
Dresses	153.5	161.3	160.6	168.3	167.8	163.9	163.3	158.6	150.0	151.2	157.5	154.1	154.5	152.5
Separates and sportswear (12/77 = 100)	96.4	98.1	97.1	99.8	101.1	100.3	99.5	98.5	97.1	99.2	101.0	101.6	101.2	99.2
Underwear, nightwear, and hosiery (12/77 = 100)	105.6	108.6	110.2	111.0	111.5	111.8	112.1	108.5	108.1	110.6	111.5	111.7	112.2	112.3
Suits (12/77 = 100)	91.7	91.0	88.2	91.6	90.4	89.0	86.5	92.4	94.0	88.8	100.2	98.2	98.2	91.7
Girls (12/77 = 100)	99.0	100.5	98.9	101.8	102.6	102.7	102.1	95.9	97.9	97.3	100.1	101.1	100.5	99.6
Coats, jackets, dresses, and suits (12/77 = 100)	96.8	97.5	96.7	99.9	99.8	99.4	98.1	93.4	91.9	92.6	95.7	99.8	96.3	93.8
Separates and sportswear (12/77 = 100)	95.7	99.6	98.2	100.8	101.4	101.8	100.7	93.8	98.8	98.1	99.8	100.5	99.8	98.5
Underwear, nightwear, hosiery, and accessories (12/77 = 100)	105.7	106.7	109.6	109.4	109.5	110.0	111.4	103.4	104.4	103.5	107.8	108.8	110.0	110.9

23. Continued—Consumer Price Index—U.S. city average

[1967 = 100 unless otherwise specified]

General summary	All Urban Consumers							Urban Wage Earners and Clerical Workers (revised)						
	1979	1980						1979	1980					
	June	Jan.	Feb.	Mar.	Apr.	May	June	June	Jan.	Feb.	Mar.	Apr.	May	June
APPAREL AND UPKEEP—Continued														
Apparel commodities—Continued														
Apparel commodities less footwear—Continued														
Infants' and toddlers'	220.9	224.6	226.6	231.4	234.3	237.4	240.9	223.9	229.1	232.7	237.3	241.1	242.8	246.8
Other apparel commodities	167.3	184.4	191.4	199.9	201.9	202.7	205.3	167.8	185.5	191.8	197.8	198.5	197.4	201.0
Sewing materials and notions (12/77 = 100)	101.0	103.2	106.3	107.1	107.9	109.1	110.2	95.7	101.2	105.7	107.2	106.9	108.6	110.9
Jewelry and luggage (12/77 = 100)	111.3	126.1	131.2	138.6	140.1	140.4	142.2	114.3	128.4	132.3	137.3	138.1	136.3	138.6
Footwear	176.7	183.7	184.6	187.0	188.3	189.3	189.0	176.0	183.3	183.9	186.3	188.1	189.3	188.9
Men's (12/77 = 100)	114.0	117.8	118.3	119.0	119.7	120.0	121.3	113.2	119.3	119.4	120.9	122.4	122.7	123.6
Boys' and girls' (12/77 = 100)	110.3	117.3	117.9	119.5	119.5	121.3	121.0	110.0	116.9	118.0	119.5	119.5	121.5	121.3
Womens' (12/77 = 100)	108.4	111.6	112.1	114.2	115.6	115.8	114.6	107.9	109.4	109.5	110.9	112.6	112.9	111.7
Apparel services	204.8	220.7	222.9	225.9	230.0	232.2	233.6	203.6	216.9	219.8	223.5	226.0	230.8	231.8
Laundry and drycleaning other than coin operated (12/77 = 100)	119.7	129.3	130.6	132.5	135.5	136.9	137.5	119.2	129.0	130.6	132.3	134.1	135.6	137.3
Other apparel services (12/77 = 100)	111.4	119.6	120.7	122.1	123.3	124.5	125.5	111.1	115.1	116.9	119.6	120.4	125.0	123.9
TRANSPORTATION	212.6	233.5	239.6	243.7	246.8	249.0	249.7	213.7	234.1	240.2	244.3	247.7	249.9	250.6
Private	213.3	233.5	239.8	244.0	247.0	249.2	249.7	214.1	234.1	240.4	244.6	248.0	250.1	250.8
New cars	166.3	173.9	175.3	175.0	177.0	178.9	178.5	165.9	174.1	175.4	175.4	177.7	179.6	179.4
Used cars	208.9	197.2	195.3	195.2	196.7	199.3	200.7	208.9	197.2	195.3	195.2	196.8	199.3	200.8
Gasoline	265.0	334.6	357.6	370.9	374.7	375.4	376.2	266.2	335.9	359.0	372.7	376.3	377.1	377.6
Automobile maintenance and repair	242.0	255.1	258.2	260.9	264.1	266.1	267.3	242.3	256.2	259.2	261.7	264.3	266.1	268.0
Body work (12/77 = 100)	116.0	125.0	126.5	127.3	129.1	130.6	131.4	116.0	124.3	126.1	127.2	128.4	129.7	130.8
Automobile drive train, brake, and miscellaneous mechanical repair (12/77 = 100)	115.8	121.8	123.2	124.1	126.1	126.6	127.5	116.7	123.6	124.8	126.1	127.4	127.8	128.8
Maintenance and servicing (12/77 = 100)	115.0	120.2	121.3	123.1	124.7	125.9	126.1	114.6	120.4	121.3	122.8	124.2	125.4	126.2
Power plant repair (12/77 = 100)	113.9	120.4	122.5	123.5	124.4	125.1	125.9	114.3	120.9	123.1	124.0	124.6	125.4	126.2
Other private transportation	197.3	209.8	212.6	216.5	221.3	224.5	225.0	197.7	210.6	213.6	217.1	223.1	226.7	227.3
Other private transportation commodities	171.8	188.4	191.2	192.7	194.1	195.3	195.5	172.6	188.0	191.7	193.2	195.8	196.7	196.6
Motor oil, coolant, and other products (12/77 = 100)	110.3	120.9	123.9	126.4	129.6	132.2	134.1	109.3	122.4	124.0	126.1	129.1	131.5	133.6
Automobile parts and equipment (12/77 = 100)	111.2	121.9	123.5	124.3	124.8	125.4	125.3	111.9	121.4	123.9	124.7	126.2	126.5	126.3
Tires	151.9	165.8	168.5	170.1	171.2	172.6	172.3	153.7	166.3	170.6	172.5	174.9	175.6	174.9
Other parts and equipment (12/77 = 100)	114.1	126.6	127.3	127.2	127.1	126.5	126.8	113.4	124.0	125.0	124.4	125.1	125.0	125.4
Other private transportation services	206.0	217.6	220.4	225.0	230.6	234.5	235.0	206.3	218.7	221.5	225.7	232.6	236.8	237.6
Automobile insurance	227.3	237.1	240.2	244.0	245.2	247.1	248.5	227.2	236.8	239.7	243.8	244.9	246.9	248.2
Automobile finance charges (12/77 = 100)	116.3	129.9	132.1	137.4	148.6	155.0	153.7	115.6	129.4	131.3	135.2	147.8	153.8	153.5
Automobile rental, registration, and other fees (12/77 = 100)	106.8	109.1	109.8	110.8	111.5	112.1	112.9	107.2	109.8	110.9	111.6	112.2	113.1	114.0
State registration	144.0	144.2	145.2	145.3	146.4	146.4	146.4	143.9	144.1	145.3	145.5	146.5	146.5	146.5
Drivers' license (12/77 = 100)	104.5	104.7	104.8	104.7	104.7	104.7	104.7	104.3	104.5	104.5	104.4	104.4	104.4	104.4
Vehicle inspection (12/77 = 100)	114.6	117.5	119.0	119.7	119.7	120.4	121.5	115.5	118.3	119.7	120.2	120.3	121.0	122.1
Other vehicle related fees (12/77 = 100)	113.6	118.8	119.6	122.0	122.7	124.0	126.1	116.6	123.8	125.4	127.0	127.8	130.0	132.7
Public	194.0	226.8	229.5	232.1	235.9	239.5	242.2	194.8	221.9	223.9	226.1	229.7	232.9	234.9
Airline fare	194.3	251.1	255.4	259.9	264.3	270.0	275.5	193.8	251.0	255.2	259.3	263.9	270.0	275.4
Intercity bus fare	253.9	284.7	288.5	290.7	291.5	293.6	293.8	253.2	284.8	288.2	290.2	291.0	293.4	293.6
Intracity mass transit	188.4	198.5	199.7	200.8	203.0	204.6	204.4	188.4	196.7	197.6	198.6	200.8	202.0	201.9
Taxi fare	217.2	243.1	244.0	245.6	256.4	259.9	262.0	223.3	248.9	249.3	251.2	261.6	265.7	267.6
Intercity train fare	205.3	237.2	237.2	237.2	237.3	250.0	255.2	205.2	237.1	237.0	237.1	237.2	251.1	255.5
MEDICAL CARE	237.7	253.9	257.9	260.2	262.0	263.4	264.7	238.2	254.9	258.7	260.9	263.1	264.9	266.9
Medical care commodities	153.3	160.5	162.1	163.5	164.9	166.4	167.9	154.5	161.0	162.7	164.4	166.0	167.2	168.5
Prescription drugs	141.3	147.9	149.8	150.9	152.2	153.5	154.8	142.4	148.8	150.7	152.0	153.5	154.6	155.8
Anti-infective drugs (12/77 = 100)	112.0	115.8	117.2	117.9	118.5	118.7	120.5	112.9	118.2	119.8	120.1	120.4	120.7	122.0
Tranquilizers and sedatives (12/77 = 100)	113.7	118.9	121.3	122.2	122.9	124.1	124.9	114.2	119.7	121.0	122.2	122.7	123.5	124.2
Circulatories and diuretics (12/77 = 100)	108.3	112.4	113.4	113.3	114.2	114.6	115.1	109.2	113.0	114.2	114.7	115.9	116.8	117.3
Hormones, diabetic drugs, biologicals, and prescription and supplies (12/77 = 100)	117.9	126.0	128.7	130.0	131.3	133.2	134.3	118.0	124.8	127.8	129.6	131.3	132.4	133.7
Pain and symptom control drugs (12/77 = 100)	112.1	118.8	119.7	120.5	121.4	122.9	124.2	113.4	119.0	120.1	121.3	122.6	124.2	125.5
Supplements, cough and cold preparations, and respiratory agents (12/77 = 100)	109.4	112.6	113.7	115.5	117.1	118.2	118.6	110.9	114.2	115.2	116.5	118.5	119.5	120.2
Nonprescription drugs and medical supplies (12/77 = 100)	110.2	115.3	116.3	117.3	118.4	119.5	120.6	111.2	115.6	116.6	118.0	119.2	120.1	121.0
Eyeglasses (12/77 = 100)	107.4	111.5	112.9	114.1	115.0	116.5	118.2	107.7	111.4	112.6	114.5	115.3	116.3	117.3
Internal and respiratory over-the-counter drugs	170.3	179.1	180.4	182.2	184.4	186.0	187.3	172.0	179.0	180.8	183.0	185.4	186.9	188.4
Nonprescription medical equipment and supplies (12/77 = 100)	109.1	113.8	114.6	115.1	115.3	116.5	117.5	110.3	115.0	115.6	116.1	116.3	117.1	117.5
Medical care services	256.9	274.4	279.0	281.5	283.4	284.7	285.9	256.1	275.6	279.8	282.2	284.5	286.3	287.3
Professional services	225.7	238.9	242.9	245.3	248.2	250.3	251.8	227.3	241.7	245.5	247.8	251.2	253.5	255.1
Physicians' services	241.8	256.0	260.2	262.3	264.8	267.5	269.2	243.6	260.3	264.1	266.2	269.7	272.3	273.9
Dental services	214.3	227.4	231.5	234.1	237.2	238.8	240.3	216.5	229.5	233.4	236.7	238.9	241.2	243.1
Other professional services (12/77 = 100)	110.6	116.6	118.1	119.5	121.7	122.2	122.6	110.0	115.9	117.4	119.3	121.1	121.6	122.2
Other medical care services	292.5	317.4	322.7	325.3	325.6	326.3	327.2	291.2	317.3	322.1	324.4	325.3	326.5	326.5
Hospital and other medical services (12/77 = 100)	116.2	125.6	127.8	128.8	129.7	130.4	131.4	115.3	124.9	126.8	127.7	128.6	128.7	130.3
Hospital room	366.0	385.3	403.4	405.8	408.0	410.1	412.6	362.9	383.9	398.8	401.2	403.6	406.7	408.5
Other hospital and medical care services	115.2	124.7	126.5	127.8	128.8	129.5	130.6	114.3	123.6	125.9	126.9	128.0	129.1	129.7

23. Continued—Consumer Price Index—U.S. city average

[1967 = 100 unless otherwise specified]

General summary	All Urban Consumers							Urban Wage Earners and Clerical Workers (revised)						
	1979	1980						1979	1980					
	June	Jan.	Feb.	Mar.	Apr.	May	June	June	Jan.	Feb.	Mar.	Apr.	May	June
ENTERTAINMENT	186.2	195.3	197.8	200.6	202.5	204.0	205.3	187.5	193.9	196.2	199.5	201.3	202.4	204.0
Entertainment commodities	186.7	197.6	200.4	203.4	205.7	207.0	208.3	187.4	194.2	196.9	200.3	202.8	203.4	204.5
Reading materials (12/77 = 100)	109.5	116.7	117.4	119.4	120.1	121.5	122.3	109.1	116.2	117.0	119.1	119.7	121.1	121.8
Newspapers	211.6	226.8	227.7	232.4	234.8	237.2	239.0	211.1	226.4	227.3	232.0	234.3	236.4	238.2
Magazines, periodicals, and books (12/77 = 100)	111.6	118.1	119.2	120.8	120.8	122.4	123.1	111.6	117.8	118.9	120.7	120.6	122.3	122.8
Sporting goods and equipment (12/77 = 100)	109.3	113.8	115.9	117.2	118.7	118.5	118.6	106.6	108.6	110.8	112.4	114.1	114.0	114.2
Sport vehicles (12/77 = 100)	110.3	....	117.4	118.7	120.6	119.9	119.8	107.0	....	109.1	110.8	113.0	112.5	112.6
Indoor and warm weather sport equipment (12/77 = 100)	106.1	107.6	108.3	109.5	111.3	112.0	111.1	103.3	106.4	107.8	109.3	110.5	110.3	110.2
Bicycles	160.1	170.5	174.5	177.2	178.6	179.7	180.6	160.0	170.5	174.9	177.8	179.8	180.9	181.4
Other sporting goods and equipment (12/77 = 100)	106.9	111.8	112.4	112.9	113.1	113.7	114.6	105.4	111.9	112.6	113.4	114.0	114.6	115.3
Toys, hobbies, and other entertainment (12/77 = 100)	108.9	113.2	115.1	116.9	118.4	119.4	120.6	109.0	112.6	114.3	116.4	118.0	118.1	119.0
Toys, hobbies, and music equipment (12/77 = 100)	109.2	112.1	114.1	115.7	117.3	118.5	119.6	109.0	110.9	112.3	114.9	116.5	115.8	117.0
Photographic supplies and equipment (12/77 = 100)	107.6	110.8	114.1	118.2	120.1	120.8	121.8	107.3	111.2	114.2	116.9	118.9	120.5	121.1
Pet supplies and expense (12/77 = 100)	109.2	116.8	117.6	118.2	119.2	120.1	121.7	110.0	116.7	117.9	119.0	120.0	120.9	121.4
Entertainment services	187.9	192.6	194.5	197.0	198.5	200.1	201.4	188.8	194.4	196.0	199.1	199.9	201.8	204.3
Fees for participant sports (12/77 = 100)	111.6	114.6	116.0	117.5	119.0	120.2	120.9	111.5	115.6	116.3	118.8	119.3	120.5	121.5
Admissions (12/77 = 100)	113.3	117.9	116.3	119.1	118.7	118.8	120.4	113.2	119.4	119.7	120.0	120.1	121.0	123.2
Other entertainment services (12/77 = 100)	109.0	109.1	111.4	113.2	114.8	116.4	116.6	111.0	109.3	111.8	113.9	115.1	116.5	118.2
OTHER GOODS AND SERVICES	194.5	206.3	208.1	208.9	209.8	211.2	212.5	194.3	206.0	207.7	208.3	209.2	210.6	212.1
Tobacco products	186.4	196.7	198.1	198.4	198.8	200.4	203.4	186.5	197.1	198.3	198.6	198.9	200.5	203.6
Cigarettes	188.8	199.7	200.9	201.2	201.4	202.9	206.0	189.0	200.3	201.3	201.6	201.6	203.2	206.4
Other tobacco products and smoking accessories (12/77 = 100)	110.3	113.9	115.6	116.3	117.6	119.0	120.2	109.8	113.4	114.8	115.7	117.2	118.5	119.5
Personal care	195.0	204.2	206.5	208.1	209.7	211.6	212.4	194.6	204.4	206.6	207.7	209.5	210.9	211.8
Toilet goods and personal care appliances	187.9	196.4	198.6	200.2	201.8	204.1	205.1	187.8	196.2	198.3	199.6	201.8	203.9	204.5
Products for the hair, hairpieces and wigs (12/77 = 100)	108.8	114.2	116.1	116.6	117.9	120.0	120.7	108.9	114.0	114.9	114.9	117.9	120.0	119.7
Dental and shaving products (12/77 = 100)	112.6	117.8	118.6	119.2	120.5	121.0	122.3	110.2	115.3	116.8	118.4	119.3	118.8	120.4
Cosmetics, bath and nail preparations, manicure and eye makeup implements (12/77 = 100)	108.6	112.9	114.2	115.1	115.7	116.5	116.7	107.8	112.9	114.0	114.8	115.2	116.2	116.6
Other toilet goods and small personal care appliances (12/77 = 100)	106.9	112.1	112.9	114.7	115.4	117.4	117.6	109.8	114.0	115.6	116.6	117.2	119.0	119.1
Personal care services	202.0	211.6	214.2	215.7	217.2	218.8	219.6	201.4	212.7	215.0	215.8	217.2	218.1	219.1
Beauty parlor services for women	203.7	213.3	216.1	217.9	218.6	220.4	220.6	203.6	214.2	216.6	217.8	218.6	219.4	220.2
Haircuts and other barber shop services for men (12/77 = 100)	112.6	118.1	119.3	119.7	121.7	122.2	123.4	111.7	118.8	120.0	120.1	121.5	122.0	122.8
Personal and educational expenses	209.1	226.3	228.0	228.3	228.7	229.2	229.5	209.6	226.2	227.8	228.2	228.7	229.4	229.8
School books and supplies	191.6	206.0	206.5	206.9	207.1	207.1	207.1	194.2	209.8	210.4	210.7	210.9	210.9	210.9
Personal and educational services	213.6	231.4	233.3	233.6	234.0	234.7	235.0	213.7	230.6	232.5	232.9	233.4	234.2	234.8
Tuition and other school fees	108.8	118.3	118.5	118.6	118.6	118.6	118.6	108.7	118.4	118.6	118.7	118.7	118.7	118.7
College tuition (12/77 = 100)	109.1	117.6	117.8	117.9	117.9	117.9	117.9	109.1	117.6	117.8	117.9	117.9	117.9	117.9
Elementary and high school tuition (12/77 = 100)	107.5	120.9	120.9	120.9	120.9	120.9	120.9	107.4	120.7	120.7	120.7	120.7	120.7	120.7
Personal expenses (12/77 = 100)	112.6	120.1	124.4	125.0	126.1	127.8	128.7	112.6	117.7	121.4	122.1	123.3	125.1	126.4
Special indexes:														
Gasoline, motor oil, coolant, and other products	261.9	329.9	352.5	365.5	369.3	370.1	370.9	263.1	331.3	353.8	367.2	370.8	371.6	372.2
Insurance and finance	268.2	310.5	316.7	326.3	335.2	342.6	353.8	267.9	310.0	316.2	325.6	335.2	342.8	354.0
Utilities and public transportation	212.7	225.0	227.9	230.9	233.4	238.9	244.8	213.2	224.4	227.2	230.2	232.6	237.9	244.0
Housekeeping and home maintenance services	270.2	284.7	287.6	292.0	295.7	297.6	298.6	217.4	286.0	288.7	292.0	295.1	296.5	296.7

24. Consumer Price Index for All Urban Consumers: Cross classification of region and population size class by expenditure category and commodity and service group

[December 1977 = 100]

Category and group	Size class A (1.25 million or more)			Size class B (385,000 - 1.250 million)			Size class C (75,000 - 385,000)			Size class D (75,000 or less)		
	1980			1980			1980			1980		
	Feb.	Apr.	June	Feb.	Apr.	June	Feb.	Apr.	June	Feb.	Apr.	June
	Northeast											
EXPENDITURE CATEGORY												
All items	122.1	125.0	127.1	125.6	129.0	131.0	129.1	132.7	135.6	124.2	127.4	131.0
Food and beverages	122.1	124.5	126.2	124.3	127.1	128.6	126.0	128.8	130.5	123.4	125.2	127.6
Housing	122.9	126.1	129.6	126.7	130.0	133.1	135.5	140.2	144.9	124.8	127.9	133.5
Apparel and upkeep	109.5	112.5	111.5	107.1	111.1	111.3	107.3	112.7	113.2	108.8	113.0	115.0
Transportation	129.9	133.8	135.3	135.0	140.8	141.7	133.1	136.2	136.2	133.5	136.1	140.2
Medical care	120.6	122.4	123.0	121.6	122.4	123.2	121.3	122.5	123.5	121.4	122.7	124.4
Entertainment	114.4	116.7	117.7	115.7	117.9	120.2	112.2	115.7	116.5	118.9	121.5	123.8
Other goods and services	114.4	114.7	116.1	116.5	117.5	119.0	119.2	119.6	121.9	114.8	116.0	116.8
COMMODITY AND SERVICE GROUP												
Commodities	124.1	126.5	128.4	127.5	130.8	132.1	128.5	131.6	133.8	125.6	128.0	131.5
Commodities less food and beverages	125.3	127.8	129.7	129.1	132.5	133.6	129.7	132.9	135.4	126.6	129.3	133.3
Services	119.5	122.9	125.4	122.5	126.3	129.2	129.9	134.5	138.5	122.2	126.5	130.2
	North Central											
EXPENDITURE CATEGORY												
All items	129.6	133.2	136.7	127.2	130.9	134.4	126.4	128.9	131.9	125.8	128.7	131.9
Food and beverages	124.9	126.8	128.1	122.6	124.9	126.7	124.8	127.0	128.7	126.9	128.9	129.6
Housing	136.7	141.1	147.5	131.5	135.8	141.2	127.6	130.4	135.6	125.9	129.1	134.5
Apparel and upkeep	105.2	109.2	108.5	107.1	111.2	111.0	109.0	110.7	111.0	110.4	113.6	114.6
Transportation	133.5	138.1	140.1	133.4	137.6	140.7	135.8	139.3	140.4	132.6	137.4	139.8
Medical care	123.2	125.3	126.1	122.2	125.0	125.6	124.5	125.7	126.6	126.8	127.4	128.9
Entertainment	116.9	118.9	120.1	111.5	114.0	117.1	116.2	118.7	121.3	115.9	116.1	117.3
Other goods and services	115.4	116.2	117.9	119.4	121.5	123.2	115.5	116.7	117.5	119.1	119.8	121.6
COMMODITY AND SERVICE GROUP												
Commodities	128.1	130.9	132.9	124.5	127.9	129.9	125.9	128.1	129.7	124.3	126.0	128.0
Commodities less food and beverages	129.6	132.8	135.2	125.2	129.2	131.2	126.4	128.5	130.1	123.1	124.8	127.3
Services	131.8	136.6	142.3	131.6	135.6	141.7	127.1	130.3	135.5	128.2	132.9	138.1
	South											
EXPENDITURE CATEGORY												
All items	127.1	130.7	133.5	128.0	131.7	134.7	127.9	131.3	133.1	125.9	128.3	131.4
Food and beverages	125.0	126.4	128.5	124.4	127.0	127.9	126.0	127.8	129.1	124.0	126.2	128.1
Housing	129.1	133.9	138.5	131.9	136.7	141.4	131.8	136.6	138.9	127.7	129.7	134.0
Apparel and upkeep	112.5	116.4	116.4	109.6	112.9	112.6	105.5	108.2	107.3	109.9	104.7	107.2
Transportation	135.7	139.7	140.9	134.7	136.4	140.6	133.7	137.2	139.7	133.1	136.5	138.7
Medical care	119.7	121.9	124.1	121.6	123.3	125.8	124.8	126.4	127.5	129.0	131.2	133.9
Entertainment	114.5	115.7	116.3	115.4	119.8	122.5	115.9	118.3	120.3	121.8	124.4	128.0
Other goods and services	118.5	119.3	120.9	117.7	118.1	119.5	117.5	118.8	120.2	121.5	121.9	123.9
COMMODITY AND SERVICE GROUP												
Commodities	126.7	129.3	130.9	125.9	129.0	130.6	126.4	128.7	129.7	124.7	127.2	129.0
Commodities less food and beverages	127.5	130.6	132.0	126.6	129.8	131.7	126.5	129.1	130.0	125.0	127.7	129.3
Services	127.7	132.6	137.2	131.1	135.8	140.9	130.2	135.3	138.4	127.7	129.8	135.1
	West											
EXPENDITURE CATEGORY												
All items	129.6	132.8	136.1	130.6	134.1	136.0	128.1	131.4	133.6	127.1	130.4	134.3
Food and beverages	124.2	126.5	127.7	126.9	128.8	130.2	123.8	125.7	127.6	125.7	128.0	129.6
Housing	132.9	136.3	142.5	134.6	139.1	141.4	131.0	134.8	137.9	127.1	129.7	135.9
Apparel and upkeep	113.6	115.7	114.5	112.4	115.8	118.4	104.2	107.7	107.4	114.7	121.8	123.6
Transportation	137.4	141.2	141.1	135.8	139.2	140.7	137.1	141.2	142.1	134.8	139.6	141.7
Medical care	125.6	128.8	129.5	124.8	126.9	127.9	124.6	126.7	129.4	126.2	128.9	132.5
Entertainment	113.5	117.8	119.5	118.6	123.1	123.9	117.8	121.0	122.4	123.6	127.5	130.3
Other goods and services	119.2	121.2	121.7	120.3	121.5	124.3	116.3	117.7	119.0	119.7	122.5	124.4
COMMODITY AND SERVICE GROUP												
Commodities	127.0	129.5	130.4	128.8	131.5	132.5	126.7	129.0	130.1	126.7	129.8	131.7
Commodities less food and beverage	128.1	130.8	131.6	129.6	132.7	133.5	127.8	130.4	131.1	127.2	130.6	132.6
Services	133.2	137.2	143.6	133.0	137.7	140.8	130.0	134.8	138.5	127.6	131.2	138.2

25. Consumer Price Index—U.S. city average, and selected areas

[1967=100 unless otherwise specified]

Area[1]	All Urban Consumers							Urban Wage Earners and Clerical Workers (revised)						
	1979	1980						1979	1980					
	June	Jan.	Feb.	Mar.	Apr.	May	June	June	Jan.	Feb.	Mar.	Apr.	May	June
U.S. city average[2]	216.6	233.2	236.4	239.8	242.5	244.9	247.6	216.9	233.3	236.5	239.9	242.6	245.1	247.8
Anchorage, Alaska (10/67=100)	...	218.2	...	223.5	...	226.5	...	...	215.9	...	220.2	...	223.1	...
Atlanta, Ga.	212.6	...	230.3	...	235.3	...	242.2	214.5	...	233.5	...	239.3	...	244.7
Baltimore, Md.	...	234.4	...	245.0	...	248.1	...	...	234.5	...	243.9	...	247.8	...
Boston, Mass.	...	227.3	...	234.2	...	236.9	...	...	226.9	...	234.2	...	236.8	...
Buffalo, N.Y.	209.3	...	227.9	...	233.7	...	235.4	209.7	...	227.9	...	233.3	...	234.6
Chicago, Ill.-Northwestern Ind.	213.5	230.3	232.7	235.5	240.1	243.1	248.2	213.2	229.9	232.5	235.2	239.8	243.0	248.0
Cincinnati, Ohio-Ky.-Ind.	...	239.5	...	247.8	...	251.6	...	...	241.0	...	249.7	...	252.9	...
Cleveland, Ohio	219.9	...	243.5	...	247.3	...	250.1	221.2	...	244.1	...	248.4	...	250.5
Dallas-Ft. Worth, Tex.	217.5	...	241.7	...	251.4	...	256.4	218.0	...	240.9	...	249.6	...	254.5
Denver-Boulder, Colo.	...	247.3	...	255.2	...	258.0	...	...	250.9	...	259.4	...	262.4	...
Detroit, Mich.	215.4	237.2	240.4	242.9	248.2	248.4	256.7	215.5	236.4	239.9	242.4	248.0	248.9	255.8
Honolulu, Hawaii	204.4	...	220.9	...	227.4	...	227.5	203.6	...	221.3	...	228.4	...	228.0
Houston, Tex.	235.5	...	255.9	...	260.8	...	266.5	234.5	...	251.9	...	257.3	...	262.8
Kansas City, Mo.-Kansas	219.5	...	238.7	...	243.8	...	247.8	218.4	...	236.6	...	242.2	...	246.3
Los Angeles-Long Beach, Anaheim, Calif.	212.9	232.6	237.6	241.3	244.6	249.1	250.1	214.5	235.0	240.0	243.9	247.8	252.6	253.4
Miami, Fla. (11/77=100)	...	123.3	...	127.7	...	129.7	...	...	124.9	...	128.8	...	130.9	...
Milwaukee, Wis.	...	238.4	...	242.7	...	250.3	...	...	240.8	...	247.8	...	255.2	...
Minneapolis-St. Paul, Minn.-Wis.	222.3	...	237.9	...	244.3	...	246.4	223.4	...	239.6	...	245.7	...	248.4
New York, N.Y.-Northeastern N.J.	212.5	226.1	228.0	231.2	233.1	234.5	237.2	212.2	225.5	227.7	230.8	232.4	234.1	236.7
Northeast, Pa. (Scranton)	...	224.4	...	229.0	...	232.5	...	...	225.8	...	231.3	...	235.8	...
Philadelphia, Pa.-N.J.	213.8	227.2	231.1	234.6	237.4	239.4	242.5	214.5	228.0	231.6	235.1	237.9	239.9	243.8
Pittsburgh, Pa.	214.5	...	235.5	...	240.9	...	246.1	215.0	...	235.9	...	242.2	...	246.8
Portland, Oreg.-Wash.	...	244.6	...	253.6	...	257.3	...	...	243.5	...	251.7	...	255.9	...
St. Louis, Mo.-Ill.	...	232.7	...	238.1	...	241.8	...	...	233.5	...	238.5	...	242.6	...
San Diego, Calif.	...	254.0	...	258.3	...	269.7	...	...	251.0	...	255.6	...	264.8	...
San Francisco-Oakland, Calif.	212.5	...	240.7	...	243.5	...	248.0	213.7	...	240.0	...	242.8	...	247.7
Seattle-Everett, Wash.	...	236.0	...	243.8	...	249.6	...	...	233.8	...	241.3	...	246.8	...
Washington, D.C.-Md.-Va.	...	231.9	...	238.8	...	241.2	...	...	233.0	...	239.2	...	242.0	...

[1] The areas listed include not only the central city but the entire portion of the Standard Metropolitan Statistical Area, as defined for the 1970 Census of Population, except that the Standard Consolidated Area is used for New York and Chicago.

[2] Average of 85 cities.

26. Producer Price Indexes, by stage of processing

[1967=100]

Commodity grouping	Annual average 1979	1979						1980						
		July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb	Mar.[1]	Apr.	May	June	July
FINISHED GOODS														
Finished goods	216.1	216.2	217.3	220.7	224.2	226.3	228.1	232.4	235.7	238.5	240.0	241.0	242.6	246.6
Finished consumer goods	215.7	215.6	217.5	221.7	224.7	227.1	229.1	233.5	237.6	240.8	241.6	242.8	244.5	249.1
Finished consumer foods	226.3	224.9	223.5	228.1	228.7	230.5	232.1	231.4	231.6	233.1	228.7	230.0	231.0	238.5
Crude	231.4	224.9	231.7	214.0	215.5	228.1	227.9	226.0	220.1	230.9	222.2	227.7	223.4	230.7
Processed	223.8	222.8	220.7	227.0	225.5	228.6	230.3	229.7	230.4	231.1	227.1	228.1	229.4	238.0
Nondurable goods less foods	225.9	227.1	233.4	239.0	243.3	245.5	247.9	254.7	262.7	270.9	276.5	279.1	280.3	282.8
Durable goods	181.9	181.6	181.6	182.9	189.0	190.0	191.8	199.1	202.1	200.3	200.3	199.7	202.7	205.3
Capital equipment	216.7	217.2	216.5	217.8	222.8	223.9	225.3	229.3	230.5	232.2	235.8	236.0	237.5	240.2
INTERMEDIATE MATERIALS														
Intermediate materials, supplies, and components	242.8	244.6	247.5	251.0	255.0	256.3	258.7	265.9	271.6	273.7	274.5	275.8	277.7	280.3
Materials and components for manufacturing	234.1	236.0	238.0	240.7	244.3	245.5	247.8	255.5	259.8	259.5	259.7	261.8	263.9	264.7
Materials for food manufacturing	223.6	226.7	225.1	228.9	225.5	227.8	230.4	226.0	245.6	240.1	238.7	255.4	260.2	262.6
Materials for nondurable manufacturing	220.1	222.5	225.3	227.6	231.4	233.4	235.3	241.1	244.0	247.4	251.8	254.9	256.0	256.9
Materials for durable manufacturing	271.3	273.3	275.2	278.8	284.7	284.6	287.8	303.7	306.5	301.4	296.2	295.1	296.3	297.9
Components for manufacturing	206.8	207.7	209.3	211.3	213.2	214.8	216.3	219.2	223.2	225.3	227.4	228.0	229.6	231.2
Materials and components for construction	246.9	247.4	249.2	252.5	254.7	254.0	253.7	257.7	262.1	265.5	265.3	265.3	267.3	269.2
Processed fuels and lubricants	360.9	364.8	384.6	399.4	410.6	416.5	424.6	444.0	464.0	481.0	486.7	488.3	489.6	504.9
Manufacturing industries	296.9	304.0	311.2	317.2	322.5	325.2	332.2	340.5	351.4	356.6	358.4	363.6	368.2	378.4
Nonmanufacturing industries	422.9	425.5	458.8	483.0	500.6	510.0	519.1	550.3	579.9	609.5	619.5	617.0	614.7	635.3
Containers	235.3	235.4	237.6	237.9	242.6	243.8	247.1	250.9	251.6	253.8	262.5	263.7	265.3	267.1
Supplies	217.6	219.6	219.6	221.2	224.9	226.4	229.2	232.5	239.0	240.8	240.7	240.8	242.3	246.2
Manufacturing industries	204.4	204.2	206.6	209.4	212.2	213.7	216.3	220.9	222.5	223.7	226.8	228.4	230.2	232.3
Nonmanufacturing industries	224.7	227.8	225.4	227.5	231.7	233.3	236.1	238.7	247.8	249.8	248.1	247.5	248.8	253.6
Feeds	224.1	241.3	220.8	224.0	228.9	226.9	230.4	224.4	223.3	218.9	207.1	210.6	208.1	223.0
Other supplies	221.5	221.5	223.1	224.9	228.9	231.2	233.9	238.3	249.6	252.9	253.5	251.9	254.1	256.6
CRUDE MATERIALS														
Crude materials for further processing	282.2	287.1	281.7	288.3	289.5	290.8	296.2	296.8	306.4	303.5	296.9	300.7	299.5	318.3
Foodstuffs and feedstuffs	247.2	254.1	243.7	248.7	247.5	246.4	249.7	243.0	252.6	245.9	235.5	242.4	242.5	263.3
Nonfood materials	([2])	349.3	353.6	363.1	368.9	374.9	384.2	398.9	414.3	412.7	413.5	410.4	407.9	416.8
Nonfood materials except fuel	284.5	285.2	286.1	293.3	298.1	304.6	311.6	330.1	341.7	339.8	336.9	c329.2	c324.4	331.3
Manufacturing industries	293.3	294.0	294.9	302.8	307.8	314.9	322.5	342.1	354.9	352.5	349.0	340.2	334.6	342.3
Construction	207.0	207.2	208.6	209.9	212.6	214.8	216.6	226.0	228.7	229.9	232.4	232.9	234.2	235.3
Crude fuel	568.2	570.7	586.2	604.0	612.9	617.4	634.5	636.3	664.8	664.1	677.4	690.4	685.5	711.0
Manufacturing industries	607.6	610.4	629.2	651.8	662.5	667.6	688.3	690.3	725.7	724.5	740.8	756.7	762.6	781.9
Nonmanufacturing industries	548.3	550.7	563.6	577.8	586.5	589.3	603.9	605.7	628.8	628.8	639.8	650.6	655.1	667.8
SPECIAL GROUPINGS														
Finished goods excluding foods	([2])	211.4	213.2	216.2	221.3	222.8	224.6	230.5	234.6	237.8	241.2	242.0	243.8	246.4
Finished consumer goods excluding foods	208.2	208.4	212.3	216.3	220.6	223.1	225.3	232.3	238.3	242.3	245.5	246.6	248.8	251.4
Intermediate materials less foods and feeds	244.0	245.4	249.0	252.5	256.8	258.1	260.5	268.4	273.7	276.2	277.4	278.0	279.9	282.3
Intermediate foods and feeds	223.2	231.0	223.1	226.6	226.0	226.9	229.8	224.8	237.5	232.4	227.5	239.7	242.1	248.7
Crude materials less agricultural products	390.5	391.7	396.9	408.6	417.0	424.1	435.0	452.9	469.3	469.0	469.4	464.6	463.7	470.5

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[1] Data for March 1980 have been revised to reflect the availability of late reports and corrections by respondents. All data are subject to revision 4 months after original publication.

[2] Not available.

c = corrected.

27. Producer Price Indexes, by commodity groupings

[1967=100 unless otherwise specified]

Code	Commodity group and subgroup	Annual average 1979	1979						1980						
			July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.[1]	Apr.	May	June	July
	All commodities	235.6	236.9	238.3	242.0	245.6	247.2	249.7	254.9	260.2	261.9	262.3	263.7	265.2	269.8
	All commodities (1967-69 = 100)	250.0	251.4	252.8	256.7	260.6	262.3	267.3	c270.2	275.6	277.4	278.3	279.7	282.5	286.3
	Farm products and processed foods and feeds	229.8	232.2	227.5	231.8	230.6	232.3	234.6	231.9	237.0	234.9	229.2	233.9	234.2	246.1
	Industrial commodities	236.5	237.5	240.6	244.2	249.0	250.6	253.1	260.6	265.9	268.6	270.7	271.2	273.0	275.6
	FARM PRODUCTS AND PROCESSED FOODS AND FEEDS														
01	Farm products	241.4	246.8	238.5	241.0	239.6	240.2	242.5	236.4	242.3	239.3	228.9	233.6	233.4	253.9
01-1	Fresh and dried fruits and vegetables	229.0	226.7	241.7	208.3	218.0	216.5	210.7	219.0	220.6	218.5	223.0	243.8	233.4	247.5
01-2	Grains	214.8	247.4	229.1	224.4	229.0	226.6	227.9	214.6	223.3	217.9	210.8	219.0	215.3	244.8
01-3	Livestock	260.3	256.0	240.2	256.4	251.7	248.3	252.5	247.8	257.2	251.8	230.5	233.3	240.0	260.5
01-4	Live poultry	194.3	183.8	171.9	173.5	162.0	195.5	194.7	195.2	184.6	180.1	171.9	171.3	166.6	227.2
01-5	Plant and animal fibers	209.9	207.6	207.9	211.3	212.9	215.4	222.0	239.0	269.5	254.9	266.9	272.7	247.0	267.0
01-6	Fluid milk	250.1	247.6	250.0	258.5	260.8	262.5	264.0	262.3	263.8	263.1	265.4	265.4	265.5	265.8
01-7	Eggs	176.5	167.6	166.8	175.4	155.9	178.7	198.4	165.6	150.4	184.2	153.3	145.7	146.8	159.3
01-8	Hay, hayseeds, and oilseeds	244.3	260.1	251.9	240.9	235.6	229.8	230.3	218.1	224.7	215.9	205.1	206.7	207.4	251.4
01-9	Other farm products	289.0	311.9	310.8	315.9	313.6	318.3	319.4	301.1	304.7	311.5	304.8	311.0	309.4	292.4
02	Processed foods and feeds	222.5	223.3	220.5	225.8	224.8	227.1	229.3	228.5	233.1	231.6	228.5	233.1	233.8	241.1
02-1	Cereal and bakery products	210.3	212.4	216.0	218.7	219.8	222.5	223.6	225.4	229.9	231.8	231.5	233.5	233.1	234.6
02-2	Meats, poultry, and fish	242.0	237.7	225.5	239.9	234.2	239.3	242.8	239.6	239.6	239.2	226.0	224.8	226.6	248.5
02-3	Dairy products	211.2	209.0	215.2	218.3	218.1	219.3	219.9	221.0	220.8	223.0	227.8	228.9	229.9	230.5
02-4	Processed fruits and vegetables	221.9	223.6	224.6	225.1	223.4	222.4	222.6	222.9	223.3	223.7	224.5	225.2	227.3	229.5
02-5	Sugar and confectionery	214.7	215.7	218.3	217.2	218.9	222.9	234.4	236.0	287.5	264.1	274.8	327.4	324.7	313.7
02-6	Beverages and beverage materials	210.7	214.1	216.5	217.9	218.9	221.2	221.6	224.0	224.8	225.9	227.9	231.4	233.6	234.4
02-7	Fats and oils	243.3	253.2	251.7	253.3	246.0	241.9	235.6	225.1	226.4	222.6	214.7	212.1	213.0	221.7
02-8	Miscellaneous processed foods	216.5	212.7	217.6	219.0	220.8	222.2	223.1	225.4	223.5	224.7	225.1	223.2	223.0	223.6
02-9	Manufactured animal feeds	219.4	234.9	216.2	219.2	224.0	222.4	224.9	219.7	219.8	216.6	205.4	207.3	205.4	220.6
	INDUSTRIAL COMMODITIES														
03	Textile products and apparel	168.7	169.3	170.5	171.3	172.0	172.8	173.1	175.2	176.5	179.3	180.6	181.5	182.4	184.3
03-1	Synthetic fibers (12/75 = 100)	119.0	119.5	120.6	123.6	124.7	124.2	124.7	127.0	127.2	129.1	130.7	133.5	134.8	136.3
03-2	Processed yarns and threads (12/75 = 100)	109.2	109.5	110.6	111.7	112.1	112.5	112.7	114.6	118.0	119.3	122.1	123.5	122.4	121.9
03-3	Gray fabrics (12/75 = 100)	127.1	128.3	128.7	128.7	129.7	130.7	132.3	132.7	132.3	136.8	136.1	135.3	133.7	134.8
03-4	Finished fabrics (12/75 = 100)	107.4	108.2	109.0	109.1	108.9	109.7	109.9	110.5	111.1	113.2	114.5	115.2	115.5	116.5
03-81	Apparel	160.4	160.3	161.4	161.6	162.2	163.1	162.6	165.5	166.8	168.0	169.1	169.7	172.0	174.1
03-82	Textile housefurnishings	190.4	189.9	190.5	193.9	196.3	196.5	197.1	199.0	199.7	201.3	201.6	202.6	202.7	210.7
04	Hides, skins, leather, and related products	252.4	261.9	257.9	251.1	253.9	248.9	249.2	255.7	250.9	246.8	243.6	240.7	241.0	244.9
04-1	Hides and skins	535.4	566.5	511.9	465.3	478.8	447.6	443.9	468.8	404.6	348.7	328.6	289.7	315.7	356.6
04-2	Leather	358.7	385.2	365.9	330.0	343.6	319.8	324.8	347.6	340.3	311.0	297.6	290.4	284.4	292.2
04-3	Footwear	218.0	221.8	225.4	226.9	227.5	227.9	227.9	229.1	228.0	231.8	231.9	231.9	232.1	232.9
04-4	Other leather and related products	205.0	212.1	210.9	210.1	209.7	208.4	208.0	213.1	214.8	217.8	216.3	217.5	216.0	216.3
05	Fuels and related products and power	408.1	411.8	432.8	454.8	468.5	476.9	487.9	508.0	532.7	553.5	566.3	571.9	574.8	585.4
05-1	Coal	450.9	452.5	454.2	452.5	454.6	455.1	458.6	459.3	459.6	461.7	463.3	464.8	466.9	467.8
05-2	Coke	429.2	430.6	430.6	430.6	431.2	431.2	431.2	430.6	430.6	430.6	430.6	430.6	430.6	430.6
05-3	Gas fuels[2]	544.1	548.4	572.4	603.4	619.9	637.0	662.4	677.5	716.6	716.6	730.2	744.8	750.1	763.3
05-4	Electric power	270.2	274.8	278.8	280.5	283.5	281.9	287.0	290.5	299.3	305.5	310.4	316.4	320.5	331.4
05-61	Crude petroleum[3]	376.5	370.6	385.7	422.1	436.7	450.4	470.8	513.6	515.1	522.8	533.9	540.1	549.0	550.9
05-7	Petroleum products, refined[4]	444.8	449.8	482.8	513.7	533.7	545.4	555.2	583.3	620.4	659.0	677.3	680.6	681.1	693.3
06	Chemicals and allied products	222.3	225.0	228.5	230.8	234.2	236.0	238.2	246.0	248.7	252.8	258.1	261.1	261.7	262.7
06-1	Industrial chemicals[5]	264.0	270.4	277.1	280.0	285.7	288.4	292.3	302.9	307.9	313.3	316.8	324.8	c327.3	327.8
06-21	Prepared paint	204.4	205.3	205.3	206.0	206.7	209.4	210.7	223.3	223.3	228.7	231.5	236.8	236.8	236.8
06-22	Paint materials	241.2	246.7	247.9	252.0	253.6	256.6	256.8	259.9	263.4	267.5	271.1	272.9	274.0	277.0
06-3	Drugs and pharmaceuticals	159.4	159.2	159.6	161.0	162.8	163.0	164.4	166.5	167.6	168.9	172.8	171.8	173.0	175.4
06-4	Fats and oils, inedible	376.7	381.6	376.4	379.9	368.9	344.3	327.1	325.6	302.2	299.9	298.2	294.7	255.8	260.0
06-5	Agricultural chemicals and chemical products	214.4	211.2	215.3	219.4	224.3	229.5	232.9	241.9	248.0	256.1	258.3	258.3	257.7	258.2
06-6	Plastic resins and materials	235.9	244.5	250.1	252.0	260.0	261.4	262.5	270.4	272.1	274.5	285.6	287.8	287.9	286.2
06-7	Other chemicals and allied products	191.8	191.8	194.4	195.6	197.0	198.8	201.4	209.4	211.3	215.0	223.3	225.0	226.3	228.0
07	Rubber and plastic products	194.3	195.5	198.8	200.7	203.0	204.9	205.9	207.8	210.7	212.7	214.6	215.1	217.1	218.3
07-1	Rubber and rubber products	209.2	209.5	214.6	217.1	220.3	223.7	224.3	226.1	231.5	231.5	234.6	235.3	237.6	239.4
07-11	Crude rubber	221.4	226.1	233.0	232.2	236.5	237.2	240.2	252.7	263.9	255.8	263.8	263.0	263.2	262.5
07-12	Tires and tubes	205.9	208.2	211.6	215.0	218.3	223.1	223.1	225.1	231.6	231.6	231.3	231.8	234.6	237.0
07-13	Miscellaneous rubber products	208.4	205.4	209.4	211.9	214.7	217.1	217.7	215.9	c217.8	220.6	225.9	227.5	229.7	231.8
07-2	Plastic products (6/78 = 100)	110.0	111.2	112.2	113.0	114.0	114.3	115.2	116.3	116.7	119.0	119.5	119.6	120.8	121.1
08	Lumber and wood products	300.4	300.1	304.7	309.7	308.8	298.9	290.1	290.0	294.7	294.9	275.2	271.6	279.8	288.9
08-1	Lumber	364.3	355.0	365.3	373.9	370.3	355.6	339.5	336.3	341.4	340.6	310.1	301.3	313.0	327.3
08-2	Millwork	254.3	252.5	249.6	250.9	255.6	252.3	250.3	254.1	258.0	262.2	256.6	250.9	253.0	255.9
08-3	Plywood	250.5	240.7	254.3	257.9	254.0	242.2	237.9	238.2	243.4	240.0	219.2	229.9	241.6	251.1
08-4	Other wood products	236.4	237.6	237.4	238.0	237.7	239.9	240.5	242.2	c243.4	243.1	241.7	240.7	238.7	236.9

See footnotes at end of table.

c = corrected.

27. Continued—Producer Price Indexes, by commodity groupings

[1967=100 unless otherwise specified]

Code	Commodity group and subgroup	Annual average 1979	1979						1980						
			July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.[1]	Apr.	May	June	July
	INDUSTRIAL COMMODITIES—Continued														
09	Pulp, paper, and allied products	219.0	218.3	222.2	223.0	227.5	229.5	231.7	237.4	239.2	242.6	246.5	248.9	251.3	252.4
09-1	Pulp, paper, and products, excluding building paper and board	220.7	219.6	223.6	224.3	229.0	231.1	233.4	239.2	240.8	244.1	248.0	250.3	252.7	253.7
09-11	Woodpulp	314.3	320.3	320.6	320.6	337.5	338.0	338.0	356.6	356.4	356.8	386.8	388.0	388.0	388.6
09-12	Wastepaper	206.6	207.9	206.6	206.7	206.7	220.0	221.2	222.9	223.4	224.9	242.5	226.1	206.6	194.0
09-13	Paper	229.6	228.2	229.5	230.3	238.7	241.8	242.7	245.5	247.2	250.3	253.6	256.5	258.3	258.5
09-14	Paperboard	202.1	201.7	206.4	209.6	211.3	212.8	215.4	221.8	223.7	227.4	230.2	239.2	242.7	237.5
09-15	Converted paper and paperboard products	209.9	209.0	214.4	214.6	217.3	219.0	221.9	227.7	229.5	233.0	234.6	236.1	239.3	242.4
09-2	Building paper and board	182.4	178.0	179.1	182.6	183.5	183.6	184.6	186.2	191.7	198.7	201.3	206.8	208.9	211.8
10	Metals and metal products	259.3	260.8	261.8	263.7	269.6	271.1	273.6	284.6	288.9	286.8	284.6	281.9	282.4	281.5
10-1	Iron and steel	283.5	286.8	286.1	285.5	289.2	292.0	292.8	297.4	300.3	301.8	307.0	304.7	303.1	300.4
10-13	Steel mill products	280.4	284.6	284.7	284.8	288.3	288.8	289.3	293.6	294.2	295.5	304.1	305.5	305.8	301.0
10-2	Nonferrous metals	261.7	262.3	263.1	269.3	283.1	284.1	291.9	326.3	337.7	321.4	298.9	289.8	290.6	289.0
10-3	Metal containers	269.2	267.2	268.4	268.7	279.9	280.9	280.9	283.3	284.4	288.5	301.1	302.7	302.7	303.0
10-4	Hardware	218.7	218.5	220.1	221.5	224.0	225.5	226.2	228.2	230.4	231.5	236.9	238.2	239.7	241.9
10-5	Plumbing fixtures and brass fittings	217.1	219.6	222.4	223.0	223.5	225.4	226.5	232.8	236.7	242.4	243.7	247.4	248.5	249.6
10-6	Heating equipment	187.1	186.0	188.1	191.3	192.2	193.1	195.6	199.5	202.6	202.6	204.2	204.0	205.1	206.1
10-7	Fabricated structural metal products	248.9	250.5	252.2	253.7	256.3	256.7	257.7	258.9	259.7	265.1	268.2	269.4	270.0	271.9
10-8	Miscellaneous metal products	231.4	231.8	235.6	236.7	238.5	238.6	239.1	240.6	241.6	244.2	247.1	247.7	251.4	251.8
11	Machinery and equipment	213.9	214.8	216.0	217.7	220.0	221.3	223.4	227.6	230.2	232.5	235.8	237.0	238.8	241.3
11-1	Agricultural machinery and equipment	232.1	231.2	233.3	237.4	240.0	243.4	244.2	248.4	249.9	252.0	252.8	254.9	256.7	257.3
11-2	Construction machinery and equipment	256.2	257.0	258.5	258.9	263.9	265.4	268.8	276.0	278.3	279.5	282.9	284.2	286.8	290.9
11-3	Metalworking machinery and equipment	241.3	241.4	243.5	246.4	249.6	252.2	254.6	258.9	261.8	264.1	269.9	272.6	275.4	278.0
11-4	General purpose machinery and equipment	236.4	237.1	238.3	240.2	242.8	244.2	247.6	251.0	253.3	256.7	260.0	262.3	264.3	265.8
11-6	Special industry machinery and equipment	247.0	249.8	251.0	251.2	253.8	254.9	256.1	260.6	263.2	265.5	271.9	273.1	274.5	277.2
11-7	Electrical machinery and equipment	178.9	179.9	181.2	182.5	184.3	184.9	186.6	190.6	194.3	196.5	198.7	199.2	201.2	203.5
11-9	Miscellaneous machinery	208.9	209.7	209.7	212.0	213.6	214.9	216.3	220.3	221.1	223.2	226.8	226.9	227.8	230.7
12	Furniture and household durables	171.3	170.7	171.5	172.7	175.1	176.4	177.9	183.4	185.6	185.7	183.1	184.1	185.3	186.7
12-1	Household furniture	186.3	185.8	186.2	188.5	190.1	193.0	194.8	197.4	198.5	198.9	198.9	200.3	202.0	204.3
12-2	Commercial furniture	221.8	222.7	222.7	222.7	223.3	223.3	225.1	228.9	231.4	232.8	233.5	233.8	235.5	237.1
12-3	Floor coverings	147.9	149.1	150.0	150.4	152.1	152.8	152.9	159.0	158.5	160.8	161.7	163.6	162.2	163.2
12-4	Household appliances	160.9	161.1	162.2	162.7	163.2	164.5	165.3	166.5	168.9	169.9	170.2	172.1	174.7	174.8
12-5	Home electronic equipment	91.3	90.2	90.2	90.3	90.3	90.3	90.5	91.0	91.2	91.3	88.9	89.1	89.3	89.3
12-6	Other household durable goods	228.2	223.7	226.6	231.0	245.6	248.2	254.4	287.4	295.3	288.3	266.8	265.2	266.1	271.1
13	Nonmetallic mineral products	248.6	249.5	249.9	254.6	256.2	257.4	259.6	268.4	274.0	276.5	282.8	282.9	283.2	284.0
13-11	Flat glass	183.9	184.1	184.1	184.5	184.7	185.4	186.4	191.0	191.0	191.4	191.4	191.4	193.6	194.3
13-2	Concrete ingredients	244.0	245.1	245.9	246.7	248.3	249.6	251.0	265.0	266.6	267.5	270.5	271.1	271.9	272.5
13-3	Concrete products	244.1	245.2	246.3	248.7	250.1	250.6	253.2	265.4	266.7	269.1	273.0	275.0	275.9	275.9
13-4	Structural clay products excluding refractories	217.9	220.3	222.3	223.7	221.1	221.8	226.7	229.6	231.0	231.4	234.4	229.5	230.2	230.2
13-5	Refractories	236.5	240.8	241.7	242.4	244.6	247.4	248.0	248.5	251.1	253.9	262.6	265.2	266.7	269.6
13-6	Asphalt roofing	325.3	328.4	325.9	333.0	337.5	347.4	346.5	356.6	372.5	388.8	404.7	398.2	400.7	412.0
13-7	Gypsum products	252.3	251.8	252.3	254.9	255.3	256.2	255.0	255.4	262.2	267.6	264.0	256.5	257.1	253.1
13-8	Glass containers	261.1	265.2	265.2	265.2	265.2	265.2	274.2	274.3	274.3	274.3	294.6	294.6	294.6	294.6
13-9	Other nonmetallic minerals	313.7	310.5	309.9	336.0	341.2	342.2	342.2	351.8	381.7	387.0	390.5	399.5	394.5	396.1
14	Transportation equipment (12/68 = 100)	188.1	188.4	185.9	186.6	194.2	194.8	195.6	196.7	198.2	198.8	202.6	201.1	202.2	204.9
14-1	Motor vehicles and equipment	190.5	190.8	187.8	188.6	197.1	197.4	198.2	200.7	200.1	200.7	204.9	203.1	204.4	207.1
14-4	Railroad equipment	277.3	280.6	280.9	281.6	288.3	288.2	289.0	297.5	299.3	302.1	303.9	304.6	306.2	316.4
15	Miscellaneous products	208.7	207.0	208.9	213.1	218.9	221.4	227.4	242.9	262.9	256.1	252.2	250.9	257.4	261.3
15-1	Toys, sporting goods, small arms, ammunition	176.2	176.9	177.8	179.8	181.1	181.2	183.0	190.9	193.5	194.5	195.3	196.4	197.2	200.3
15-2	Tobacco products	217.8	214.8	221.3	221.9	222.1	222.2	226.6	236.6	237.2	237.3	237.6	244.6	245.1	247.6
15-3	Notions	191.8	192.0	191.9	191.9	195.7	195.8	196.8	203.1	203.2	207.2	216.8	217.0	217.0	221.7
15-4	Photographic equipment and supplies	153.7	152.0	152.2	154.3	157.4	161.2	164.3	165.9	218.6	219.1	212.6	200.0	203.4	202.0
15-51	Mobile homes (12/74 = 100)	136.1	138.2	139.5	140.7	142.9	144.0	144.1	144.7	146.6	147.1	148.9	149.9	150.6	151.2
15-9	Other miscellaneous products	263.7	261.4	261.4	272.5	288.3	293.3	308.8	351.6	378.3	351.3	339.2	339.1	358.8	369.4

[1] Data for March 1980 have been revised to reflect the availability of late reports and corrections by respondents. All data are subject to revision 4 months after original publication.

[2] Prices for natural gas are lagged 1 month.

[3] Includes only domestic production.

[4] Most prices for refined petroleum products are lagged 1 month.

[5] Some prices for industrial chemicals are lagged 1 month.

28. Producer Price Indexes, for special commodity groupings

[1967 = 100 unless otherwise specified]

Commodity grouping	Annual average 1979	1979						1980						
		July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.[1]	Apr.	May	June	July
All commodities — less farm products	234.4	235.4	237.5	241.4	245.3	247.0	249.5	256.7	260.9	262.9	264.3	265.4	267.0	270.3
All foods	226.4	225.4	224.7	228.5	226.9	230.0	232.2	231.2	235.8	234.8	231.7	237.4	237.7	245.4
Processed foods	227.2	226.4	224.8	230.8	228.9	231.8	234.2	233.3	238.6	236.9	234.0	239.0	239.9	247.1
Industrial commodities less fuels	218.3	219.0	220.3	222.0	225.9	226.9	228.5	234.7	236.0	238.9	239.9	239.9	241.6	243.3
Selected textile mill products (Dec. 1975 = 100)	113.9	114.0	115.1	115.8	116.4	117.0	117.2	118.9	119.3	121.3	122.1	123.1	123.5	125.4
Hosiery	112.6	114.1	113.0	112.7	113.3	114.6	115.3	119.2	119.4	120.3	120.7	121.5	122.2	123.1
Underwear and nightwear	169.9	168.5	170.8	170.8	171.2	171.6	172.9	175.3	177.4	182.1	182.0	182.8	187.4	188.5
Chemicals and allied products, including synthetic rubber and manmade fibers and yarns	212.4	215.0	218.6	220.9	224.3	226.3	228.7	236.3	239.2	243.2	248.4	251.6	252.8	253.6
Pharmaceutical preparations	152.0	151.7	152.0	153.6	155.6	155.4	156.9	159.2	160.3	161.7	165.9	164.7	166.1	167.8
Lumber and wood products, excluding millwork and other wood products	325.0	325.3	333.9	341.0	337.3	323.3	310.6	306.6	313.9	312.2	284.5	281.7	283.5	306.4
Special metals and metal products	234.6	235.5	234.9	236.4	243.4	244.5	246.3	253.7	256.0	255.1	255.6	253.4	254.2	254.9
Fabricated metal products	236.8	237.4	239.8	241.1	244.0	244.6	245.3	247.2	248.4	252.0	256.0	257.0	258.9	260.0
Copper and copper products	200.3	191.9	197.1	200.5	212.2	213.8	217.1	227.7	260.7	240.9	224.7	212.3	208.7	211.7
Machinery and motive products	207.0	207.7	207.2	208.5	213.4	214.3	215.9	219.7	220.9	222.5	226.1	226.1	227.7	230.2
Machinery and equipment, except electrical	234.2	236.1	236.2	238.2	240.6	242.5	244.8	248.1	251.1	253.5	257.5	259.0	260.8	263.2
Agricultural machinery, including tractors	237.4	235.8	238.4	243.6	246.3	250.8	251.5	256.1	257.2	260.0	259.7	261.7	262.5	264.1
Metalworking machinery	259.1	260.1	261.7	265.6	269.5	272.7	276.0	281.9	284.4	287.5	294.3	296.8	299.9	303.6
Numerically controlled machine tools (Dec. 1971 = 100)	199.6	202.2	204.2	206.5	208.5	209.8	211.2	213.1	215.4	216.7	223.9	227.0	226.7	228.7
Total tractors	251.6	251.2	253.9	256.0	261.2	262.5	266.2	273.0	275.1	276.6	278.4	280.0	281.8	286.1
Agricultural machinery and equipment less parts	232.7	231.4	233.7	238.4	241.0	244.9	245.6	250.0	251.5	254.1	254.2	256.1	256.8	258.9
Farm and garden tractors less parts	236.1	233.9	237.6	244.1	247.6	250.5	251.1	256.0	257.5	261.5	261.0	262.0	262.7	264.9
Agricultural machinery excluding tractors less parts	238.7	237.6	239.2	243.5	245.4	251.3	252.0	256.4	257.3	258.9	259.0	261.7	262.6	263.7
Industrial valves	256.0	257.0	258.2	260.1	261.8	263.1	266.1	271.0	273.5	280.0	283.5	286.6	288.6	289.5
Industrial fittings	261.7	260.8	262.3	264.3	272.6	276.8	276.8	276.8	280.4	282.8	289.9	291.5	295.9	295.9
Abrasive grinding wheels	226.2	222.8	224.6	224.6	239.0	239.0	239.0	239.0	244.0	244.0	258.4	261.3	261.3	261.3
Construction materials	251.4	252.3	254.3	254.6	258.5	256.7	255.4	259.3	262.6	265.1	262.1	261.4	264.1	266.5

[1] Data for March 1980 have been revised to reflect the availability of late reports and corrections by respondents. All data are subject to revision 4 months after original publication.

29. Producer Price Indexes, by durability of product

[1967 = 100]

Commodity grouping	Annual average 1979	1979						1980						
		July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.[1]	Apr.	May	June	July
Total durable goods	226.9	227.6	229.0	230.1	234.6	235.3	237.0	243.8	247.1	247.0	247.2	246.4	248.3	250.3
Total nondurable goods	241.7	243.7	245.8	251.1	253.7	256.2	259.3	263.2	270.2	273.4	274.0	277.3	278.4	285.3
Total manufactures	228.8	229.8	231.7	235.2	239.0	240.6	242.6	248.4	253.2	255.2	256.5	257.8	259.4	262.5
Durable	226.1	225.6	227.2	229.4	234.0	234.6	236.2	242.9	245.7	245.6	246.2	245.9	248.2	250.1
Nondurable	231.1	232.5	235.9	241.0	244.0	246.6	249.0	253.9	260.8	265.2	267.3	270.3	271.3	275.6
Total raw or slightly processed goods	270.4	274.3	272.1	276.9	278.7	281.0	285.9	287.6	295.9	295.4	290.4	292.7	293.0	307.5
Durable	262.1	265.4	259.8	256.7	259.2	265.8	267.8	282.8	305.3	303.4	286.0	262.2	249.9	253.9
Nondurable	270.1	274.0	272.0	277.5	279.2	281.2	286.3	286.9	294.2	293.8	289.7	294.0	295.3	310.4

[1] Data for March 1980 have been revised to reflect the availability of late reports and corrections by respondents. All data are subject to revision 4 months after original publication.

30. Producer Price Indexes for the output of selected SIC industries

[1967 = 100 unless otherwise specified]

1972 SIC code	Industry description	Annual average 1979	1979						1980						
			July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.[1]	Apr.	May	June	July
	MINING														
1011	Iron ores (12/75 = 100)	134.8	136.0	136.8	138.1	140.2	140.2	142.0	142.0	147.3	152.6	152.6	152.6	152.6	155.8
1092	Mercury ores (12/75 = 100)	234.4	270.8	245.8	252.1	275.0	252.1	300.0	308.3	335.4	330.0	337.5	337.5	332.9	331.2
1211	Bituminous coal and lignite	451.3	453.1	454.8	452.9	455.1	455.5	458.9	459.2	459.6	461.7	462.9	464.4	463.3	467.2
1311	Crude petroleum and natural gas	458.8	457.5	476.0	508.4	522.1	533.9	551.3	562.7	580.0	600.6	612.3	620.2	631.3	637.8
1442	Construction sand and gravel	217.6	219.3	220.1	221.0	224.0	224.7	225.6	238.8	243.2	243.9	249.4	249.4	250.1	249.6
1455	Kaolin and ball clay (6/76 = 100)	125.8	125.5	125.5	125.5	126.7	124.2	129.3	136.6	136.6	136.6	136.6	136.6	136.6	136.6
	MANUFACTURING														
2011	Meat packing plants	247.4	243.8	229.3	247.2	238.9	241.5	243.9	240.8	240.1	236.9	225.6	227.4	229.9	249.1
2013	Sausages and other prepared meats	219.6	214.7	203.4	211.7	211.9	213.4	220.0	211.9	207.8	209.4	197.7	194.7	190.6	213.4
2016	Poultry dressing plants	187.1	178.4	189.6	171.2	163.1	188.3	188.5	186.1	178.2	173.5	164.5	164.7	164.2	214.2
2021	Creamery butter	236.8	227.5	237.9	240.6	240.1	241.7	243.1	241.9	242.6	243.4	252.8	253.7	256.7	256.3

See footnote at end of table.

30. Continued—Producer Price Indexes for the output of selected SIC industries

[1967 = 100 unless otherwise specified]

1972 SIC code	Industry description	Annual average 1979	1979						1980						
			July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.[1]	Apr.	May	June	July
	MANUFACTURING—Continued														
2022	Cheese natural and processed (12/72 = 100)	189.2	186.3	195.4	200.8	196.8	193.6	193.9	195.4	192.9	195.7	203.6	203.6	204.2	205.1
2024	Ice cream and frozen desserts (12/72 = 100)	172.5	171.5	175.0	176.1	177.5	179.9	180.1	180.9	181.5	185.0	191.4	192.1	195.2	195.2
2033	Canned fruits and vegetables	208.6	209.9	210.5	212.0	212.9	212.2	212.2	213.4	213.6	214.7	216.3	217.4	220.1	222.6
2034	Dehydrated food products (12/73 = 100)	174.2	182.0	180.7	170.0	158.2	156.2	157.3	157.6	159.0	156.4	157.5	156.4	156.3	157.7
2041	Flour mills (12/71 = 100)	173.1	190.9	176.9	183.5	184.2	184.4	184.1	181.7	183.6	181.8	175.9	183.3	181.8	189.6
2044	Rice milling	204.0	206.8	218.7	223.5	227.3	231.8	218.1	217.5	233.0	258.0	260.4	254.5	236.0	225.3
2048	Prepared foods, n.e.c. (12/75 = 100)	120.4	128.1	119.4	120.9	123.6	124.3	125.0	122.0	122.6	121.5	116.8	117.2	116.6	122.6
2061	Raw cane sugar	210.3	209.0	216.8	216.7	224.3	223.3	248.4	260.5	374.9	276.0	320.2	458.1	402.4	381.8
2063	Beet sugar	202.6	202.0	199.4	200.0	204.7	210.6	223.2	224.6	293.2	305.7	295.4	338.0	343.9	343.5
2067	Chewing gum	245.8	242.9	242.9	242.9	242.9	262.3	262.3	262.3	262.3	261.9	261.9	262.0	262.0	262.4
2074	Cottonseed oil mills	207.4	224.5	214.1	217.9	214.9	204.7	205.6	182.4	184.4	170.4	154.8	150.5	155.1	190.1
2075	Soybean oil mills	245.0	262.8	250.0	248.6	244.7	242.4	241.9	235.1	230.4	222.3	212.6	212.5	209.1	224.6
2077	Animal and marine fats and oils	338.4	352.0	321.4	333.8	333.7	315.2	300.7	298.1	292.6	297.4	274.0	263.0	238.3	274.4
2083	Malt	203.7	201.4	201.4	214.9	214.9	228.2	228.2	244.1	244.1	244.1	244.1	244.1	244.1	244.1
2085	Distilled liquor, except brandy (12/75 = 100)	113.7	113.6	115.7	117.1	117.1	118.1	118.1	118.5	118.7	118.7	118.7	118.9	118.9	118.9
2091	Canned and cured seafoods (12/73 = 100)	146.4	148.5	148.2	154.0	154.3	155.6	159.8	160.9	164.0	165.7	170.2	173.2	175.3	175.9
2092	Fresh or frozen packaged fish	381.6	403.7	391.5	389.2	400.1	391.4	388.4	389.7	385.5	391.6	371.5	381.6	362.8	365.2
2095	Roasted coffee (12/72 = 100)	254.5	271.0	279.2	279.2	280.0	287.5	287.5	281.3	273.9	274.0	273.9	273.9	283.1	274.5
2098	Macaroni and spaghetti	199.7	203.5	210.4	210.4	210.4	221.5	227.7	227.7	227.7	227.7	230.5	230.5	230.5	230.5
2111	Cigarettes	225.0	221.5	228.9	229.1	229.2	229.2	234.3	245.8	245.9	246.0	246.1	254.2	254.3	257.2
2121	Cigars	147.3	149.8	150.1	150.1	149.8	150.4	150.4	151.2	154.2	154.4	152.7	152.7	157.1	157.2
2131	Chewing and smoking tobacco	248.4	246.4	246.4	255.8	260.4	260.8	260.8	260.9	265.1	267.3	274.3	274.6	274.7	274.7
2211	Weaving mills, cotton (12/72 = 100)	195.3	196.1	196.5	198.7	201.1	201.6	201.9	204.4	206.9	209.5	210.9	211.6	211.9	217.4
2221	Weaving mills, synthetic (12/77 = 100)	115.0	116.2	116.3	116.2	116.8	117.3	117.2	118.1	118.3	122.7	122.4	121.8	120.4	122.3
2251	Women's hosiery, except socks (12/75 = 100)	97.5	99.6	98.1	97.5	98.2	100.3	100.2	103.3	103.3	104.3	104.4	105.4	105.4	105.4
2254	Knit underwear mills	173.3	172.9	174.0	174.0	174.3	174.6	178.3	182.5	184.1	186.5	186.4	187.1	190.5	192.5
2257	Circular knit fabric mills (6/76 = 100)	95.2	96.1	98.4	98.2	96.9	98.4	98.6	99.3	100.4	103.4	102.6	104.1	104.7	105.1
2261	Finishing plants, cotton (6/76 = 100)	121.8	122.5	123.2	124.0	126.1	126.3	126.6	128.7	129.6	131.9	131.9	133.2	133.7	137.2
2262	Finishing plants, synthetics, silk (6/76 = 100)	107.2	107.5	108.2	108.3	109.3	109.7	109.8	110.3	109.4	110.4	111.3	112.1	111.5	173.7
2272	Tufted carpets and rugs	128.0	127.6	128.6	129.0	129.8	130.1	130.1	134.7	134.5	137.0	135.9	138.7	137.5	137.8
2281	Yarn mills, except wool (12/71= 100)	176.7	177.5	177.4	179.4	181.2	183.0	183.7	188.0	197.8	199.5	203.8	204.5	202.9	203.0
2282	Throwing and winding mills (6/76 = 100)	107.4	108.5	109.7	111.2	110.4	109.6	109.2	110.1	110.6	112.0	114.8	116.3	114.8	113.4
2284	Thread mills (6/76 = 100)	123.7	120.5	128.1	128.1	128.4	128.4	128.6	128.7	129.2	130.0	133.9	142.2	142.1	143.0
2298	Cordage and twine (12/77 = 100)	107.0	105.4	113.5	115.1	114.9	114.9	114.9	115.0	117.2	118.5	123.6	123.8	125.0	125.0
2311	Men's and boys' suits and coats	204.2	205.8	206.5	206.5	206.6	206.8	206.7	209.0	208.1	208.3	205.7	207.0	207.4	214.9
2321	Men's and boys' shirts and nightwear	194.0	194.7	195.9	196.0	196.1	196.6	196.3	197.7	196.2	199.3	202.9	203.5	204.9	205.4
2322	Men's and boys' underwear	188.9	186.7	190.0	190.0	190.0	190.0	194.0	199.8	202.0	204.0	204.2	204.3	208.5	211.1
2323	Men's and boys' neckwear (12/75 = 100)	106.5	103.4	110.9	110.9	110.9	110.9	110.9	112.4	112.4	112.4	108.3	108.3	108.3	108.3
2327	Men's and boys' separate trousers	161.5	162.5	162.7	162.7	162.9	163.4	163.5	164.2	174.2	174.3	174.8	174.9	175.1	175
2328	Men's and boys' work clothing	208.6	208.9	210.7	210.9	213.4	219.1	219.6	225.1	233.6	235.4	240.9	241.7	242.5	244.8
2331	Women's and misses' blouses and waists (6/76 = 100)	102.0	102.6	102.7	102.8	103.0	105.9	106.8	107.1	106.6	106.7	107.6	107.7	107.8	111.4
2335	Women's and misses' dresses (12/77 = 100)	107.0	106.4	108.3	108.3	108.7	108.8	108.8	112.9	113.8	113.8	113.9	113.9	114.0	114.0
2341	Women's and children's underwear (12/72 = 100)	144.3	144.2	145.3	145.3	146.7	147.4	147.7	149.4	150.0	153.1	152.4	153.2	155.2	155.4
2342	Brassieres and allied garments (12/75 = 100)	116.9	117.5	117.8	117.8	117.8	117.8	118.8	119.7	122.9	124.9	125.4	125.4	127.0	128.2
2361	Children's dresses and blouses (12/77 = 100)	104.8	102.4	102.4	103.7	105.7	105.7	105.6	105.3	105.3	105.5	106.0	106.0	106.7	112.4
2381	Fabric dress and work gloves	241.4	245.4	245.4	245.4	245.4	246.9	246.9	257.7	261.7	265.0	267.5	271.1	271.1	271.1
2394	Canvas and related products (12/77 = 100)	109.3	108.4	111.0	111.4	112.3	112.1	120.1	122.1	122.8	123.4	123.4	123.4	123.4	123.4
2396	Automotive and apparel trimmings (12/77 = 100)	111.3	114.3	114.3	114.3	114.3	114.3	114.3	114.3	114.3	122.3	122.3	122.3	122.3	122.3
2421	Sawmills and planing mills (12/71 = 100)	251.0	251.3	259.1	265.6	262.2	250.2	237.9	234.8	[2]239.5	239.1	215.7	209.3	218.1	223.8
2436	Softwood veneer and plywood (12/75 = 100)	152.3	148.1	153.4	158.0	153.1	142.9	138.9	138.5	143.7	139.8	121.4	129.6	140.5	148.7
2439	Structural wood members, n.e.c. (12/75 = 100)	151.2	150.0	149.9	150.8	158.2	158.2	158.2	158.2	158.2	156.3	158.2	152.1	152.1	152.1
2448	Wood pallets and skids (12/75 = 100)	166.5	166.9	166.8	167.9	167.9	171.0	170.5	169.8	167.0	166.3	164.6	162.8	159.7	157.1
2451	Mobile homes (12/74 = 100)	138.2	138.2	139.6	140.7	143.0	144.0	144.1	144.8	146.9	147.2	149.0	150.0	150.6	151.2
2492	Particleboard (12/75 = 100)	130.1	134.3	134.7	138.5	139.5	136.8	134.5	136.9	150.7	158.9	161.9	167.3	171.7	166.7
2511	Wood household furniture (12/71 = 100)	165.5	164.5	164.6	168.0	169.3	172.3	174.5	177.5	178.2	178.9	179.7	180.8	182.4	183.8
2512	Upholstered household furniture (12/71 = 100)	150.0	150.0	150.2	151.6	151.8	153.8	155.7	155.9	158.7	158.7	158.7	158.9	160.3	163.3
2515	Mattresses and bedsprings	165.7	164.5	165.8	165.8	168.9	172.3	172.3	169.9	170.5	170.5	171.5	174.8	174.8	180.7
2521	Wood office furniture	215.3	216.8	216.8	216.8	217.6	217.6	221.9	226.2	233.8	233.8	233.9	233.9	233.9	236.1
2611	Pulp mills (12/73 = 100)	200.6	205.4	205.7	205.8	213.5	213.9	213.9	225.2	225.1	225.5	244.9	246.0	246.0	246.6
2621	Paper mills, except building (12/74 = 100)	130.2	130.2	131.0	131.4	135.1	136.5	136.8	139.0	139.6	142.5	145.1	146.1	146.6	148.7
2631	Paperboard mills (12/74 = 100)	119.8	119.7	121.9	123.4	125.4	126.3	127.6	131.3	132.3	134.6	137.0	141.5	143.1	140.4
2647	Sanitary paper products	277.7	276.4	285.9	285.4	286.3	288.4	290.9	295.8	303.9	311.7	312.2	316.1	321.1	328.4
2654	Sanitary food containers	188.7	189.6	189.6	191.8	195.6	196.2	199.8	202.6	204.8	208.9	212.9	216.7	218.3	219.4
2655	Fiber cans, drums, and similar products (12/75 = 100)	134.8	136.6	136.6	136.6	138.5	138.5	142.3	143.2	143.2	143.3	145.7	147.8	150.6	155.2
2812	Alkalies and chlorine (12/73 = 100)	208.6	209.5	212.2	213.1	214.1	216.7	217.3	220.4	226.5	233.7	234.0	236.6	245.3	250.4
2821	Plastics materials and resins (6/76 = 100)	121.2	124.9	127.8	129.9	132.9	133.6	134.1	138.5	139.7	140.8	145.4	147.0	147.1	148.3
2822	Synthetic rubber	210.3	214.2	223.4	223.8	225.7	228.0	230.4	240.9	244.2	244.7	256.7	258.2	258.5	258.9
2824	Organic fiber, noncellulosic	117.6	118.6	119.8	123.5	123.6	123.2	122.6	124.1	124.7	128.9	128.6	131.9	133.0	133.6
2873	Nitrogenous fertilizers (12/75 = 100)	103.4	102.8	104.1	106.1	106.0	111.7	113.5	114.3	119.8	122.1	123.9	124.4	123.4	122.6
2874	Phosphatic fertilizers	193.8	188.9	199.4	204.3	213.2	221.6	223.4	229.2	233.2	235.0	237.3	236.4	236.8	234.9
2875	Fertilizers, mixing only	203.8	198.1	205.6	211.1	218.3	227.0	227.1	233.2	239.8	242.5	247.9	246.0	248.9	248.3
2892	Explosives	230.4	240.1	240.7	250.3	250.8	251.7	252.5	253.6	255.2	260.2	271.3	272.8	273.8	273.8
2911	Petroleum refining (6/76 = 100)	163.6	165.5	176.6	188.9	196.4	201.0	204.8	213.9	228.4	242.3	250.[illegible]	253.0	253.2	255.8
2951	Paving mixtures and blocks (12/75 = 100)	134.3	134.4	134.9	141.6	145.6	145.6	145.7	150.0	161.5	167.9	172.6	172.6	171.6	173.7
2952	Asphalt felts and coatings (12/75) = 100)	162.5	143.6	142.7	145.8	147.6	152.2	151.9	156.1	162.7	169.9	176.5	173.6	175.0	180.1
3011	Tires and inner tubes (12/73 = 100)	176.4	176.8	181.2	184.2	186.9	191.2	191.4	193.0	196.7	196.6	198.8	199.0	201.4	203.3

30. Continued—Producer Price Indexes for the output of selected SIC industries

[1967=100 unless otherwise specified]

1972 SIC code	Industry description	Annual average 1979	1979						1980						
			July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.[1]	Apr.	May	June	July
3021	Rubber and plastic footwear (12/71 = 100)	171.1	171.0	173.4	173.4	173.5	173.5	173.5	173.5	173.6	173.6	173.8	173.8	173.9	181.9
3031	Reclaimed rubber (12/73 = 100)	170.0	169.2	169.2	177.7	178.8	179.2	179.5	179.7	180.0	184.9	183.7	184.3	184.3	184.4
3079	Miscellaneous plastic products (6/78 = 100)	109.9	111.4	112.3	113.1	114.3	114.6	115.6	116.6	117.0	119.1	120.1	120.3	121.6	121.9
3111	Leather tanning and finishing (12/77 = 100)	167.5	181.8	172.9	155.2	161.9	150.8	153.5	164.3	160.8	146.7	140.8	137.9	134.6	137.7
3142	House slippers (12/75 = 100)	125.8	135.0	136.0	136.0	136.8	136.9	136.9	143.5	145.4	145.4	146.8	146.8	146.8	152.5
3143	Men's footwear, except athletic (12/75 = 100)	152.7	155.4	158.2	160.1	160.4	160.3	160.3	160.3	157.9	158.5	158.4	158.4	158.6	158.6
3144	Women's footwear, except athletic	194.5	198.7	201.5	201.6	202.3	204.0	204.0	205.6	206.3	213.5	213.8	213.8	213.8	214.3
3171	Women's handbags and purses (12/75 = 100)	128.9	131.8	131.8	131.8	131.8	131.8	131.8	131.9	131.9	132.1	132.1	140.8	140.9	140.9
3211	Flat glass (12/71 = 100)	151.7	151.9	151.9	152.3	152.6	153.3	153.9	157.6	157.6	157.9	157.9	157.9	158.9	159.5
3221	Glass containers	261.1	265.2	265.2	265.2	265.2	265.2	274.2	274.3	274.3	274.3	294.5	294.5	294.5	294.5
3241	Cement, hydraulic	283.1	285.4	285.4	285.4	285.4	285.5	286.2	305.7	305.9	306.3	309.8	310.7	310.8	310.5
3251	Brick and structural clay tile	258.6	261.0	263.3	265.9	261.3	261.3	262.7	268.3	270.4	271.9	276.4	278.5	278.5	278.5
3253	Ceramic wall and floor tile (12/75 = 100)	117.2	120.2	120.2	120.2	120.2	120.2	130.3	130.4	130.4	130.4	130.4	117.6	117.6	117.6
3255	Clay refractories	242.1	246.5	246.7	247.1	251.0	252.9	254.0	255.1	259.4	263.7	275.4	277.1	277.5	280.7
3259	Structural clay products, n.e.c.	189.2	188.2	192.1	192.1	192.8	192.3	196.5	196.3	196.1	196.4	200.6	201.6	204.9	205.1
3261	Vitreous plumbing fixtures	207.4	210.1	212.4	213.1	214.5	215.7	217.3	219.2	224.6	226.7	227.6	236.1	235.8	237.2
3262	Vitreous china food utensils	295.2	297.5	297.5	298.0	298.0	305.4	308.2	308.2	308.2	308.2	313.4	313.4	318.6	318.2
3263	Fine earthenware food utensils	244.9	238.8	238.8	246.0	246.0	248.4	294.3	294.3	294.3	294.3	294.8	293.6	294.4	294.3
3269	Pottery products, n.e.c (12/75 = 100)	132.5	131.0	131.0	133.3	133.3	135.5	150.1	150.1	150.1	150.1	151.3	151.4	152.6	152.6
3271	Concrete block and brick	233.0	232.7	235.7	237.8	240.0	240.0	240.2	249.5	250.6	252.3	259.3	259.4	259.4	259.4
3273	Ready-mixed concrete	248.2	249.6	250.5	252.4	254.0	254.6	257.0	270.8	272.6	275.5	278.9	281.6	282.5	282.5
3274	Lime (12/75 = 100)	141.0	141.8	142.9	144.2	144.6	144.3	144.6	149.5	153.5	155.6	156.7	156.9	157.4	159.6
3275	Gypsum products	252.8	252.3	252.8	255.4	255.9	256.8	255.6	255.9	262.8	268.1	264.6	257.0	257.5	253.5
3291	Abrasive products (12/71 = 100)	187.8	187.7	188.6	190.4	195.1	196.3	196.5	199.4	203.3	203.9	210.1	211.9	213.5	215.2
3297	Nonclay refractories (12/74 = 100)	145.6	148.1	149.1	149.7	150.1	152.3	152.3	152.6	153.3	154.2	157.4	159.7	161.2	162.8
3312	Blast furnaces and steel mills	288.8	292.8	293.0	293.2	296.4	297.1	297.7	302.4	302.9	304.1	311.9	313.2	313.4	308.5
3313	Electrometallurgical products (12/75 = 100)	111.9	116.5	116.5	116.0	116.2	117.5	117.6	117.8	117.8	118.0	118.7	118.5	118.7	117.0
3316	Cold finishing of steel shapes	266.5	270.6	270.8	270.9	271.7	273.4	273.9	274.1	277.1	277.2	285.9	286.1	286.2	282.2
3317	Steel pipes and tubes	268.6	271.9	271.3	271.3	272.7	273.1	273.2	280.5	281.0	283.2	286.9	286.9	290.5	292.5
3321	Gray iron foundries (12/68 = 100)	255.8	253.9	253.8	254.8	267.1	268.6	269.7	273.7	276.9	277.2	278.4	279.0	279.9	280.4
3333	Primary zinc	265.7	261.4	265.5	264.2	265.2	257.8	265.7	268.1	272.4	279.6	274.2	268.2	266.6	255.8
3334	Primary aluminum	243.1	244.9	247.4	248.2	256.0	263.2	266.6	267.0	267.0	267.8	276.0	287.0	288.6	293.3
3351	Copper rolling and drawing	213.2	211.2	213.6	216.7	226.3	222.6	225.0	231.0	253.1	238.6	230.1	222.9	220.4	223.3
3353	Aluminum sheet plate and foil (12/75 = 100)	148.9	149.6	149.8	150.0	150.7	151.3	151.7	153.2	153.5	155.5	158.0	157.6	157.7	158.2
3354	Aluminum extruded products (12/75 = 100)	149.3	150.3	151.9	151.9	155.2	157.4	158.0	158.8	158.9	160.9	167.6	167.7	167.7	168.3
3355	Aluminum rolling, drawing, n.e.c. (12/75 = 100)	132.4	132.7	133.1	133.5	136.9	138.9	140.5	140.7	141.0	141.1	143.8	145.2	146.5	147.2
3411	Metal cans	264.1	262.2	262.9	263.5	273.8	274.6	274.7	276.6	277.3	279.9	295.1	295.2	294.9	295.6
3425	Hand saws and saw blades (12/72 = 100)	163.3	162.8	166.3	166.4	167.1	169.5	169.8	173.1	174.6	176.4	177.8	181.3	181.7	183.3
3431	Metal sanitary ware	224.8	226.4	226.9	229.2	230.1	231.7	232.9	237.8	242.1	243.1	245.5	249.7	249.9	250.9
3465	Automotive stampings (12/75 = 100)	128.5	127.8	130.9	131.6	132.4	132.4	132.4	132.4	132.4	132.7	133.8	134.1	138.1	138.1
3482	Small arms ammunition (12/75 = 100)	132.2	134.0	134.0	134.0	133.2	133.6	143.2	143.2	143.2	142.6	146.3	147.1	150.2	149.8
3493	Steel springs, except wire	219.8	221.6	222.1	222.8	223.7	224.1	225.6	226.1	226.6	226.6	228.9	228.9	230.1	230.1
3494	Valves and pipe fittings (12/71 = 100)	204.8	205.5	206.2	207.5	210.4	212.5	214.3	216.9	219.6	223.1	227.3	229.1	231.2	231.8
3498	Fabricated pipe and fittings	289.2	294.8	294.8	294.9	297.3	297.4	297.4	301.7	301.8	303.5	306.8	306.9	313.8	317.2
3519	Internal combustion engines, n.e.c.	243.3	242.3	245.7	251.8	254.2	254.9	254.9	260.5	261.8	266.1	269.2	270.2	270.3	275.1
3531	Construction machinery (12/76 = 100)	125.1	125.6	126.3	126.5	128.9	129.4	130.9	134.6	135.7	136.3	138.0	138.7	140.0	141.5
3532	Mining machinery (12/72 = 100)	229.4	231.2	231.5	232.7	233.1	235.4	238.4	245.8	247.1	247.8	254.1	256.2	257.1	259.4
3533	Oilfield machinery and equipment	291.6	292.0	293.3	298.8	300.5	302.8	308.1	314.2	316.2	318.9	329.5	332.9	337.4	342.6
3534	Elevators and moving stairways	215.9	215.4	214.6	219.1	219.4	220.6	220.9	225.6	226.1	229.1	232.6	234.1	242.5	244.2
3542	Machine tools, metal forming types (12/71 = 100)	242.8	244.6	245.1	247.9	249.8	253.7	256.7	266.1	268.1	269.4	276.1	275.7	279.8	284.9
3546	Power driven hand tools (12/76 = 100)	119.3	119.2	120.2	120.4	122.0	122.8	124.4	126.3	126.6	127.4	128.6	130.4	130.6	133.5
3552	Textile machinery (12/69 = 100)	194.7	195.0	197.5	198.2	199.3	200.6	200.6	202.6	205.2	207.0	212.5	213.0	217.0	222.1
3553	Woodworking machinery (12/72 = 100)	185.4	185.9	187.7	190.0	192.6	192.7	192.9	201.2	201.6	205.1	212.7	212.5	214.0	216.3
3576	Scales and balances, excluding laboratory	194.2	194.8	195.4	195.4	195.7	199.5	201.0	204.2	205.8	206.6	205.1	208.2	208.6	208.8
3592	Carburetors, pistons, rings, valves (6/76 = 100)	139.6	139.2	139.6	140.7	142.8	145.1	145.3	147.5	147.8	148.6	152.5	152.8	153.2	158.3
3612	Transformers	168.1	167.9	167.6	168.4	171.2	170.4	171.6	172.9	176.6	177.5	180.0	181.7	183.2	186.2
3623	Welding apparatus, electric (12/72 = 100)	192.2	193.5	194.1	196.1	196.9	198.6	200.3	201.3	203.3	206.0	207.3	209.8	211.0	212.3
3631	Household cooking equipment (12/75 = 100)	122.2	122.0	123.4	124.3	124.4	125.9	126.3	128.7	129.3	129.4	129.6	132.5	133.4	134.7
3632	Household refrigerators, freezers (6/76 = 100)	113.6	113.6	114.3	115.1	115.1	115.7	116.3	117.0	118.5	118.6	119.0	119.0	121.5	121.7
3633	Household laundry equipment (12/73 = 100)	148.8	148.8	149.9	150.6	150.9	152.3	153.5	154.0	156.6	158.3	159.0	159.7	162.8	160.1
3635	Household vacuum cleaners	141.7	141.6	141.7	141.9	144.5	144.7	145.8	146.1	149.7	151.3	150.2	149.2	149.6	151.9
3636	Sewing machines (12/75 = 100)	121.4	121.8	122.2	122.2	122.6	122.6	122.6	122.8	129.2	129.2	128.6	128.6	128.6	129.4
3641	Electric lamps	236.2	240.8	244.3	242.7	244.8	238.7	240.8	248.5	252.4	251.8	252.4	252.3	260.0	266.4
3644	Noncurrent-carrying wiring devices (12/72 = 100)	204.6	203.3	207.7	209.1	210.5	211.9	215.0	212.9	215.2	215.3	219.7	220.3	222.5	222.3
3646	Commercial lighting fixtures (12/75 = 100)	126.5	127.9	127.9	130.5	131.4	131.6	131.9	133.4	134.3	136.2	138.4	138.9	139.6	139.6
3648	Lighting equipment, n.e.c. (12/75 = 100)	126.0	127.6	128.2	128.5	129.6	129.8	130.5	133.0	133.2	134.6	138.6	139.4	140.4	140.5
3671	Electron tubes receiving type	220.3	226.5	226.6	227.2	227.2	227.4	227.7	229.1	229.4	229.7	253.9	254.3	254.8	256.1
3674	Semiconductors and related devices	84.8	84.2	84.3	84.7	85.1	85.6	86.4	86.8	88.5	89.3	89.7	90.7	91.0	91.6
3675	Electronic capacitors (12/75 = 100)	125.2	126.7	129.3	134.1	133.9	135.8	138.0	147.7	149.1	151.3	155.6	156.4	158.2	164.3
3676	Electronic resistors (12/75 = 100)	124.4	124.0	124.6	125.2	126.6	126.7	127.3	127.4	128.8	131.8	131.9	132.8	135.0	135.1
3678	Electronic connectors (12/75 = 100)	131.7	133.4	134.1	137.6	138.9	140.7	142.1	145.1	146.4	146.7	147.3	148.8	148.8	149.0
3692	Primary batteries, dry and wet	170.1	172.8	172.8	172.8	173.1	173.1	174.1	174.2	176.5	176.6	176.8	176.4	176.4	176.4
3711	Motor vehicles and car bodies (12/75 = 100)	125.1	125.1	122.1	122.5	130.2	130.1	130.4	132.7	131.6	131.8	135.0	133.2	134.1	136.8
3942	Dolls (12/75 = 100)	110.8	111.8	112.6	112.6	112.9	112.9	113.0	122.7	125.4	125.6	126.0	126.7	126.7	126.7
3944	Games, toys, and children's vehicles	182.7	183.5	184.4	185.1	186.2	186.3	186.6	198.7	203.8	204.0	202.6	203.5	204.0	204.4
3955	Carbon paper and inked ribbons (12/75 = 100)	118.6	117.1	118.3	118.7	123.1	126.2	125.2	126.2	128.2	129.3	131.5	133.3	136.4	136.4
3995	Burial caskets (6/76 = 100)	122.5	123.3	123.8	124.8	123.1	124.8	124.8	129.3	128.3	128.3	128.1	130.0	132.2	132.2
3996	Hard surface floor coverings (12/75 = 100)	128.3	128.3	128.3	128.3	131.0	134.1	134.1	138.6	138.7	138.7	149.2	143.3	143.3	146.1

[1] Data for March 1980 have been revised to reflect the availability of late reports and corrections by respondents. All data are subject to revision 4 months after original publication.

c = corrected.

PRODUCTIVITY DATA

PRODUCTIVITY DATA are compiled by the Bureau of Labor Statistics from establishment data and from estimates of compensation and output supplied by the U.S. Department of Commerce and the Federal Reserve Board.

Definitions

Output is the constant dollar gross domestic product produced in a given period. Indexes of **output per hour of labor input,** or labor productivity, measure the value of goods and services produced per hour of labor. **Compensation per hour** includes wages and salaries of employees plus employers' contributions for social insurance and private benefit plans. The data also include an estimate of wages, salaries, and supplementary payments for the self-employed, except for nonfinancial corporations, in which there are no self-employed. **Real compensation per hour** is compensation per hour adjusted by the Consumer Price Index for All Urban Consumers.

Unit labor cost measures the labor compensation cost required to produce one unit of output and is derived by dividing compensation by output. **Unit nonlabor payments** include profits, depreciation, interest, and indirect taxes per unit of output. They are computed by subtracting compensation of all persons from the current dollar gross domestic product and dividing by output. In these tables, **Unit nonlabor costs** contain all the components of unit nonlabor payments except unit profits. **Unit profits** include corporate profits and inventory valuation adjustments per unit of output.

The **implicit price deflator** is derived by dividing the current dollar estimate of gross product by the constant dollar estimate, making the deflator, in effect, a price index for gross product of the sector reported.

The use of the term "man-hours" to identify the labor component of productivity and costs, in tables 31 through 34, has been discontinued. **Hours of all persons** is now used to describe the labor input of payroll workers, self-employed persons, and unpaid family workers. **Output per all-employee hour** is now used to describe labor productivity in nonfinancial corporations where there are no self-employed.

Notes on the data

In the private business sector and the nonfarm business sector, the basis for the output measure employed in the computation of output per hour is Gross Domestic Product rather than Gross National Product. Computation of hours includes estimates of nonfarm and farm proprietor hours.

Output data are supplied by the Bureau of Economic Analysis, U.S. Department of Commerce, and the Federal Reserve Board. Quarterly manufacturing output indexes are adjusted by the Bureau of Labor Statistics to annual estimates of output (gross product originating) from the Bureau of Economic Analysis. Compensation and hours data are from the Bureau of Economic Analysis and the Bureau of Labor Statistics.

Beginning with the September 1976 issue of the *Review*, tables 31–34 were revised to reflect changeover to the new series—private business sector and nonfarm business sector—which differ from the previously published total private economy and nonfarm sector in that output imputed for owner-occupied dwellings and the household and institutions sectors, as well as the statistical discrepancy, are omitted. For a detailed explanation, see J. R. Norsworthy and L. J. Fulco, "New sector definitions for productivity series," *Monthly Labor Review*, October 1976, pages 40–42.

31. Annual indexes of productivity, hourly compensation, unit costs, and prices, 1950–79

[1967=100]

Item	1950	1955	1960	1965	1970	1972	1973	1974	1975	1976	1977	1978	1979
Private business sector:													
Output per hour of all persons	61.2	70.6	79.0	95.1	104.4	111.5	113.6	110.2	112.6	116.6	118.7	119.3	118.3
Compensation per hour	42.6	56.1	72.2	88.7	123.3	139.8	151.3	165.2	181.7	197.6	213.3	r231.4	r253.1
Real compensation per hour	59.2	69.9	81.4	93.9	106.0	111.6	113.6	111.8	112.7	115.9	117.5	r118.4	118.4
Unit labor cost	69.6	79.4	91.4	93.3	118.2	125.4	133.2	149.8	161.3	169.5	179.7	194.0	214.0
Unit nonlabor payments	73.1	80.4	85.4	95.9	105.8	118.9	124.9	130.3	150.3	157.9	165.5	174.3	184.4
Implicit price deflator	70.8	79.8	89.3	94.2	113.9	123.2	130.3	143.1	157.5	165.5	174.8	187.2	203.8
Nonfarm business sector:													
Output per hour of all persons	57.2	74.6	81.2	96.0	103.2	110.1	112.0	108.8	110.7	114.6	116.4	r116.9	115.7
Compensation per hour	45.6	59.0	74.5	89.4	121.9	138.4	149.2	163.0	179.3	194.2	209.6	r227.5	r247.9
Real compensation per hour	63.3	73.6	84.1	94.6	104.8	110.5	112.1	110.4	111.2	113.9	115.5	r118.4	r114.0
Unit labor cost	68.0	79.1	91.7	93.2	118.1	125.7	133.2	150.1	161.9	169.5	180.1	194.6	214.4
Unit nonlabor payments	71.4	80.1	84.4	95.8	106.0	117.4	117.8	124.7	145.9	158.0	163.8	169.9	178.6
Implicit price deflator	69.1	79.4	89.2	94.1	114.0	122.9	127.9	141.4	156.4	164.8	174.5	186.1	202.1
Nonfinancial corporations:													
Output per hour of all employees	(1)	(1)	80.6	96.9	103.7	110.6	112.9	108.7	112.2	115.8	117.0	r118.0	r117.5
Compensation per hour	(1)	(1)	76.0	90.1	121.8	136.7	147.6	161.7	177.9	192.7	208.0	r225.0	r244.9
Real compensation per hour	(1)	(1)	85.7	95.3	104.7	109.1	110.9	109.5	110.4	113.8	114.6	r115.2	r112.7
Unit labor cost	(1)	(1)	94.3	93.0	117.4	123.7	130.7	148.8	159.6	169.4	177.7	190.6	208.4
Unit nonlabor payments	(1)	(1)	90.8	100.1	103.5	114.8	118.8	124.8	148.1	159.8	164.4	170.6	179.5
Implicit price deflator	(1)	(1)	93.1	95.5	112.5	120.5	125.8	140.2	154.9	163.0	173.0	183.5	198.1
Manufacturing:													
Output per hour of all persons	65.8	75.0	79.8	98.4	105.0	115.7	118.9	113.0	118.8	124.0	127.7	r128.2	r129.2
Compensation per hour	45.6	61.2	78.0	91.1	122.3	136.6	146.5	161.7	181.1	196.1	212.7	r229.9	r250.8
Real compensation per hour	63.3	76.3	88.0	96.4	105.1	109.0	110.1	109.5	112.3	115.0	117.2	r117.6	r115.3
Unit labor cost	69.4	81.6	97.7	92.6	116.5	118.1	123.2	143.1	152.4	158.2	166.6	179.4	194.1
Unit nonlabor payments	82.3	86.6	92.3	103.3	98.2	107.4	106.4	105.6	128.4	139.6	147.4	152.4	r154.4
Implicit price deflator	73.3	83.8	96.1	95.9	110.3	114.8	118.0	131.6	146.1	152.5	160.7	171.1	r181.9

[1] Not available.

r = revised

32. Annual changes in productivity, hourly compensation, unit costs, and prices, 1969–79

Item	Year											Annual rate of change	
	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1950-79	1960-79
Private business sector:													
Output per hour of all persons	0.2	0.7	3.3	3.4	1.9	−3.0	2.1	3.5	1.8	0.5	[r]−0.8	2.5	2.1
Compensation per hour	6.9	7.2	6.7	6.2	8.2	9.2	10.0	8.8	8.0	8.5	[r]9.4	5.9	6.9
Real compensation per hour	1.4	1.2	2.3	2.8	1.9	−1.6	.8	2.8	1.4	0.8	−1.7	2.5	2.0
Unit labor cost	6.6	6.4	3.3	2.8	6.2	12.5	7.7	5.0	6.0	8.0	10.3	3.3	4.7
Unit nonlabor payments	1.0	1.2	6.8	5.3	5.0	4.4	15.3	5.1	4.8	5.3	5.8	3.0	4.2
Implicit price deflator	4.7	4.7	4.4	3.6	5.8	9.8	10.1	5.0	5.6	7.1	8.9	3.2	4.5
Nonfarm business sector:													
Output per hour of all persons	−.2	.2	3.0	3.6	1.7	−3.1	2.0	3.5	1.5	.5	−1.1	2.1	1.9
Compensation per hour	6.4	6.8	6.7	6.4	7.8	9.2	10.0	8.3	7.9	8.6	[r]9.0	5.6	6.7
Real compensation per hour	1.0	.8	2.3	3.0	1.5	−1.6	.8	2.4	1.4	[r].6	−2.1	2.2	1.7
Unit labor cost	6.7	6.5	3.5	2.7	6.0	12.7	7.9	4.7	6.3	8.0	10.2	3.4	4.7
Unit nonlabor payments	.4	1.6	6.7	3.8	.3	5.9	17.0	6.9	5.0	3.7	5.1	2.9	4.0
Implicit price deflator	4.5	4.9	4.5	3.1	4.1	10.5	10.6	5.4	5.9	6.6	8.6	3.3	4.5
Nonfinancial corporations:													
Output per hour of all employees	.4	.0	3.3	3.1	2.1	−3.7	3.2	3.2	1.1	[r].9	−.4	(1)	1.9
Compensation per hour	6.8	6.8	6.2	5.7	7.9	9.6	10.0	8.3	7.9	[r]8.2	8.9	(1)	6.5
Real compensation per hour	1.3	.8	1.8	2.4	1.6	−1.3	.8	2.4	1.4	[r].5	[r]−2.2	(1)	1.6
Unit labor cost	6.3	6.8	2.7	2.5	5.7	13.8	6.6	4.9	6.8	7.3	9.3	(1)	4.5
Unit nonlabor payments	0	.5	7.3	3.3	1.8	6.8	18.7	5.8	4.9	3.8	5.2	(1)	3.6
Implicit price deflator	4.1	4.6	4.2	2.8	4.4	11.5	10.5	5.2	6.1	6.1	7.9	(1)	4.2
Manufacturing:													
Output per hour of all persons	1.3	−.1	5.2	4.8	2.8	−5.0	5.1	4.4	3.0	[r].4	[r]0.9	[r]2.5	2.5
Compensation per hour	6.6	7.1	6.2	5.2	7.2	10.4	12.0	8.3	[r]8.4	[r]8.1	[r]9.1	5.5	[r]6.4
Real compensation per hour	1.2	1.1	1.9	1.8	.9	−.5	2.6	2.4	1.9	[r].4	[r]−2.0	2.1	[r]1.5
Unit labor cost	5.2	7.2	.9	.4	4.3	16.1	6.6	3.8	5.3	7.7	8.2	2.9	[r]3.9
Unit nonlabor payments	−4.4	−3.2	9.2	2.3	−1.0	−.7	21.6	8.8	5.5	3.4	[p]1.3	[r]1.9	[r]2.5
Implicit price deflator	2.3	4.2	3.1	1.0	2.8	11.5	10.2	5.1	5.4	6.5	[p]6.3	2.6	[r]3.5

[1] Not available.

r = revised.

33. Quarterly indexes of productivity, hourly compensation, unit costs, and prices, seasonally adjusted

[1967 = 100]

Item	Annual average		Quarterly indexes										
			1977	1978				1979				1980	
	1978	1979	IV	I	II	III	IV	I	II	III	IV	I	II[p]
Private business sector:													
Output per hour of all persons	119.3	118.3	119.0	118.5	119.1	[r]119.7	[r]119.8	[r]118.9	[r]118.3	[r]117.8	[r]117.7	[r]117.7	116.7
Compensation per hour	231.5	[r]253.1	218.8	[r]224.6	228.8	[r]233.7	[r]238.4	[r]244.8	[r]250.4	[r]255.7	[r]260.3	267.6	275.3
Real compensation per hour	[r]118.4	116.4	117.9	118.8	118.3	[r]118.2	[r]117.9	[r]117.9	[r]117.0	[r]115.8	[r]114.2	112.9	112.5
Unit labor cost	194.0	214.0	183.9	189.4	192.1	195.2	199.0	205.9	211.7	217.0	221.1	227.5	235.8
Unit nonlabor payments	174.3	184.4	168.5	164.8	173.9	177.0	[r]181.3	180.8	[r]183.7	[r]185.6	[r]188.3	[r]190.0	191.3
Implicit price deflator	187.2	203.8	178.6	180.9	185.8	188.9	192.9	197.2	202.0	206.1	209.7	214.5	220.4
Nonfarm business sector:													
Output per hour of all persons	[r]116.9	115.7	116.4	[r]116.2	116.7	[r]117.4	[r]117.6	[r]116.6	[r]115.4	[r]115.0	[r]115.2	114.9	113.7
Compensation per hour	[r]227.5	[r]247.9	215.1	[r]221.0	[r]224.9	[r]229.5	[r]234.4	[r]240.2	[r]244.9	[r]254.9	[r]255.6	262.2	269.0
Real compensation per hour	[r]116.4	[r]114.0	115.9	116.9	116.3	[r]116.1	[r]115.9	[r]115.7	[r]114.4	[r]113.2	[r]112.1	110.6	109.9
Unit labor cost	194.6	214.4	184.8	190.2	192.8	195.6	[r]199.3	206.0	212.2	217.3	221.8	[r]228.2	236.6
Unit nonlabor payments	169.9	178.6	165.9	161.1	169.1	173.0	176.0	174.3	177.6	[r]180.5	182.5	[r]185.9	189.2
Implicit price deflator	186.1	202.1	178.3	180.2	184.7	187.8	191.4	195.1	200.3	204.7	208.4	[r]213.7	220.3
Nonfinancial corporations:													
Output per hour of all employees	[r]118.0	[r]117.5	116.9	116.9	[r]118.0	[r]118.5	[r]118.8	[r]118.1	[r]117.3	[r]117.2	[r]117.1	117.1	(1)
Compensation per hour	[r]225.0	[r]244.9	213.2	[r]219.0	[r]222.6	[r]226.9	[r]231.3	[r]237.3	[r]242.1	[r]247.1	[r]252.1	[r]258.8	(1)
Real compensation per hour	[r]115.2	[r]112.7	114.9	115.8	[r]115.1	[r]114.8	[r]114.4	[r]114.3	[r]113.1	[r]111.9	[r]110.6	109.2	(1)
Total unit costs	193.3	210.4	186.3	190.8	191.6	194.0	196.8	202.3	208.0	213.2	218.0	[r]224.3	(1)
Unit labor cost	190.6	208.4	182.3	187.3	188.7	191.5	194.8	201.0	206.4	210.8	215.3	221.1	(1)
Unit nonlabor costs	201.8	216.6	198.7	201.5	200.8	201.6	203.1	206.5	213.2	220.5	226.1	[r]234.4	(1)
Unit profits	127.2	127.8	122.2	107.1	129.2	132.7	138.7	130.3	129.2	127.5	124.0	[r]120.5	(1)
Implicit price deflator	183.5	198.1	176.8	178.3	182.3	184.9	188.2	191.6	196.3	200.4	204.0	[r]208.9	(1)
Manufacturing:													
Output per hour for all persons	[r]128.2	[r]129.2	128.3	126.3	[r]127.7	129.5	[r]128.3	[r]128.8	[r]129.6	[r]129.6	[r]129.1	[r]128.4	127.4
Compensation per hour	[r]229.9	[r]250.3	218.3	[r]223.9	[r]227.1	[r]231.7	[r]236.6	[r]242.3	[r]248.0	[r]252.7	[r]258.0	[r]264.6	273.8
Real compensation per hour	[r]117.6	[r]115.3	117.6	118.4	117.5	[r]117.2	[r]117.0	[r]116.7	[r]115.9	[r]114.4	[r]113.2	[r]111.6	111.9
Unit labor cost	179.4	194.1	170.1	177.2	177.9	179.1	182.7	189.0	192.6	195.0	199.8	[r]206.0	214.9

[1] Not available.

r = revised.

34. Percent change from preceding quarter and year in productivity, hourly compensation, unit costs, and prices, seasonally adjusted at annual rate

[1967=100]

Item	Quarterly percent change at annual rate						Percent change from same quarter a year ago					
	IV 1978 to I 1979	I 1979 to II 1979	II 1979 to III 1979	III 1979 to IV 1979	IV 1979 to I 1980[p]	I 1980 to II 1980[p]	I 1978 to I 1979	II 1978 to II 1979	III 1978 to III 1979	IV 1978 to IV 1979	I 1979 to I 1980[p]	II 1979 to II 1980[p]
Private business sector:												
Output per hour of all persons	[r]−3.1	[r]−2.0	−1.4	−0.3	−0.3	−3.1	[r]0.3	[r]−0.7	−1.6	−1.7	[r]−1.0	−1.3
Compensation per hour	[r]11.0	[r]9.5	[r]8.7	[r]7.5	11.7	12.0	[r]9.0	[r]9.4	9.4	9.2	[r]9.3	10.0
Real compensation per hour	[r]−.2	[r]−2.9	[r]−4.1	−5.4	−4.5	−1.5	[r]−0.8	[r]−1.1	[r]−2.1	−3.2	[r]−4.2	−3.9
Unit labor cost	14.6	11.8	10.3	7.8	12.1	15.5	8.7	10.2	11.2	11.1	10.5	11.4
Unit nonlabor payments	−1.0	[r]6.5	4.2	[r]5.9	3.8	2.6	9.7	[r]5.7	4.8	3.9	[r]5.1	4.1
Implicit price deflator	9.3	10.1	8.3	7.2	9.4	11.5	9.0	8.7	9.1	8.7	[r]8.8	9.1
Nonfarm business sector:												
Output per hour of all persons	[r]−3.3	[r]−3.9	[r]−1.5	[r]0.8	[r]−1.1	−4.1	[r].4	[r]−1.1	−2.0	−2.0	[r]−1.4	−1.5
Compensation per hour	[r]10.2	[r]8.1	8.5	[r]9.5	[r]10.7	10.8	[r]8.7	[r]8.9	8.9	[r]9.1	[r]9.2	9.8
Real compensation per hour	[r]−.9	[r]−4.2	[r]−4.4	[r]−3.6	[r]−5.3	−2.6	[r]−1.0	[r]−1.6	−2.5	−3.3	[r]−4.4	−4.0
Unit labor cost	14.0	12.5	10.1	8.6	[r]12.0	15.6	8.3	10.1	11.1	11.3	[r]10.8	11.5
Unit nonlabor payments	−3.9	7.7	6.6	4.6	[r]7.5	7.3	8.2	5.0	4.3	3.7	[r]6.6	6.5
Implicit price deflator	8.1	11.0	9.0	7.4	[r]10.6	13.0	8.3	8.5	9.0	8.9	[r]9.5	10.0
Nonfinancial corporations:												
Output per hour of all employees	[r]−2.3	[r]−2.7	[r]−0.3	[r]−0.4	[r]−0.1	(1)	[r]1.0	[r]−.6	[r]−1.1	−1.4	[r]−0.9	(1)
Compensation per hour	[r]10.8	[r]8.3	[r]8.5	[r]8.4	[r]11.0	(1)	[r]8.4	[r]8.7	8.9	9.0	[r]9.0	(1)
Real compensation per hour	[r]−.4	[r]−4.1	[r]−4.3	[r]−4.5	[r]−5.1	(1)	[r]−1.3	[r]−1.8	[r]−2.6	−3.3	[r]−4.5	(1)
Total unit costs	11.7	11.8	10.2	9.3	[r]12.2	(1)	6.1	8.6	9.9	10.8	[r]10.9	(1)
Unit labor costs	13.4	11.2	8.8	8.9	11.1	(1)	7.3	9.4	10.1	10.6	10.0	(1)
Unit nonlabor costs	6.8	13.5	14.6	10.6	[r]15.4	(1)	2.5	6.2	9.4	11.3	[r]13.5	(1)
Unit profits	−22.1	−3.4	−5.3	[r]−10.4	[r]−10.9	(1)	21.7	0	−3.9	−10.6	[r]−7.6	(1)
Implicit price deflator	7.6	10.2	8.6	7.3	[r]9.9	(1)	7.5	7.7	8.4	8.4	9.0	(1)
Manufacturing:												
Output per hour of all persons	[r]−3.8	[r]1.7	[r]2.5	[r]−1.4	[r]−2.2	−3.2	[r]1.5	[r].9	[r]0.2	[r]−0.3	0.1	−1.1
Compensation per hour	10.1	[r]9.6	[r]7.8	[r]8.8	[r]10.5	14.7	[r]8.2	[r]9.2	[r]9.1	[r]9.1	[r]9.2	10.4
Real compensation per hour	[r]−.9	[r]−2.8	[r]−4.9	[r]−4.2	[r]−5.5	0.9	[r]−1.5	[r]−1.3	[r]−2.4	[r]−3.3	[r]−4.4	−3.5
Unit labor cost	14.5	7.9	5.2	10.3	[r]13.0	18.5	6.6	8.2	8.9	9.4	[r]9.0	11.6

[1] Not available.

r = revised.

LABOR-MANAGEMENT DATA

MAJOR COLLECTIVE BARGAINING DATA are obtained from contracts on file at the Bureau of Labor Statistics, direct contact with the parties, and from secondary sources. Additional detail is published in *Current Wage Developments*, a monthly periodical of the Bureau. Data on work stoppages are based on confidential responses to questionnaires mailed by the Bureau of Labor Statistics to parties involved in work stoppages. Stoppages initially come to the attention of the Bureau from reports of Federal and State mediation agencies, newspapers, and union and industry publications.

Definitions

Data on wage changes apply to private nonfarm industry agreements covering 1,000 workers or more. Data on wage and benefit changes *combined* apply only to those agreements covering 5,000 workers or more. **First-year wage settlements** refer to pay changes going into effect within the first 12 months after the effective date of the agreement. **Changes over the life of the agreement** refer to total agreed upon settlements (exclusive of potential cost-of-living escalator adjustments) expressed at an average annual rate. **Wage-rate changes** are expressed as a percent of straight-time hourly earnings, while **wage and benefit changes** are expressed as a percent of total compensation.

Effective wage-rate adjustments going into effect in major bargaining units measure changes actually placed into effect during the reference period, whether the result of a newly negotiated increase, a deferred increase negotiated in an earlier year, or as a result of a cost-of-living escalator adjustment. Average adjustments are affected by workers receiving no adjustment, as well as by those receiving increases or decreases.

Work stoppages include all known strikes or lockouts involving six workers or more and lasting a full shift or longer. Data cover all workers idle one shift or more in establishments directly involved in a stoppage. They do not measure the indirect or secondary effect on other establishments whose employees are idle owing to material or service shortages.

35. Wage and benefit settlements in major collective bargaining units, 1975 to date
[In percent]

Sector and measure	Annual average					Quarterly average							
	1975	1976	1977	1978	1979	1978		1979				1980 p	
						III	IV	I	II	III	IV	I	II
Wage and benefit settlements, all industries:													
First-year settlements	11.4	8.5	9.6	8.3	9.0	7.2	6.1	2.8	10.5	9.0	8.5	8.6	10.1
Annual rate over life of contract	8.1	6.6	6.2	6.3	6.6	5.9	5.2	5.3	7.8	6.1	6.0	6.4	6.8
Wage rate settlements, all industries:													
First-year settlements	10.2	8.4	7.8	7.6	7.4	7.5	7.4	5.7	8.9	6.8	6.3	7.8	8.7
Annual rate over life of contract	7.8	6.4	5.8	6.4	6.0	6.4	5.9	6.6	7.2	5.1	5.3	6.3	6.8
Manufacturing:													
First-year settlements	9.8	8.9	8.4	8.3	6.9	8.4	9.5	8.7	9.7	6.3	5.6	7.0	6.6
Annual rate over life of contract	8.0	6.0	5.5	6.6	5.4	7.2	7.4	7.7	8.1	4.7	4.2	5.6	4.9
Nonmanufacturing (excluding construction):													
First-year settlements	11.9	8.6	8.0	8.0	7.6	7.4	6.4	3.2	6.5	9.4	7.8	9.1	10.4
Annual rate over life of contract	8.0	7.2	5.9	6.5	6.2	5.9	5.1	5.6	5.8	6.5	7.4	7.1	8.6
Construction:													
First-year settlements	8.0	6.1	6.3	6.5	8.8	7.0	8.4	9.7	8.7	9.7	7.5	9.6	12.7
Annual rate over life of contract	7.5	6.2	6.3	6.2	8.3	7.2	7.1	8.2	8.3	8.5	7.6	9.3	10.3

36. Effective wage adjustments going into effect in major collective bargaining units, 1975 to date

[In percent]

Sector and measure	Average annual changes					Average quarterly changes								
	1975	1976	1977	1978	1979	1978			1979				1980 p	
						II	III	IV	I	II	III	IV	I	II
Total effective wage rate adjustment, all industries	8.7	8.1	8.0	8.2	9.1	2.6	2.7	1.4	1.4	2.6	3.3	1.6	1.4	2.6
Change resulting from —														
Current settlement	2.8	3.2	3.0	2.0	3.0	.6	.5	.4	.2	1.1	1.0	.5	.4	.7
Prior settlement	3.7	3.2	3.2	3.7	3.0	1.4	1.2	.5	.6	1.0	1.0	.4	.5	1.2
Escalator provision	2.2	1.6	1.7	2.4	3.1	.6	1.0	.5	.6	.5	1.2	.7	.6	.6
Manufacturing	8.5	8.5	8.4	8.6	9.6	2.2	2.9	1.9	1.5	2.3	3.2	2.4	1.7	2.9
Nonmanufacturing	8.9	7.7	7.6	7.9	8.8	2.9	2.5	1.1	1.4	2.8	3.4	1.0	1.2	2.2

NOTE: Because of rounding and compounding, the sums of individual items may not equal totals.

37. Work stoppages, 1947 to date

Month and year	Number of stoppages		Workers involved		Days idle	
	Beginning in month or year	In effect during month	Beginning in month or year (thousands)	In effect during month (thousands)	Number (thousands)	Percent of estimated working time
1947	3,693	....	2,170	....	34,600	.30
1948	3,419	....	1,960	....	34,100	.28
1949	3,606	....	3,030	....	50,500	.44
1950	4,843	....	2,410	....	38,800	.33
1951	4,737	....	2,220	....	22,900	.18
1952	5,117	....	3,540	....	59,100	.48
1953	5,091	....	2,400	....	28,300	.22
1954	3,468	....	1,530	....	22,600	.18
1955	4,320	....	2,650	....	28,200	.22
1956	3,825	....	1,900	....	33,100	.24
1957	3,673	....	1,390	....	16,500	.12
1958	3,694	....	2,060	....	23,900	.18
1959	3,708	....	1,880	....	69,000	.50
1960	3,333	....	1,320	....	19,100	.14
1961	3,367	....	1,450	....	16,300	.11
1962	3,614	....	1,230	....	18,600	.13
1963	3,362	....	941	....	16,100	.11
1964	3,655	....	1,640	....	22,900	.15
1965	3,963	....	1,550	....	23,300	.15
1966	4,405	....	1,960	....	25,400	.15
1967	4,595	....	2,870	....	42,100	.25
1968	5,045	....	2,649	....	49,018	.28
1969	5,700	....	2,481	....	42,869	.24
1970	5,716	....	3,305	....	66,414	.37
1971	5,138	....	3,280	....	47,589	.26
1972	5,010	....	1,714	....	27,066	.15
1973	5,353	....	2,251	....	27,948	.14
1974	6,074	....	2,778	....	47,991	.24
1975	5,031	....	1,746	....	31,237	.16
1976	5,648	....	2,420	....	37,859	.19
1977	5,506	....	2,040	....	35,822	.17
1978	4,230	....	1,623	....	36,922	.17
1979: June	536	....	137	....	2,989	.16
July	471	....	168	....	3,001	.16
August	483	....	119	....	3,152	.15
September	464	....	135	....	2,319	.13
October	443	....	230	....	2,968	.15
November	257	....	91	....	2,720	.15
December	134	....	42	....	1,976	.11
1980: January p	352	441	207	292	3,142	.16
February p	354	580	114	332	3,025	.17
March p	396	631	123	310	2,705	.14
April	425	663	116	231	2,786	.14
May	505	752	139	214	2,464	.13
June	435	714	164	201	2,553	.13

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IMMIGRATION

October cover:

**Fragment panel from the mural "Immigration" (1937) painted by Edward Laning.
Formerly located on Ellis Island, an abandoned site for screening immigrants to the United States, the mural was retrieved and restored by the General Services Administration.**

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Labor Month In Review

IMPROVING JOBLESS PAY. The National Commission on Unemployment Compensation, a 13-member panel representing employers, employees, and the public, completed a 4-year study with more than 30 recommendations to improve or preserve the unemployment compensation system. Highlights:

Broader coverage. The commission calls for a major expansion of coverage. Several proposals would be especially beneficial to women: the panel asks that "sexual harassment" and "compelling family circumstances" be considered legitimate reasons for leaving a job and that persons who seek only part-time work be eligible for compensation. In addition, displaced homemakers who registered for work would qualify for benefits through unemployment insurance credits or equivalent work or on the basis of credits earned by their spouses. Other groups included in the broadened coverage are all agricultural workers (presently only those on farms with 10 or more employees or a $20,000 payroll are insured) and household workers who are paid at least $50 a quarter (presently only those receiving $1,000 or more are covered).

Tax-exempt payments. The panel recommends that unemployment insurance payments be exempted from Federal income tax, calling the practice discriminatory (because some other incomes are not taxed) and citing the difficulties of the Internal Revenue Service in enforcing this provision. It recommends that basic benefits be increased, in steps, to a maximum in 1986 of two-thirds of a State's average weekly wage for covered workers.

The Commission wants greater protection provided during periods of heavy unemployment and recommends a "State extended benefit" (SEB) program that would provide, depending on a State's insured unemployment rate, up to an additional 26 weeks of unemployment benefits. This means that some workers could receive 65 weeks of aid; the present maximum benefit period is 39 weeks. For the longer-term unemployed, the Commission proposes increasing Comprehensive Employment and Training Administration (CETA) job slots and recommends establishing some type of income-tested program, separate from the unemployment compensation program, for all unemployed persons, including those who have exhausted their benefits under the present program.

Finances and administration. The Commission, concerned about recent increases of unemployment which have threatened the integrity of the system, makes several recommendations for putting unemployment compensation programs on sound financial footing. It proposes gradually increasing the taxable wage base from 50 percent of the average earnings of covered employees in 1983 to 65 percent in 1989 and also favors reducing employer payroll taxes for past debts. To encourage prudent financial policies, the Commission suggests allowing only financially solvent States to borrow from Federal funds. The panel also wants to establish a Board of Trustees to monitor unemployment insurance trust funds. Several of the board's major responsibilities would be to set investment policies and inform the Congress on amounts needed to finance a State's compensation fund.

The panel suggests the system would be more efficient if the U.S. Treasury Department would let the States collect unemployment payroll taxes. It also wants more Federal funds allocated for detecting fraud, errors, and tax delinquencies and believes that the U.S. Employment Service should be expanded, from its present ceiling of 30,000 employees to 50,000 by 1985.

First major review. The Federal-State unemployment system was established in 1935. Although many changes have been made at both the Federal and State levels, this study marks the first time a comprehensive review of the system has been made. Congress established the National Commission on Unemployment Compensation in 1976 to examine the unemployment programs of States and make recommendations for improvement. The Commission expired September 30, but it asks the Congress to appoint a similar National Commission every 10 years, beginning in 1988.

Wilbur J. Cohen, head of the panel, estimated that adoption of all the recommendations would increase the cost of the unemployment compensation program by $10 billion, to $35 billion. But, he warned that "uncompensated unemployment can cost society much more than the cost of a reasonably improved unemployment compensation system."

The preliminary report, *Unemployment Compensation Policy Decisions,* is available from the National Commission on Unemployment Compensation, 1815 Lynn Street, Arlington, Va. 22209. ☐

Immigration and the labor force

Although the United States has been, from its beginning, a nation of immigrants—more are admitted each year than to any other nation in the world—U.S. immigration policy has wavered between welcoming immigrants and excluding them. When workers and their skills were needed, immigrants usually have been welcomed, even actively sought. During hard times, when job competition was keenest, efforts at exclusion have been frequent.

Recent discussion of immigration to the United States has focused on illegal immigrants, their impact on the U.S. economy, and on refugees from Southeast Asia and Cuba. This special issue of the Monthly Labor Review reports on these groups, but also examines broader immigration questions.

In the opening articles, Philip L. Martin and Alan Richards help us view U.S. immigration in the context of international migration, while Ayse Kudat and Mine Sabuncuoglu examine Europe's guestworker experience. The problems of counting and evaluating the impact of Mexican and other illegal aliens are explored by Ellen Sehgal and Joyce Vialet. Barry R. Chiswick analyzes the earnings patterns of immigrants, while David S. North examines the special problems of aliens who are temporary workers. The employment patterns and prospects of recent immigrants from Southeast Asia and Cuba are the subjects of articles by Robert L. and Jennifer B. Bach. In the final article, David S. North and Philip L. Martin examine differences between immigration and employment policies and point to the need for more coordination.

Although the articles deal with many facets of immigration and represent differing approaches, not all aspects or views of immigration are covered. Readers who wish to comment on the articles or present additional information are invited to do so.

The editors thank the authors who contributed to this special issue of the Review and express particular appreciation to Ellen Sehgal, who served as overall consultant for the issue, and to Gregory J. Mounts and Mary K. Rieg, who provided special editorial assistance.

International migration of labor: boon or bane?

According to trade theory,
free labor flows across national borders
should benefit workers, employers, and societies;
but recent evidence indicates that such migrations
may not provide these desired benefits

PHILIP L. MARTIN AND ALAN RICHARDS

An estimated 20 million persons currently live and work in countries where they are neither citizens nor intend to be permanent immigrants. One-half of these are legally admitted "guestworkers"; the rest are illegal aliens or "undocumented workers."[1] This article surveys contemporary labor migrations, assesses their impacts on the areas which send and receive them, and explores future trends in international labor flows.[2]

Historically, migration brought permanent settlers from the cosmopolitan East to the frontier West. Between 1800 and 1930, for example, 60 to 70 million foreigners arrived in the Americas, including indentured servants and slaves. Some eventually returned to their countries of origin,[3] but most brought with them their mobile assets, intending a permanent break with their homelands.

Contemporary migration, on the other hand, is largely a flow of workers, rather than of permanent settlers. Most of today's migrants move from less to more developed nations. They tend to be drawn from the middle economic ranks of the societies which send them; the very poor are generally unable to finance the trip or obtain a work permit.[4]

Much migration is temporary today because few areas remain open for permanent immigrants. Better communication, lower real transport costs, and the creation of new borders should promote *more* international resettlement. Instead, most estimates put the number of legally admitted immigrants (excluding refugees) to all countries at no more than 1 million annually, of which the United States receives 40 to 50 percent. While the impulse to migrate may be as strong as ever, aspiring permanent settlers find few opportunities to do so.[5]

Migrant labor benefits a variety of people in sending and receiving areas. Labor migration provides income for individual aliens and remittances, through workers' dependents, to sending nations. Employers hiring aliens benefit, as do domestic consumers, when lower labor costs translate into lower prices for goods and services. Some native workers may also gain if the presence of foreign labor preserves or creates skilled or supervisory jobs for them. Finally, governments in labor-importing countries may enjoy increased net income if more is collected from legal aliens in taxes than it costs to provide them public services.

The original premise motivating labor transfers held that such migration was a positive-sum exchange: except for a few natives who might have to compete for jobs with the aliens, everyone gained. It is true that benefits do flow from the use of foreign labor—benefits sufficient to make halting labor migration very difficult. But labor transfer often leads to undesired results, mainly unemployment and low wages for some host-nation residents and employer addiction to low-cost labor. Much of the following discussion focuses on what goes wrong in labor migrations, but it is important to note

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that economic advantages also accrue from the use of alien labor.

Contemporary labor flows

The magnitude and diversity of present day labor flows is unprecedented. They may reflect traditional movements to and from new nation states, illegal migration on a new scale, or publicly and privately organized labor transfers. Among the most controversial of these flows are those of illegal aliens to the United States, "guestworkers" to Western Europe, large foreign workforces to the Middle East, and black labor to South Africa.

Guestworkers. Legal "guestworkers" are foreign nationals admitted to a country for a fixed period to work for a particular employer.[6] Thus, they are "guests" in the economic system, rather than aspiring permanent residents. Most official guestworker programs are jointly directed by labor ministries and immigration authorities so that immigration can be regulated in accordance with current labor market needs.

Because guestworkers are admitted for predetermined periods of employment, they leave families and assets behind. After achieving a savings target or fulfilling a 1- or 2-year contract, they are expected to return home and perhaps be replaced by other workers eager for a chance to earn "high wages." Thus, implementation of a guestworker program reflects the belief by the host nation that a particular domestic labor shortage is only temporary. As we will see, such beliefs are often unrealistic.

The most noteworthy guestworker programs were initiated by Western European nations between 1960 and 1973.[7] France and Germany absorbed more than two-thirds of Europe's migrant workers, although alien labor dependency reached its zenith during the late 1960's in Switzerland, where 1 in 3 workers was foreign. In most instances, international agreements regulated the recruitment and transportation of guestworkers, while both domestic and bilateral considerations governed migrant rights in receiving societies and the ultimate fate of migrant populations. During the 6 years following the European "recruitment stop," nations which formerly imported labor have been plagued by unanticipated results of their guestworker programs. These problems include foreign resident populations swelled by family unification; persistent labor shortages in the "secondary" (low-wage, low-skill) job markets in which alien labor is concentrated; and the treatment of migrant children, who are expected to leave, but are likely to become permanent residents.

Migrants in the United States. The U.S. labor system most closely resembling a legal guestworker program is that which supplies farmworkers for temporary harvest employment. This reliance on imported farmworkers is anachronistic; most industrialized nations do not structure agriculture in a way which requires migrant labor. And, whether inherently flawed or only badly administered to date, temporary farmworker programs are generally regarded as one of the sorriest chapters in American labor history.

The United States is also the world's largest *de facto* employer of foreign labor. A variety of past and current factors, including the Bracero program (1942–1964), lax enforcement of U.S. borders and immigration laws, and Third World perceptions of U.S. economic opportunities, have produced an illegal labor force 4 to 6 million strong. Apprehensions of such workers by the Immigration and Naturalization Service have been mounting steadily for over a decade, and now exceed 1 million persons annually. Many observers believe that current resident aliens must eventually be granted amnesty permitting them to stay in the United States. Other possible solutions to the problem of illegal immigration are currently under study by a Congressional Select Commission.

Finally, the United States admits more of the world's stock of 14 million refugees than any other nation. The 1952 immigration law expedited the entry of aliens fleeing Communist and Middle Eastern lands but discouraged granting asylum to those from other countries. Since 1975, the United States has admitted more than 750,000 refugees. The economic and social pressure of these numbers led to passage of the Refugee Act of 1980,[8] which sought to streamline admission procedures by adopting the United Nations' definition of "refugee"[9] and setting an annual limit of 50,000 refugees for the United States. The challenge now facing this nation and other industrial societies is how to distinguish between economic and political refugees, particularly when some authoritarian governments blur such distinctions.

Other labor flows. Oil-rich Middle Eastern countries are the temporary homes of 2 to 3 million workers. Aliens often constitute well over half of a Middle Eastern labor importer's workforce. Labor flows in this region are characterized by a relatively high proportion of managerial or highly skilled persons from more industrialized nations. Even so, most of the Middle East's alien workers, like guestworkers everywhere, are unskilled or semi-skilled.

Private contractors in the Middle East are expected to supply and control their own workforces. Some guestworkers are also hired directly by governmental agencies, but the absence of general labor laws and formal labor transfer agreements produces employment conditions which vary widely within and between countries.[10]

The other major labor flows are still more varied. Several million agricultural guestworkers move between African nations each year. In South America, the economic attractions of Venezuela and Argentina make them the primary destinations, although South America's migrations often include political refugees as well as persons seeking employment. And, East Germany is a temporary home to an estimated 100,000 workers from other Eastern Bloc nations. A variety of less visible illegal flows, and legal but only seasonal labor transfers complete this sketch of current international labor migration.[11]

During the 1970's, many countries attempted to reduce their legal alien workforces by encouraging workers to return to their homes, or by permitting them to become permanent immigrants. However, indications are that over the same period, the number of illegal migrants has increased dramatically.

Theory and reality

According to international trade theory, two nations with unequal resource endowments or productivities can enjoy a bilateral increase in economic well-being by freely exchanging capital, goods, and labor. Economic benefits arise from the fact that one nation can use the other's capital or labor more productively, or that one nation has a comparative advantage over its trading partner in the production of certain goods. Permitting trade and migration thus increases the output available to both nations. Conversely, restricting exchange forces each nation to produce and consume at less than full capacity.

Trade theory also assumes that the welfare of all individuals is equally important, but in reality most nations are more concerned with citizen welfare than with the well-being of foreign nationals. Labor importation benefits aliens and their employers, but may force natives to compete with migrants for jobs, housing, and scarce public goods. Thus, even if total output in both nations increases, migration is "mutually beneficial" only if its effects on each country's income distribution are offsetting or relatively minor.

Another problem is that labor markets in sending countries are highly imperfect. Often, there is limited substitutability among workers of different skill levels. Such labor-market segmentation can make it difficult to fill specific vacancies caused by emigration, despite widespread unemployment, thus retarding economic development.

Finally, free migration is different from free trade in a fundamental way. A trade transaction is a mere commodity exchange. Labor flows consist of people, whose services are only rented, and whose desires can change in unpredictable ways. International trade theory fails to account for the willingness and capacity of migrants to adapt to life abroad.

Labor market impacts

The availability of migrant workers makes labor markets more competitive in the short run. Many migrants will work at or below prevailing wages, because they are accustomed to lower standards of living. Their belief that working in a wealthy society is a privilege usually retards unionization and limits complaints about working conditions, especially among migrants of doubtful legal status.[12] As a result some (usually the lower-skilled) sectors of the labor market experience slower growth in real wages.

If migrants and most domestic workers do not compete in the same labor markets, migration can promote dualism or labor-market segmentation, with each segment responding to separate economic and social forces. The availability of migrant labor preserves traditional labor-intensive agricultural, manufacturing, and service jobs. Employers in these sectors must choose between labor-intensive production based at least partially on low-wage foreign workers, or capital-intensive production using a smaller but more highly paid domestic work force. In general, it is the smallest operations which rely on alien labor to maintain production, because they lack capital or the skills to manage large-scale automated firms. Thus, migrant labor may help to preserve inefficient establishments which might otherwise fail in the face of foreign or domestic competition.

Illegal alien workers are more likely to be found in small firms for another reason. Small employers often know workers personally, maintain their own records, and sometimes operate on a "cash" basis. The employer who knowingly hires illegal workers can avoid paying his or her share of taxes for social security, unemployment insurance, and workers' compensation. And, because aliens generally do not understand the handling of payroll taxes, the employer may pocket the employee's share of these taxes as well. If uniform deductions are made from the wages of legal and illegal workers alike, take-home pay will be the same for both.

Payroll taxes on employer and employee, combined, range from 25 to 35 percent of a U.S. employer's total wage bill and up to 50 percent in Europe. They are forwarded by the employer to the appropriate revenue office, and are only verified when an employee files a claim for benefits. If the employer can assume that illegal workers will not attempt to obtain benefits for fear of apprehension, the tax savings from employing alien labor may contribute substantially to profits.[13] The extent to which tax evasion opportunities cause employers to hire aliens is not known, but the practice is common enough to be of concern in both the United States and Western Europe.

The rationale for labor importation

Legal guestworkers in industrialized societies are most often found in larger establishments because their employment imposes additional hiring and supervision costs. They must be recruited, screened, and transported, often housed in company-owned units, and either taught the host country's language or supervised by multilingual personnel. And, to protect the jobs of domestic workers, the recruitment of aliens often entails the payment of a fee to the labor ministry. Given these additional employment costs, why might employers hire guestworkers?

The answer lies in the relatively rigid wage structures characteristic of large firms in industrialized societies. Whether by tradition or contractual agreement, such structures are typically hierarchical, with well-defined wage differences among groups of workers. For example, in a hypothetical auto manufacturing plant employing 10,000, assembly-line workers earn $10 and skilled workers receive $15 per hour. A labor shortage develops on the assembly line which could be filled locally by raising assembly-line wages from $10 to $13. However, the additional cost of filling the openings is not simply $3 per hour times the number of vacant assembly-line jobs; rather, it is $3 per hour times all 10,000 jobs, or $30,000 per hour, in order to maintain previous wage differentials.[14] The profit-maximizing employer may elect to recruit foreign labor if the extra recruitment, housing, and supervisory expenses do not exceed the cost of hiring locally.

In other cases, changes in technology, industry structure, or educational attainment permit more native workers to obtain white-collar positions. The domestic supply of persons willing to fill unskilled industrial and service jobs is thus reduced. Employers, faced with the costs and uncertainties of restructuring existing wage levels and job status patterns, may see foreign labor as a surer and cheaper way to staff undesirable positions.

The migratory chain

Whether imported to fill permanent or temporary labor market gaps, foreign workers who gain a foothold in a host nation quickly make the immigration process self-feeding.[15] The first migrant workers are single males, but if the demand for labor persists, especially among service-sector employers, females immigrate. Some of the temporary workers form families, while others send for spouses and dependents as soon as they secure housing and obtain permission, usually after 1 year of employment if they have legal status, and longer if they are undocumented. A growing stock of foreign workers and their families then justifies additional immigration so that migrants can have access to familiar foods and services—the third stage in the migration process.

The fourth and final step in the migratory chain is *de facto* permanence. Individuals may come and go, but a growing core of foreign nationals acquires financial and personal equity in the host society. The proximate cause of this permanence is the persistence of employer "needs" for low-wage labor, which in turn results from the original choice to import labor rather than reorder domestic wage structures.[16] Thus, importing foreign workers does not solve domestic labor-market problems, but only postpones the need to address them.

In fact, importing workers often causes new problems. Most migrants initially anticipate a short stay abroad. However, they become permanent residents as they adjust to industrial life and its rewards; when they realize that their accumulated savings will not provide a better life back home; when they form or unite families abroad; when economic problems in their homelands persist or worsen; and when their current employers continue to offer jobs. They may go home only every third or fourth year, thus carefully preserving their right to return to a foreign job. When that right is threatened, many migrants simply refuse to leave. Some receiving societies have avoided such "backdoor" immigration by rotating imported workers periodically, but these policies are unpopular, and must be enforced through elaborate administrative and policing systems.

Permanent settlement changes the economic impacts of international labor flows. When settling, migrants demand housing and consumer durables, thereby increasing demand in host nations and creating yet more jobs. However, the net result of settlement may still be economically undesirable because of the concentration of immigrants by industry, occupation, and residence.

Migrant permanence alters the social impacts of labor exchanges, as well. Host countries initially benefit from the fact that imported workers do not require social infrastructure—health care, education, and other services. But permanent immigrants do require social investments if they and their children are to be brought up to host-country norms. Providing that infrastructure often involves a higher than usual per capita cost, because the children must be educated to function in both the sending and the receiving countries.

Such social investments might seem profitable if the children of immigrants were to fill the same labor-market roles their parents did. But migrant children adopt native attitudes quickly, and some reject the jobs so eagerly accepted by their parents.[17] Thus, the host nation finds itself again on a labor importation treadmill. In turn, each round of immigration results in more permanent residents, but fewer workers willing to fill undesirable jobs. And employers, rather than national policymakers, determine who these new residents will be, where they will locate, and how they will be integrated into the receiving society.

Impacts on sending societies

Demographic issues. Personal characteristics of emigrants help to determine the economic results of exporting labor. Males between the ages of 18 and 45 are generally first to be recruited, but must leave their dependents behind until they have met host-country service requirements for legal family unification (usually 1 year). As a result, the home-country labor force decreases, although some women take jobs vacated by the men; the age structure develops concentrations of young and old persons, who are often dependent on the 18- to 45-year-olds abroad; and birth rates decline, as some migrants delay marriage while others adopt the birth control practices of labor-receiving nations. Recruitment may be regionally selective as well, taking persons only from certain cities or areas.

Agricultural decline. The outflow of prime-aged workers should prompt agricultural land consolidation, a reform which usually results in increased productivity and output. Dependents remaining in rural villages often rely on remittances for virtually all of their income, but few guestworker families are willing to sell or lease their land, given the uncertainty of the breadwinner's tenure abroad. Thus, rather than being consolidated, land is left idle or farmed less intensively, and the nation may be required to increase food imports. At the same time, local rural labor shortages may lead to an irreversible decline in agricultural capital, as terraces go untended and irrigation systems collapse.[18]

Urbanization. Migrant labor is often recruited in "urban staging areas," a practice which accelerates growth in these cities. The trend toward urbanization is intensified if remittances from breadwinners abroad increase rural family incomes enough to permit relocation in cities. Often the result is an urban real estate "boom," which is unsupported by any increase in domestic output.

Industrial distortion. Domestic industry takes on an outward resemblance to "modern" industry abroad as a result of emigration. Because individual employers must compete with foreign recruiters for labor, emigration puts upward pressure on wages and increases employer uncertainty. Returned migrants, now familiar with sophisticated production techniques, may not wish to work in less capital-intensive industries at home. Rather, many returnees enter the domestic service sector, intending to support themselves with a small vehicle or establishment.

As a result, labor-exporting countries move directly from an agricultural focus to a service-oriented economy, bypassing the development of industrial capacity. In an economy fueled by foreign earnings, an insufficient industrial base encourages consumption of imported goods, and increases the nation's dependence on industrial societies. Perhaps the chief economic cause for skepticism about the true amount of "foreign aid" to be derived from exporting labor is the tendency of returned migrants to purchase "unproductive" capital or imported goods with their savings.

Economic development. In the aggregate, emigration is a source of foreign currency, and should thus be helpful to domestic development plans. But migrant earnings are an uncertain source of foreign exchange, because they fluctuate with short-term foreign labor demands and the savings and repatriation decisions of individual workers. Economic development is a long-term process, and development plans based on such a stream of remittances may be disrupted by recession in a labor-host nation, usually at a time when the labor-sending country most critically needs foreign exchange.

Political trends. Because there are far more labor-sending than receiving societies, and because national sovereignty implies the right to control immigration, sending nations have little influence over the immigration policies of labor-short countries. However, despite their heretofore limited role in international labor-force decision-making, these nations appear to have realized that the blessings of exporting workers are not unmixed.[19] In years preceding the European guestworker programs, labor-exporting countries usually cooperated with labor recruiters, helping to locate and screen workers in preparation for the trip abroad. During the early 1970's, however, many sending nations began to view their labor exports as subsidies to industrialized societies. The result has been ambivalence toward emigration; labor-exporting countries resent the worker emigration, but realize that they cannot provide full employment for their citizens.

The future of international labor migration

The study of past and present labor flows yields an important lesson for the future: despite the initial recruitment effort required, most temporary worker migrations are easier to start than to stop. The benefits from labor transfers are clear and immediate; the costs are distant and ambiguous. Availability of foreign labor distracts receiving nations from solving the job-market problems which first made it necessary to import workers. As aliens are assimilated by the receiving society and climb the economic ladder, new labor shortages develop which are similarly eased with imported labor. Temporary worker transfers thus become permanent migration channels. Subsequent attempts to block these channels are likely to result in illegal immigration.

Even so, pressures to initiate labor transfer programs will probably increase during the 1980's. Unequal economic, social and political development in coming years will reinforce wage and unemployment differences among nations. Most industrialized societies, for example, will experience sharp drops in numbers of new labor-force entrants as the effects of declining birth rates are felt, and female labor-force participation rates stabilize. During the same period, less developed countries may be experiencing unprecedented levels of unemployment. Such a combination of domestic and foreign influences would make it virtually impossible to limit worker migration. Therefore, a critical reevaluation of international labor flows by both sending and receiving countries is imperative.

During the next decade, the United States will be one of the first countries to debate the merits of a legal guestworker program.[20] The report of the Congressional Select Commission, due in March 1981, is not expected to address the question of guestworkers directly, but at least five bills now pending propose such programs. Supporters of these bills argue that the United States cannot seal its borders, that Mexico and other less developed nations need a "safety-valve" for their surplus labor, and that the United States must have alien labor to do its undesirable work. But opponents say that guestworkers provide immediate economic benefits to selected employers and consumers, but most of their costs to society-at-large are deferred to a later date. If the United States decides to continue to import labor, it should admit aliens as permanent immigrants, so that both benefits and costs are explicit from the outset. ☐

FOOTNOTES

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[1] Philip Martin and Marion Houstoun, "The Future of International Labor Migration," *Journal of International Affairs*, Fall-Winter 1979, pp. 311–33.

[2] Reprints of this article will be available from the Giannini Foundation, University of California at Berkeley. No. 592.

[3] Migration of this type was widespread in the late 19th century. Most of the "second wave" of immigration to the United States consisted of "target earnest," who hoped to return home with their accumulated savings. Return migration as a percentage of in-migration from 1908 to 1910 for various ethnic groups was estimated as follows: Croatian and Slovenian, 57 percent; French, 45 percent; Greek, 25 percent; Northern Italian, 63 percent; Southern Italian, 56 percent; Magyar, 65 percent; Polish, 31 percent; and Slovak, 59 percent. Rates for some groups were much lower, such as the 8 percent reported for Hebrews. The figures above are from the Dillingham Commission on Immigration, *Abstract of Reports of the Immigration Commission*, U.S. Senate, 61st Cong., 3d Sess., S. Doc. 747 (Washington, 1911), Vol. I, p. 182, table 16.

[4] David North, "Worker Migration: A State of the Arts Review." Mimeographed, 1979.

[5] Roger Böhning notes that migration pressures are escalating just when most countries are moving to restrict immigration. See "International Migration—Past, Present, and Future." Mimeographed, 1979.

[6] Roger Böhning distinguishes temporary alien workers (expected to leave and sometimes forced out) from guestworkers (expected to leave but never forced out). U.S. discussions center on a temporary alien worker program. See "Guestworker Employment—Lessons for the U.S." Mimeographed, 1980.

[7] See Philip Martin, *Guestworker Programs: Lessons from Europe* (U.S. Department of Labor, 1980).

[8] Public Law 96–212, signed Mar. 17, 1980.

[9] The United Nations defines a refugee as any person who is outside his or her country of nationality or habitual residence because of well-founded fear of persecution on account of race, religion, nationality, membership in a particular social group, or political opinion, who is unwilling, because of such fear, to avail himself or herself of the protection of his or her country of origin or to return to the country of habitual residence. This definition is not restricted to persons fleeing any specific nation or type of government. (See *Department of State Bulletin*, December 1979, p. 12.)

[10] See, for example, J. S. Birks and C. A. Sinclair, *International Migration and Development in the Arab Region* (Geneva, International Labor Organization, 1980); Nazli Choukri, "Demographic Changes in the Middle East: New Factors in Regional Politics," *The Political Economy of the Middle East—Changes Since 1973* (Washington, Library of Congress, Congressional Research Service, 1979); and, "The New Migration in the Middle East: A Problem for Whom?" *International Migration Review*, Winter 1977, pp. 421–43.

[11] See P. Martin and M. Houstoun, "The Future of International Labor Migration."

[12] See Michael J. Piore, *Birds of Passage: Migrant Labor and Industrial Societies* (New York, Cambridge University Press, 1979), chs. 3–4.

[13] David North and Marion Houstoun found that most of the 793 apprehended aliens interviewed had worked for employers who knew they were in the United States illegally. For more detail, see *The Characteristics and Role of Illegal Aliens in the U.S. Labor Market: An Exploratory Study* (Washington, Linton and Co., 1976).

[14] If skilled workers demand the same percentage increase in pay as the unskilled, the cost would be even higher. There is a large body of literature on the stability of wage contours. See, for example, John Dunlop, *Wage Determination Under Trade Unions* (New York, Kelly, 1950). More recent discussions may be found in Lester C. Thurow, *Generating Inequality* (New York, Basic Books, 1975), ch. 5; and, Michael J. Piore, *Birds of Passage*, ch. 2.

[15] For empirical examples, see Roger Böhning, *The Economic Effects of the Employment of Foreign Workers* (Paris, Organization for Economic Cooperation and Development, 1975).

[16] Indeed, this is a "choice" only for society as a whole, not for an individual employer. See Suzanne Paine, *Exporting Workers: The Turkish Case*, (New York, The Cambridge University Press, 1974), ch. 1.

[17] See Michael J. Piore, *Birds of Passage*.

[18] Jon Swanson, *Emigration and Economic Development: The Case of the Yemen Arab Republic* (Boulder, Colo., Westview Press, 1979); J. S. Birks and C. A. Sinclair, "The Sultanate of Oman: Economic Development, The Domestic Labor Market and International Migration," Working Paper WEP 2–26/WP 28 (Geneva, International Labor Organization, World Employment Program, June 1978).

[19] Roger Böhning, "International Migration in Western Europe: Reflections on the Past Five Years," *International Labor Review*, July-August 1979, pp. 401–14.

[20] For a survey of the arguments, see Philip Martin, "Guestworkers and Immigration Policy." Mimeographed, 1980.

The changing composition of Europe's guestworker population

Although the flow of guestworkers diminished during the 1970's, wives joined men who remained; as the proportion of women migrants—now more than 40 percent—rose, labor market structures changed, as did socioeconomic implications for host countries

AYSE KUDAT AND MINE SABUNCUOGLU

The rapid economic recovery of Western Europe after World War II was accompanied by severe labor shortages. Consequently, European industries sought workers from other countries, and migrant labor flows increased significantly in the following decades. By the 1960's, approximately 800,000 workers were emigrating annually from the Mediterranean countries alone. When these flows peaked in the early 1970's, they were unmatched in scale by any other documented labor movement in history.

However, with the successive introduction of restrictive immigration measures by the labor-importing countries after 1970, the movement slowed and came to a virtual standstill with the onset of the 1973–74 oil crisis. During 1973–75, flows from the major labor-exporting countries within the Organization for Economic Cooperation and Development declined from 500,000 to 100,000, and approximately 600,000 workers returned to these sending countries during 1974–75. The great majority, however, managed to remain in the host countries during the crisis.[1]

In 1975, the share of foreign workers within the total labor force of six labor-importing countries (Austria, France, West Germany, the Netherlands, Switzerland, and Sweden) was slightly more than 10 percent, with considerable national differences. The individual shares ranged from a high of 24 percent in Switzerland to a low of 4.2 percent in the Netherlands. Those registered as unemployed among the total number of foreign workers in these countries averaged 5.7 percent. The share of foreign workers in the count of total persons unemployed in each country, however, was as high as 25 percent in Switzerland and as low as 4.5 percent in Sweden, with an average of nearly 12 percent in the six countries.[2]

Several trends have distinguished earlier phases of European labor migration from more recent ones. First, the majority of the early migrant workers were unskilled laborers. Even as late as the 1970's, 82 percent of all Mediterranean labor migrants in the Netherlands, for example, remained unskilled. By 1976, however, this figure had fallen to 25 percent as a result of more selective entry criteria as well as skill improvement among migrants.[3] Second, during the initial phases of the movement, migrant workers tended to remain in host countries for shorter periods. Stays progressively lengthened, however, as increased numbers of migrants were reunited with their spouses and children in host countries. Again, Dutch statistics indicate that in 1965 nearly one-third of foreign work-permit holders returned to their home countries, but that by 1970 this proportion had dwindled to 15 percent, and by 1973 had reached a low of 4.5 percent.[4]

Although a new peak in return migration was attained in the years immediately following the 1973 recession, relatively low levels of new worker inflow and

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outflow have prevailed since 1976. Yet the influx of migrant family members, which was especially heavy after 1973, accounted for the fact that little overall change in the stock of migrants occurred despite a reduction in the number of those working. This influx resulted in a significant increase in the proportion of migrant women who, together with second-generation migrants, filled available job vacancies, thus mitigating the need for new labor importation. Indeed, approximately one-quarter of all European work permits issued to foreigners since 1970 have been for women.[5] And today, more than 40 percent of all migrants and 25 percent of migrant workers in Europe are women.

Some of the consequences of this massive movement of human resources are becoming increasingly clear now that new flows have significantly subsided and strategies for consolidation of existing migrant populations are being implemented in most European countries. Yet many new issues relating to the circumstances of the workers who have remained in host countries have also emerged as migrant families have reunited, expanded, and their offspring have matured and sought entry into the labor markets of host countries. Among these, the roles and problems of migrant women have been least explored.

In the following sections, data on migrants in Europe are examined with reference to the changing role of women. Sex-based differences observed among Yugoslav and Turkish migrants in West Berlin offer particularly interesting insights into the new character of Europe's guest-worker population.

More women guestworkers

In four major European labor-importing countries (West Germany, Austria, Switzerland, and the Netherlands) for which sex-specific information on immigrants is available, the proportions of women (working either in or outside the home) have been high throughout the past decade. In 1978, women constituted an average 37 percent of the largest migrant groups in the four countries. During 1974–78, the overall ratio of foreign resident and working women to men in West Germany and in Austria increased by 14.5 percent and 17.9 percent, respectively. In West Germany, increases in the female ratios among seven of the eight major foreign resident groups accounted for nearly 11 percent of this change, with Moroccans and Tunisians exhibiting the highest rates of increase. The data for each major group in West Germany, collectively representing 73.7 percent of all foreigners, are presented in table 1.

In Austria, where available statistics relate exclusively to new work-permit holders, growth in the proportions of female workers among major groups (representing 90.3 percent of the total foreign labor force) ranged from a high of 21.8 percent for Yugoslavs to a low of 3.2 percent for Italians. These data are presented in table 2.

Table 1. Foreign resident population in West Germany by nationality and sex,[1] 1974 and 1978

Nationality	September 1974		September 1978		Percent change in female ratio 1974–1978
	Total	Percent female	Total	Percent female	
All nationalities	3,525,220	35.2	3,027,951	40.3	14.5
Nationalities listed below	2,597,383	35.5	2,195,023	39.3	10.7
Greek	314,560	45.7	223,005	46.2	1.1
Italian	495,160	31.8	439,343	33.9	6.1
Moroccan	21,928	8.2	22,970	17.7	115.9
Portugese	101,683	37.0	81,599	44.2	19.5
Spanish	221,031	37.0	145,448	40.3	8.9
Tunisian	16,085	13.8	15,481	25.9	87.7
Turkish	873,882	39.6	774,278	39.4	−.5
Yugoslav	626,794	35.9	492,899	41.3	15.0

[1] Excluding children under 16 years of age.

SOURCE: Adapted from OECD continuous reporting system on migration (SOPEMI), 1979, p. 22.

Interestingly, the ratio of working German women in Austria decreased during 1974–78, and that of Italian women increased only marginally in comparison to the same ratios for Turkish and Yugoslav women. Female migration trends to the Netherlands have followed similar patterns. During 1976–78, the proportion of all female foreign residents from principal "recruitment countries" increased by nearly 10 percent. As shown in table 3, percent changes in these ratios among individual nationality groups ranged from a high of 34.7 percent for Moroccans to no change for Greeks. As in Austria and in West Germany, the rates of increase in the proportion of female migrants to the Netherlands have been the most pronounced among North African nationalities.

Swiss statistics. Data from Switzerland offer the most comprehensive and detailed basis for evaluating the extent and nature of female participation in labor migration to Europe. But economic structural differences between Switzerland and West Germany, for example, prevent generalization of the Swiss case to the overall European context. As a heavily industrialized country,

Table 2. Initial work permits issued in Austria, by nationality and sex, 1974 and 1978

Nationality	1974		1978		Percent change in female ratios 1974–1978
	Total	Percent female	Total	Percent female	
All nationalities	189,840	31.3	81,120	36.9	17.9
Nationalities listed below	171,510	31.3	71,420	37.0	18.2
German	4,140	40.6	3,160	38.9	−4.2
Italian	1,060	31.1	780	32.1	3.2
Turkish	22,530	22.1	12,450	25.5	15.4
Yugoslav	143,780	32.5	55,030	39.6	21.8

SOURCE: Adapted from OECD continuous reporting system on migration (SOPEMI), 1979, p. 8.

West Germany has traditionally attracted larger proportions of male migrant workers. In contrast, the predominantly service-oriented Swiss economy has offered less physically demanding work opportunities, attracting women as well as men from a wide range of developed and developing countries. According to recent Organization for Economic Cooperation and Development sources, 45.9 percent of all foreign residents in Switzerland (including annual work-permit holders) were women in 1978—the highest such percentage among the European countries examined here. Further, the female ratios among all major foreign groups were consistently high, ranging from 43.9 to 49.6 percent. A comparison of the data in tables 1 and 3 reveals that, in fact, the greatest variation in the sex-composition of different foreign groups was in West Germany.

An examination of sex-specific employment figures for five of the largest "permanent" immigrant groups in Switzerland in 1978 (presented in table 4) shows that female worker ratios in Switzerland paralleled the rates existing in Austria and in the Netherlands. However, during 1974–78, the overall female worker ratios in Switzerland only exhibited a 3.3-percent positive change as compared with 18.2 percent in Austria and 9.8 percent in the Netherlands. Percentage changes in the ratio of women among individual nationalities in the three countries were quite different. Whereas female worker ratios increased in almost all cases in Austria and in the Netherlands, these ratios declined in Switzerland among German, French, and Austrian workers; only Spanish and Italian women exhibited relative employment gains.

Swiss data for 1955–78 reveal even more distinct trends. Overall, the percentage change in the proportion of women among the groups represented was significantly negative during 1955–65, less so during 1965–74 and slightly positive during 1974–78. Among individual groups, the total number of German and Italian workers decreased by one-half over this entire period. Also, by 1978, the total number of Austrian workers fell to a quarter of the 1955 level. But, in contrast to the decline in the female proportion of German and Austrian workers during the 23-year period, the ratio of women among Italians increased during 1965–74, and again during 1974–78. The number of French and Spanish workers in Switzerland during 1955–78 increased by a factor of 5 and 6, respectively. The proportions of Spanish women increased by 18.7 percent during 1974–78, offsetting a decline of similar magnitude during 1965–74.

Table 3. Foreign population in the Netherlands, by nationality and sex, 1976 and 1978

Nationality	1976		1978[1]		Percent change in female ratio 1976-1978
	Total	Percent female	Total	Percent female	
Total	196,100	33.7	225,800	37.0	9.8
Greek	4,200	38.1	4,200	38.1	.0
Italian	20,000	34.5	20,700	34.8	.9
Yugoslav	13,800	44.9	13,600	46.3	3.1
Moroccan	42,200	21.6	55,400	29.1	34.7
Portugese	8,800	44.3	9,400	45.7	3.2
Spanish	29,100	37.8	25,800	39.5	4.5
Tunisian	1,500	20.0	1,700	23.5	17.5
Turkish	76,500	35.3	95,000	39.6	12.2

[1] Provisional figures.

SOURCE: Adapted from "Fact Sheet on the Netherlands," Ministry of Cultural Affairs, Recreation and Social Welfare, the Netherlands, 1979, p. 1.

Switzerland is one of the rare cases in which sex-specific statistics on migrant populations have been systematically compiled according to types of migration. Tables 5 through 7 present such figures for annual, seasonal, and frontier workers. Table 5 indicates that the peak in the overall level of migration occurred in the mid-to-late 1960's. By 1978, migrant worker flows had decreased by over 50 percent; however, steady but slight growth occurred in the proportion of women. The female ratio among annual work-permit holders showed minor decreases while the proportion of women seasonal workers significantly increased. The volume of frontier workers doubled during this period, also with slight growth in female ratios.

Table 6 provides a breakdown of migrants by nationality and type of migration in 1978. Italians have predominated in permanent and seasonal migration to Switzerland, and approximated the French numbers in frontier migration. Following the Italians, Spaniards and Yugoslavs have assumed the bulk of seasonal and

Table 4. Foreign workers in Switzerland, by nationality and sex, selected years 1955 to 1978[1]

Nationality	1955		1960		1965		1970		1974		1978		Percent change in female ratio		
	Total	Percent female	Total	Percent female	Total	Percent female	Total	Percent female	Total	Percent female	Total	Percent female	1955-65	1965-74	1974-78
Total	271,149	46.4	435,476	42.3	676,328	35.8	659,485	35.9	551,346	33.2	285,889	34.3	–22.8	–7.3	–3.3
German	59,208	49.6	72,365	45.8	67,668	39.9	52,975	36.5	40,573	34.0	27,377	32.7	–19.6	–14.8	–3.8
French	8,140	43.1	11,932	42.6	23,775	37.8	41,486	40.9	58,368	40.8	41,961	40.6	–12.3	7.9	–.5
Italian	162,343	32.5	303,090	27.8	448,547	26.8	371,814	29.3	227,895	27.2	98,302	30.3	–17.5	1.5	11.3
Austrian	35,441	63.8	31,604	56.5	24,184	41.0	19,920	38.9	15,121	33.1	8,921	32.6	–35.7	–19.3	–1.5
Spanish	6,017	43.2	6,408	39.5	79,419	35.5	112,036	32.7	112,703	28.9	42,052	34.3	N/A	–18.6	18.7
Other	....	.....	10,077	41.3	32,735	33.8	60,654	39.0	96,686	35.0	67,276	35.5	N/A	3.6	1.4

[1] Not including annual, seasonal or frontier workers.

SOURCE: *Annuaire Statistique de la Suisse*, 1978.

annual work. This table also shows that female rates of participation in annual migration to Switzerland have been consistently high. Yet significant sex-discrepancies are evident among national groups in seasonal migration. Although the Italians, for example, have dominated the short-term labor market in Switzerland, Italian women represented a mere 6.4 percent in seasonal flows, the lowest rate among all the groups. A similar pattern was evident among Yugoslavs and Spaniards who, together with the Italians, constituted 60 percent of the short-term labor force.

Overall, approximately one-third of all these migrants in 1978 were women. The proportion of women among all annuals and frontier workers was about 38 percent, while their ratio among seasonal workers was only 13.2 percent. A look at the sectoral distribution of the three types of migrants presented in table 7 provides some possible explanations. Among annual workers, men assumed most of the jobs provided by the two largest employers of migrants—the metal and construction industries, whereas women predominated in textile clothing, health, and tourism (hotels and restaurants) occupations. A similar pattern occurred among border workers, except that more of these women were employed in commerce.

The majority of Switzerland's migrant seasonal workers were employed in the construction, tourism, and agricultural sectors. Only in tourism, the second largest employer of seasonal workers, did the proportion of women exceed 10 percent. Because women are generally considered unsuitable for industrial work, and particularly construction, their greatest concentration (80.8 percent of the seasonal female work force) was found in the tourism sector. Consequently, women number one-seventh of all men in the seasonal work force, as opposed to one-third for the short-term economy as a whole. Aside from the sectoral demand for such work, the ability of women to respond to seasonal work opportunities is typically limited by age and social circumstances. Married women with or without children generally will not leave home on a seasonal basis unless their family is destitute, or the male head of the household cannot find work. Possible exceptions to this are those cases in which the seasonal migration of entire families can be arranged.

Table 5. Foreign workers in Switzerland, by mode of migration and sex, selected years 1960 to 1978

Year	Annual		Seasonal		Frontier		All groups	
	Total	Percent female	Total	Percent female	Total	Percent female	Total	Percent female
1960	256,519	46.4	139,538	9.8	39,419	36.6	435,476	33.8
1965	446,493	38.9	184,235	9.6	45,600	31.5	676,328	30.4
1970	429,956	40.0	154,732	9.4	74,797	35.2	659,485	32.3
1974	296,176	39.3	121,226	9.6	107,902	36.3	525,304	31.8
1978	157,581	37.0	40,621	13.2	87,687	37.9	285,889	33.9

Source: *Annuaire Statistique de la Suisse*, 1977 and 1978.

Table 6. Foreign workers in Switzerland, by mode of migration and nationality, 1978

Nationality	Annual		Seasonal		Frontier		All groups	
	Total	Percent female	Total	Percent female	Total	Percent female	Total	Percent female
German	11,435	37.9	391	42.2	15,551	26.8	27,377	32.7
French	4,352	36.2	750	49.5	36,859	41.0	41,961	40.6
Italian	53,144	30.9	14,776	6.4	30,382	40.7	98,302	30.3
Austrian	4,090	37.3	305	46.2	4,526	27.4	8,921	32.6
Spanish	31,976	40.5	10,008	14.7	68	22.1	42,052	34.3
Yugoslav	19,286	46.7	10,088	12.5	47	44.7	29,421	35.0
Other countries	33,298	37.6	4,303	4.0	254	32.7	37,855	35.9

Source: *Annuaire Statistique de la Suisse*, 1978.

Import of data on women. The preceding data shed some light on the role women play within differing migration patterns. But because of the paucity of comparable data in other contexts, as well as more detailed sex-specific data in general, important aspects of women's participation in labor migration remain unexplored. This is regrettable as sex-differences in modes of migration and sectoral distributions seem related to the status and welfare of foreign workers in host societies. The circumstances and roles of women who have migrated as dependents of their husbands, for example, presumably have a bearing on the size and nature of the illegal foreign female work force. In March 1980, illegal workers employed by the clothing industry in France organized a hunger strike which was supported by radical domestic political parties and trade unions. An estimated 25,000 persons, thought to be predominantly Turkish in origin, participated in the strike. Although no sex-specific estimates were released, the traditional preponderance of women in this industry (corroborated by the Swiss statistics) suggests that a significant proportion of the strikers were women. It would thus appear that in France, at least, migrants who experience great frustration and poor working conditions include those in industries with high proportions of women.

It is also common knowledge that the spouses and daughters of large numbers of migrants in France, Germany, and other European countries are increasingly employed "illegally" as domestic help. Even some legal women workers, and particularly those already employed in the domestic sector, take such unrecorded jobs to supplement their incomes. There has been no official acknowledgment of this fact, and little is known about the volume of such activities and the working conditions of the women involved.

The problem of migrants working illegally in Western Europe is somewhat different from the issue of illegal aliens working in the United States.[6] In Europe, the illegal workers are primarily women. Over the years, large numbers of women have migrated to Europe in a dependent status. With a spouse in Europe, the acquisition of entry permits for women has been generally easier than obtaining work permits.[7] Following their arrival, wives of migrants often seek to supplement relatively low family income in the host country. Thus, many probably work illegally, but their dependent status makes documentation of illegal work very difficult.

These issues suggest the need for more sex-specific data in migration research. Until now, analyses of labor migration have mostly concerned problems of overall national economic and social accommodation. Rarely have questions been asked about the differences in male and female migrant behavior and circumstances—for example, employment security, retirement rights, political organization, and union involvement. In general, it has been assumed that the needs of migrant women are taken care of by husbands, other male family members, or income from some form of legal employment. This conception clearly fails to address more subtle existing and potential trends that may threaten the economic, social, and political fabric of host systems.

Turks and Yugoslavs in West Berlin

In 1974, one of the authors and her colleagues surveyed 1,500 Turkish and 700 Yugoslav workers in West Berlin.[8] The data revealed interesting differences in economic and social status between working men and women of these two nationalities.

Prior to the survey, in June 1973, women constituted 30 percent of the total foreign labor force in all of West Germany as well as in West Berlin. Both in 1972 and in 1973 (the year of the official ban on new worker entries), the number of foreign women who obtained entry permits increased. Greeks, Yugoslavs, and Turks together accounted for 84 percent of all new immigrants during this period. Twenty-two percent of these were women. Of these women, nearly one-half were Turkish, and one-third were of Yugoslav origin. Further, the *Berlin Statistical Yearbook* reported that, in 1973, 40 percent of the Turks and 48 percent of the Yugoslavs employed in the city were women,[9] the largest such percentages for these two nationalities at any time in Europe.

Explanations for such high proportions of women include the fact that West Germany has served as a traditional destination for large numbers of Turkish and Yugoslav migrant workers. And in the early 1970's, migrants' wives were far more likely to accompany or join their spouses than in earlier years. In general, worker recruitment patterns in the 1970's contributed to a higher proportion of women among migrants. In West Germany, migrant women were accorded employment priority in the first half of the decade to fill vacancies in the electronics industry, largely concentrated in West Berlin. Large numbers of foreign women also independently took advantage of this opportunity, and joined their husbands in Germany. In the late 1970's, worker recruitment was severely curtailed, and entry permits restricted primarily to the immediate relatives and dependents of resident workers.

The priority given female immigrants stemmed largely from the advantages employers perceived in maintaining large female work forces. Employers

Table 7. Foreign workers in Switzerland, by mode of migration, sex, and employment sector, 1978

Employment sector	Annual		Seasonal		Frontier		All groups	
	Total	Percent female	Total	Percent female	Total	Percent female	Total	Percent female
Total	157,581	37.0	40,621	13.2	87,687	37.9	285,889	33.9
Agriculture	2,077	15.9	3,706	7.5	450	15.3	6,233	10.9
Forestry-fishing	124	1.6	169	2.4	34	2.9	327	2.1
Mining	266	1.5	308	.0	135	3.7	709	1.3
Food-tobacco	5,643	42.1	633	61.1	3,474	40.8	9,750	42.9
Textile industry	8,317	53.4	11	18.2	2,109	48.6	10,437	52.4
Clothing industry	6,731	73.9	7	28.6	7,693	88.3	14,431	81.5
Wood-cork	2,399	10.8	239	5.4	2,010	7.7	4,648	9.2
Paper	1,533	36.8	0	.0	595	40.8	2,128	37.9
Graphic arts	1,774	32.3	4	75.0	1,156	25.6	2,934	29.7
Leather crafts	325	57.8	0	.0	159	59.7	484	58.5
Rubber-plastic	1,590	32.2	2	50.0	683	30.9	2,275	31.8
Chemical industry	2,690	25.2	8	.0	7,398	36.6	10,096	33.6
Stonework	2,276	7.9	446	.2	948	10.2	3,670	7.6
Metalwork-machines	28,431	20.0	288	.7	19,783	16.5	48,502	18.5
Watchmaking	2,284	56.0	1	.0	3,587	57.5	5,872	56.9
Other industries	1,153	39.6	15	.0	1,235	33.4	2,403	36.2
Construction-civil engineering	20,640	1.3	23,833	.3	10,275	2.1	54,748	1.0
Commerce-banking	14,638	30.6	418	19.6	13,033	52.4	28,089	40.5
Transportation-communications	3,220	13.5	148	17.6	3,672	28.5	7,040	21.4
Hotels-restaurants	16,762	46.4	10,025	43.1	2,794	49.1	29,581	45.5
Health services	19,377	72.6	80	76.3	2,041	77.1	21,498	73.0
Teaching-science	4,674	45.5	18	66.7	713	59.7	5,405	47.5
Housework	2,102	91.8	48	66.7	1,096	98.1	3,246	93.6
Other	8,555	55.4	214	24.8	2,614	71.2	11,383	58.4

SOURCE: *Annuaire Statistique de la Suisse*, 1978.

Table 8. Married Turkish and Yugoslav workers in West Berlin, by circumstances of migration, 1974

Circumstances of migration	Turks				Yugoslavs			
	Men		Women		Men		Women	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Together	45	53	31	7.0	24	9.3	9	8.0
Alone, spouse came later	501	58.7	172	39.1	87	33.7	20	17.7
Alone, spouse still in home country	132	15.5	61	13.9	77	29.8	40	35.4
Alone, married here	48	5.6	43	9.8	59	22.9	23	20.4
Alone, spouse was already in Germany	127	14.9	133	30.2	10	3.9	20	17.7

SOURCE: Ayse Kudat, "International Labor Migration: A Description of the Preliminary Findings of the West Berlin Migrant Worker Survey," International Institute for Comparative Social Studies, Preprint No. P/74-1b, October 1974.

expected that women, particularly single ones, could be easily housed in dormitory-style living quarters, and they would pose fewer potential problems in terms of personnel management. They would be more pliable to authoritarian demands, and had shown little tendencies in the past to participate in organized labor movements in host countries. Employers thus viewed migrant women workers as a reliable source of cheap labor.

The results of the 1974 survey of Yugoslav and Turkish workers in West Berlin, in part, bear out some of these expectations. Among both groups, a significantly lower percentage of women were married than men. Among Yugoslavs, 42 percent of the women and 59 percent of the men were married; Turkish marriage rates were 72 percent for women and 89 percent for men. Only a small proportion of the married women in both cases had migrated with their spouses. As shown in table 8, 69.3 percent of the Turkish women had migrated either to join a spouse already in West Berlin, or to arrange a reunion there with him at a later date. In contrast, only 34.4 percent of the Yugoslav women migrated with such expectations. Over one-half of the Yugoslav women, and nearly a quarter of the Turkish women who claimed to be married came without their spouses, or were married in the host country. The average age of the men surveyed was 31 for Yugoslavs and 33 for Turks. The corresponding average ages among women were 29 and 30.

The majority of women workers were recruited through official immigration channels (71 percent of the Turks and 86 percent of the Yugoslavs). Both women and men who claimed to have been "tourists" or "visitors" upon arrival were a small minority among the workers in both national groups. Sex differences thus appear to have played a negligible role in the mode of migration. This runs counter to the popular view that women play a predominantly dependent role in migration, at least in West Berlin. However, sex differences appear to have assumed greater importance once the migrants entered the host system. For example, both Yugoslav and Turkish women exhibited low mobility—both geographically and in job status—relative to men. Eighty percent of the Turkish women, but only 58 percent of the Turkish men, claimed West Berlin as their first port of entry. These ratios were 93 percent and 85 percent for Yugoslav women and men, respectively.

The lower geographic mobility rates for Yugoslavs in general are explained in part by their shorter experience in international worker migration relative to Turks. The very low mobility rates for women of both nationalities may be explained both by the nature of their original placement in the job market and by their relative inexperience in labor force participation. Further, the geographic isolation of West Berlin from the rest of West Germany is a considerable obstacle to the mobility of new or inexperienced migrants. In this sense, the setting works in favor of employers who can expect less worker turnover and, hence, lower costs for on-the-job training.

On average, women changed jobs fewer times than men during their stay abroad. For example, in 1974, Turkish men changed their jobs an average of 2.2 times, whereas the figure for women was 1.6. Further, the average number of job changes among all Turks was greater than that among all Yugoslavs. Prior to arrival, less than half as many women as men among both nationalities had been employed in their home countries. More than two-thirds of the women in both groups became employed for the first time after migration. Women claiming previous employment in their home countries had been primarily unskilled workers. Among the few that reported prior skilled employment, there was a higher percentage of Turkish than Yugoslav women.

Upon arrival, the majority among both sexes of the two nationalities were employed in an unskilled capacity within the industrial sector. However, a dramatic skill improvement was observed among men in comparison with women. For instance, more than a third of the Yugoslav men who were unskilled workers at the time of arrival bettered their job status in a matter of a few years. In 1974, only 29 percent of Yugoslav men were employed as unskilled workers; 59 percent had be-

Table 9. Sectoral distribution of Turkish and Yugoslav workers in West Berlin, 1974

Sector of employment	Turks				Yugoslavs			
	Men		Women		Men		Women	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Agriculture	185	19.3	12	2.0	31	7.0	18	6.8
Industry	139	14.5	60	10.0	217	48.8	36	13.5
Service	138	14.4	78	13.0	11	2.5	11	4.1
Commerce	124	12.9	18	3.0	12	2.7	11	4.1
Construction	91	9.5	...	...	35	7.9	2	.8
Other	179	18.6	12	2.0	2	.4	2	.8
No answer	104	10.8	412	70.0	137	30.9	186	70.0

Source: Ayse Kudat, "International Labor Migration: A Description of the Preliminary Findings of the West Berlin Migrant Worker Survey," International Institute for Comparative Social Studies, Preprint No. P/74-1b, October 1974.

come skilled laborers, and another 12 percent, foremen. However, 94 percent of Yugoslav women remained in unskilled positions in 1974. Sex differences among the Turks were also significant, although not to the same extent. Seventy-two percent of the men as opposed to 95 percent of the women remained unskilled. The sectoral spread of men of both nationalities was also greater than that of women; although, over the years, the workers of both sexes shifted gradually from the industrial to the service and commercial sectors, parallel to the changes in the sectoral distribution of the indigenous labor force. Data for these distributions in 1974 are presented in table 9.

Most of the workers surveyed from both nationalities had limited residence and work permits, with an average 1-year duration. The average length of women's permits was somewhat shorter than men's. This pattern was more consistent among Yugoslav than Turkish women. Significantly, very few among all the workers in both groups had acquired unlimited residence permits;[10] again, the ratio of women with flexible permits was lower in general than that of men. Almost 90 percent of the Turks claimed to have no knowledge of long-term permits, thus contributing to the low ratio for Turkish women. Yet less than 30 percent of the Yugoslavs responded negatively, with evident sex differences. The best explanation may be that the shorter national experience of Yugoslavs in international labor migration may have precluded the qualification of many of these workers for such permits at the time of the survey, because application for longer term permits is possible only after 5 years continuous residence in West Germany.

These patterns also are supported by the findings that a far lower percentage of Turks than Yugoslavs had been educated beyond the primary level or exhibited competance in German (with negligible sex differences). Surprisingly, however, a far greater percentage of Turks than Yugoslavs had acquired union membership in West Germany. This ratio for Turkish men was nearly double the Yogoslav ratio, and the ratio for Turkish women was nearly triple that of Yugoslavs. There is an open question as to why proportionately more Turkish women joined unions than their Yugoslav counterparts. One obvious reason is that many Turkish women joined unions because their compatriots were members.

What next?

The increased presence of women in European and international labor migration needs further attention. The evidence presented here suggests that sex differences in labor migration have important social and economic implications for the migrant population as well as for the host country.

Increasing numbers of women migrants redefine the needs of the foreign population and thereby change the infrastructural costs for the host countries. The influx of women migrants has further amplified the already apparent duality in the European labor market. With migrant women replacing native women as well as migrant men in the worst paid sectors, the latter groups may shift to jobs with higher pay and greater social benefits.

The economic and social implications of female immigrant workers are clearly different from those associated with male migrants—if only because of the added potential for future generations of an immigrant population. Many of the resulting socioeconomic problems could be dealt with more effectively by anticipating trends. For example, migrant sex ratios examined on a longitudinal basis would identify patterns which signal the nature and potential volume of future demands for employment, education, health and child care, housing, and other social services that might be made on public resources. High fertility rates among migrant women, such as those in Europe, amplify the magnitude of these potential demands, especially in host countries with low population growth.[11]

Past research has shown that the migration of men and women is primarily motivated by economic factors. But the specific nature of the "push" and "pull" factors affecting women migrants awaits greater clarification. The significant nationality discrepancies found to exist among migrant women in Europe suggest that motivational factors vary among groups. Thus, a thorough investigation of migrant women's economic and social circumstances, as well as policies governing their migration in host and home countries should be undertaken. In particular, the circumstances surrounding return migration of migrant women also requires more focused attention. A second survey of 2,519 Turkish migrants returning home from West Berlin between January 1975 and June 1976 has revealed, for example, that not all workers were leaving because of unemployment.[12] Fewer male and female returning migrants were unemployed than had voluntarily quit their jobs before departure. This was especially the case among women. Furthermore, family responsibility accounted for 80 to 90 percent of the reasons given for departure among women. This constrasts sharply with the responses in 1974 indicating that a high percentage of women were recruited to West Berlin for employment purposes.

Although a full description of this second survey and its results cannot be presented here, the findings alluded to above suffice to illustrate the need for more detailed information on the female component of international labor migration. For example, how do the characteristics of female migrants returning home differ from those remaining in host countries? what personal effects does migratory movement have on women and their families? and what are the prospects for integration and reintegration of migrant women into host and home societies?

Migrant populations are an increasingly important and dynamic factor of economic and social importance in a world more closely linked by improved transportation and communication. Thus, the role of migrant women is of special salience. However, this role cannot be properly assessed on the basis of national aggregate statistics alone. Only a combination of macro and micro-level information, disaggregated according to sex, will provide a suitable foundation for a realistic understanding of the problems and prospects of migrant workers throughout the world. □

FOOTNOTES

[1] Organization for Economic Cooperation and Development, SOPEMI (Continuous Reporting System on Migration), 1976–79.

[2] *Ibid.*

[3] "Fact Sheet on the Netherlands," Ministry of Cultural Affairs, Recreation and Social Welfare, the Netherlands, 1979.

[4] *Ibid.*

[5] SOPEMI, *op. cit.*, 1976–79.

[6] For a fuller treatment of issues of illegal migration in Europe and in the United States, See Jonathan Power, "The Great Debate on Illegal Immigration—Europe and the USA compared," *Journal of International Affairs*, Fall/Winter 1979.

[7] For example, in West Germany, spouses and unmarried children are allowed to join a foreign worker after the latter has completed a 1-year residence in the host country. Until April 1979, a workers family members were allowed access to the labor market providing they had entered West Germany before certain "key dates"; however, the new regulation requires a waiting period. Children of workers who are of legal employment age can now acquire a "general work permit" after a 2-year residence (those having completed 6 months of vocational training are granted immediate access). Spouses are now granted special permits for work in sectors where there are labor shortages, and this only after a 3 or 4-year residence. Further, these provisions are completely at the discretion of the Labor Institute and apply to jobs for which German nationals have not been granted precedence. See SOPEMI, 1979, p. 41.

[8] Ayse Kudat, "International Labor Migration: A Description of the Preliminary Findings of the West Berlin Migrant Worker Survey," International Institute for Comparative Social Studies, Berlin, Preprint No. P/74-1b, October 1974.

[9] The *Berlin Statistical Yearbook* 1973 (W. Berlin, Office of the Mayor).

[10] Until Oct. 1, 1978, unlimited work permits were available to all foreigners with 10 years residence in West Germany, who could demonstrate some proficiency in German and establish a legal claim for residence. This waiting period has now been reduced to 8 years. However, such a permit will now be issued after 5 years provided the applicant has reasonable housing, simple oral proficiency in German, and children who have been properly enrolled in school. See SOPEMI, 1979, p. 42.

[11] In 1965, for example, foreigners and migrant workers constituted .6 percent and 1.4 percent of the overall population and labor force in West Berlin, respectively. The corresponding ratios in 1974 were 4.3 percent and 12 percent. During the second half of the 1970's, each of these ratios approximated 10 percent, with nearly half of all births in the city being accounted for by migrant populations.

[12] This survey was sponsored by the Berlin Science Center and implemented in cooperation with the Turkish Consulate in West Berlin. Its results have not yet been published.

Documenting the undocumented: data, like aliens, are elusive

Millions of illegal immigrants currently live and work in the United States, but efforts to estimate their economic and societal impact are hampered by a lack of valid information

ELLEN SEHGAL AND JOYCE VIALET

Most undocumented, or illegal, aliens enter the country unlawfully, bypassing inspection and other procedures required by the Immigration and Nationality Act. A smaller number enter legally and subsequently violate the terms of their admission, generally by overstaying their temporary visas and accepting unauthorized employment. Increasingly large numbers of illegal immigrants have been apprehended by the Immigration and Naturalization Service over the past decade. In 1977 alone, the agency apprehended 1,042,215 deportable aliens, more than double the 462,315 immigrants legally admitted that year.

It is generally believed that more illegal aliens escape detection than are apprehended and that they may contribute to a number of social and economic problems, including unemployment. At issue, then, is how best to reduce the number and presumably adverse impact of undocumented aliens in the United States. The problem is especially difficult because there are no exact facts and figures concerning illegal immigrants, their numbers, or their effective role in the U.S. labor market.

Research—limitations and accomplishments

Data problems. Research in this area has been severely hampered by the difficulty in collecting valid data; one cannot know the "universe" of illegal immigrants, or obtain a representative sample. One would assume that the aliens and their employers would be reluctant to respond to official interviews. And research findings based on interviews with apprehended aliens or with migrants who have returned to their homes may not necessarily apply to those who have remained in this country undetected.

The Immigration and Naturalization Service (INS) collects data on arrests for law enforcement purposes, but the resulting information is of limited value in research. INS apprehension statistics record occurrences, not persons, and thus are subject to considerable overcounting. And Mexicans are far more likely to be located than other foreign nationals, because the efforts of the INS are concentrated along the U.S.-Mexican border. In fiscal 1977 for example, 92 percent (954,778) of the deportable aliens found by the agency were Mexican citizens.

Recent research efforts. A number of research efforts have attempted to estimate the numbers of undocumented aliens in the United States. The results of six of these are summarized in exhibit 1. As indicated previously, Mexican nationals account for an overwhelming majority of INS apprehensions, and are the focus of the greater part of research on illegal immigrants to this country.

Of particular interest is the study conducted by Clarise Lancaster and Frederick Scheuren of the Social Security Administration. The authors used two estimates of the U.S. population, one which included illegal immigrants, and the other excluding them. The latter, a

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population estimate of the Census Bureau updating a corrected 1970 census count, was subtracted from the estimate which included undocumented aliens. That estimate, in turn, was based on the March 1973 Current Population Survey sample, which had been matched with individual Federal income tax and social security records.

Lancaster and Scheuren estimated that there were about 3.9 million 18- to 44-year-old illegal immigrants in the United States in April 1973, but noted that the actual figure could be anywhere between 2.9 and 5.7 million. They also cautioned that their work should be considered exploratory, citing a number of limitations in both the data and the assumptions underlying the

Exhibit 1. Recent estimates of the undocumented alien population in the United States

Study	Scope and period of measurements	Estimate
Lancaster, Clarise and Frederick Scheuren, "Counting the uncountable illegals: some initial statistical speculations—employing capture-recapture techniques," *1977 Proceedings of the Social Statistics Section of the American Statistical Association,* (Washington, American Statistical Association, 1978), pp. 68–75.	United States as a whole, each sex, age 18–44, white and nonwhite races, April 1973.	2.9–5.7 million in stock, 18–44 years old; 2.0–3.7 million whites in stock, same age group.
Robinson, J. Gregory, "Estimating the approximate size of the illegal alien population in the United States by the comparative trend analysis of age-specific death rates," paper presented at the annual meeting of the Population Association of America (Philadelphia, April 1979).	Five States in Northeast, five in Southwest, white males, age 20–44, 1960–1975.	.6–4.7 million net flow, white males, 20–44 in 1960–1975 in 10 States. .4–2.5 million net flow, in 5 southwestern States.
Goldberg, Howard, "Estimates of emigration from Mexico and illegal entry into the United States, 1960–1970 by the residual method," unpublished seminar paper (Washington, Georgetown University, Center for Population Research, 1974), p. 19.	Mexico as a whole, each sex, all age groups, 1960–1970.	1.6 million, net flow, Mexicans in all of the United States.
Heer, David, "What is the net flow of undocumented Mexican immigrants to the United States?" paper presented at the annual meeting of the Population Association of America (Atlanta, 1978). An abbreviated version of the same paper appears in *Demography,* August 1979, pp. 417–23.	United States as a whole, both sexes, all age groups, Mexicans, 1970–1975.	80,000–242,000 annual net flow, Mexicans, 1970–1975.
Garcia y Griego, Manuel, *El volumen de la migracion de mexicanos no documentados a los Estados Unidos (Nuevas hipotesis)* (Mexico, Centro Nacional de Informacion y Estadisticas del Trabajo, in press, 1980).	United States as a whole, both sexes, all age groups, Mexicans, 1972–1977.	.5 million to 1.2 million Mexicans in stock, January 1977, 50,000–158,000 annual net flow, 1972–1977. 629,000–2,043,000 annual gross flow (entries) in same period.
Zazueta Carlos H, "Mexican workers in the United States: Some initial results and methodological consideration of the National Household Survey on Migration (ENEFNEU)," paper prepared for the Working Group on Mexican Migrants and U.S. Responsibility, (College Park, University of Maryland, Center for Philosphy and Public Policy, January 1980).	Mexico as a whole and the United States as a whole, regions of destination in United States, persons looking for work, age 15 and over, December–January 1978–1979.	.4 million Mexican workers age 15 and over in the United States, January 1979.

SOURCE: Manuel Garcia y Griego, presentation before the Washington Statistical Society, Mar. 20, 1980.

analysis. For example, the data used were subject to matching and survey coverage errors; and, the nature of the methodology was such that the illegal population estimates were retained as a residual and thus may be of questionable accuracy.[1]

More information is available on the characteristics of undocumented aliens than on their numbers. Studies of persons apprehended consistently show that workers from Mexico are predominantly young men, who are poorly educated, and have a limited command of English. They come to the United States to find work, and send a large part of their earnings back to their families.

There is less information on illegal migrants from other parts of the world, although it is thought that they are generally better educated and better off financially than those from Mexico. Many enter this country legally on temporary tourist visas, but overstay their visas and find jobs. The results of a major study also indicate that they tend to be somewhat older than Mexican entrants; more are married with family members present; they are more likely to speak English; and they report higher earnings.[2]

Economic effects of illegal migration. Studies have consistently found that the principal impact of illegal migration is on the labor market. Because of the economic imbalance between the United States and less developed nations, citizens of the Third World may perceive illegal immigration as their only means of escape from poverty.

Available information indicates that many U.S. employers are willing to hire undocumented workers in spite of, and sometimes because of, their illegal status. Such workers, accustomed to the lower standards of living of their home economies, will frequently work for lower wages than U.S. natives. They are also susceptible to exploitation in the form of substandard working conditions and minimal fringe benefits because they fear being reported to the Immigration and Naturalization Service.

Therefore, many observers believe that this source of cheap labor, if available on a fairly constant basis, has an adverse effect on U.S. wage standards and working conditions. Illegal aliens may also displace native workers, adding to the country's already serious regional and national unemployment problems. Concern over this issue, formerly focused primarily on the Southwest border and on agriculture, has now extended to other regions and ctors of the economy.

However, some analysts contend that most undocumented aliens take jobs which native workers will not accept at existing wage levels. They argue further that, without migrant labor, many low-wage industries would be forced to shut down or move abroad, thereby costing U.S. workers jobs.

Legislation and other Federal response

Administration initiatives. On January 6, 1975, President Ford established a Cabinet-level Domestic Council Committee on Illegal Aliens. The preliminary report of this committee was released in January 1977. While it contained no numerical estimates, the report stated that illegal immigration was a significant and growing problem, and recommended legislation establishing penalties for the knowing employment of undocumented workers.

The issue continued to receive extensive study by the Carter Administration. On August 4, 1977, President Carter submitted a message to the 95th Congress, outlining a "set of actions to help markedly reduce the increasing flow of undocumented aliens in this country and to regulate the presence of the millions of undocumented aliens already here." Included in the proposal were: civil penalties for the employment of illegal aliens; increased Southwest border enforcement; more vigorous administration of labor standards legislation; continued cooperation with major migrant-source countries in order to improve their economies; permanent resident status for eligible aliens who had been in the United States continuously prior to January 1, 1970; and 5-year temporary resident status for aliens who had been here continuously as of January 1, 1977. At the same time, the President indicated support of pending legislation to increase the annual limitation on Mexican and Canadian immigration from 20,000 each to a combined total of 50,000.

This Administration initiative represented an attempt to balance the various conflicting interests involved in the complex and controversial illegal alien issue. Foreign policy considerations, such as the predictable adverse reaction of the Mexican government to any drastic change in the status quo, had to be weighed against domestic factors, including the impact of foreign workers on the U.S. labor market. It was in the latter area that the research on undocumented aliens was most relevant. For example, the decision to request increased enforcement of minimum wage and other labor standards legislation was in keeping with findings of labor-market exploitation of undocumented workers. By minimizing the economic incentive to hire aliens, their employment would presumably be reduced.

In connection with the employer sanctions proposal, however, the President also had to consider the interests of U.S. employers, who stressed enforcement difficulties; of Hispanic groups and the U.S. Catholic Conference, which were concerned that legal residents (particularly Hispanics) would encounter hiring discrimination because employers would not want to risk violating the law; and of civil libertarians, who feared that the plan would require each citizen to carry an identity card, a practice viewed as an invasion of privacy. The Administration bill, entitled the "Alien Adjustment and Employment Act," did not receive action beyond a Senate Judiciary Committee hearing in May 1978.

Congressional action. Legislative solutions to the problem of mass illegal entry have been under congressional study since the early 1970's. In 1974, the 93rd Congress amended the Farm Labor Contractor Registration Act of 1963 to strengthen administrative, civil, and criminal penalties for farm labor contractors who knowingly engage the services of illegal aliens. During the same Congress, a bill (H.R. 982) proposing a graduated series of civil and criminal penalties of increasing severity for other employers of undocumented workers passed the House but was not acted on by the Senate Judiciary Committee.

During the 94th Congress, consideration was given to another bill (H.R. 8713), which would have made it unlawful to knowingly employ illegal aliens, and would have provided injunctive remedies as well as civil and criminal penalties for violation. Unlike previous bills, it also authorized the Attorney General to take civil action against employers who discriminated against U.S. citizens on the grounds of national origin, and provided an amnesty for certain undocumented workers who had entered the country prior to June 30, 1968. This bill was favorably reported by the full Judiciary Committee, but was not brought before the House for a vote.

On the Senate side during the 94th Congress, omnibus legislation (S. 3074) was introduced which included graduated civil penalties for the knowing employment of illegal aliens, an injunctive remedy, and a provision allowing certain aliens who entered the country illegally prior to July 1, 1968, to establish a record of lawful admission. This bill was not reported to the full Judiciary Committee.

Legislation which was enacted by the 94th Congress, the Immigration and Nationality Act Amendments of 1976,[3] included a provision prohibiting aliens who have entered the country legally as nonimmigrants, and who have subsequently violated the terms of their admission by accepting unauthorized employment, from adjusting their status to that of permanent resident alien while in the United States. The provision was intended to deter tourists, foreign students, and other nonimmigrants from working illegally. The 1976 Amendments also extended to the Western Hemisphere an immigration preference system and a 20,000-person annual limit for each country, provisions previously in effect only for Eastern Hemisphere countries.

The 95th Congress amended the Immigration and Nationality Act to provide for the seizure and forfeiture of vehicles used to illegally transport aliens into the United States.[4] In another relevant enactment, the same Congress combined the Eastern and Western Hemisphere ceilings on immigration into a worldwide ceiling of 290,000.[5] Additionally, it created a 16-member Select Commission on Immigration and Refugee Policy, composed of four members each from the House and Senate Judiciary Committees, four Cabinet members, and four members appointed by the President.

The Commission is to report to the President and the Congress by March 1, 1981, on its administrative and legislative recommendations relating to the admission of immigrants and refugees. Without question, the issue of undocumented aliens will be of major concern to its members. Both the Administration and the Legislature appear to be awaiting Commission findings before acting in an area where political controversy is severely compounded by lack of reliable data. □

——— *FOOTNOTES* ———

[1] For an independent review of the Lancaster-Scheuren work, see Jacob S. Siegel, Jeffrey S. Passel, and J. Gregory Robinson, "Preliminary Review of Existing Studies of a Number of Illegal Residents in the United States," *Working Document* (Washington, U.S. Bureau of Census, January 1980).

[2] David S. North and Marion Houstoun, *The Characteristics and Role of Illegal Aliens in the U.S. Labor Market: An Exploratory Study* (Washington, Linton and Company, Inc., March 1976).

[3] Public Law 94-571.

[4] Public Law 95-582.

[5] Public Law 95-412.

Immigrant earnings patterns by sex, race, and ethnic groupings

Based on 1970 census data, most immigrant men reach earnings equality with the native born in 11 to 15 years; for women, earnings following arrival vary more by racial and ethnic group; skills and motive for moving affect performance

BARRY R. CHISWICK

How well and how quickly immigrants adapt to a new life in the United States concerns policymakers as well as the public. Responses to the recent arrival of Cuban and Indochinese immigrants discussed elsewhere in this issue reflect the concern over the ability of these groups to assimilate into U.S. society. On an economic basis, the success of immigrants in the United States can be measured by their level of earnings following arrival. Some immigrant groups tend to reach earnings equality with the native population more quickly than others. An examination of these patterns could provide clues about the future earnings performance of those newly arrived.

This article summarizes the findings on the earnings and occupational mobility of immigrants from a large ongoing analysis of the economic adjustment of immigrants and how they compare with the native population.[1] Presented here, with the use of economic theory and statistical analysis, is an assessment of immigrants' economic progress relative to that of their native-born racial and ethnic counterparts. The purpose of the entire project is to add to the currently insufficient research base regarding immigrants.

Immigrant earnings theory

A theoretical analysis of the earnings of immigrants may be based on two concepts—the international transferability of the skills acquired in the country of origin and the "self-selection" of immigrants. The weaker the transferability of schooling and on-the-job training, the smaller the effect of these skills on future earnings and the lower they will be just after immigration. With the passage of time, however, the relative earnings of immigrants would rise as they acquire information, credentials, and marketable skills.

Persons who become international migrants tend to be different from those who remain. Migrants typically have greater innate ability, greater motivation for personal economic advancement, and are more willing to sacrifice current consumption to make investments that may increase future consumption. Such self-selected immigrants would tend to have higher earnings than the native born in the destination, if it were not for the disadvantages of being foreign born. Combining the effects of skill transferability and favorable self-selection suggests that the earnings of the foreign born may eventually equal and then surpass those of the native born. The year at which this earnings cross-over occurs can be estimated.

Data on various measures of "achievement" suggest that it may be transmitted from one generation to the next, but with a "regression to the mean." That is, the children of high achievers tend to have higher-than-average achievement which is nonetheless lower than that of their parents.[2] (The reverse is true for offspring of low achievers.) This suggests that the children of immigrants would tend to have an earnings advantage over other children if it were not for the disadvantages of be-

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ing raised in a household that is less familiar with the language and customs of the country. It also implies that this advantage would disappear asymptotically with successive generations.

Analytically, it is useful to consider three groups: "economic migrants," those who move primarily for their own economic betterment; "refugees," those who move primarily out of concern for their personal safety or for political or ideological reasons; and "tied movers," those who move primarily to join or accompany a family member. Although refugees sometimes have a higher level of schooling than economic migrants, their skills are often less readily transferable internationally. For example, lawyers and judges, who have country-specific skills, appear in refugee populations but are seldom economic migrants. In addition, although refugees may, arguably, have more innate ability and work motivation than the population which remains at home, the difference is likely to be smaller for refugees than for economic migrants. As would be expected, tied movers generally have skills that are less readily transferable than those of economic migrants.

It is not easy to identify the primary motive for migration. The immigration category under which a person enters a country (family reunification, scarce skills, refugee, and so on) is often unrelated to motive. However, immigrant groups from some countries at certain periods are likely to include a larger proportion of refugees. Examples of this are the Chinese beginning in 1949, the Cubans beginning in 1959, and the Southeast Asians beginning in 1975. Wives, especially those of Americans, are more likely to be tied movers than are other immigrant women with the same demographic characteristics.

Earnings of men

The most recent analyses of earnings for foreign-born and foreign-parentage men in the United States use data from the 1970 Census of Population (Public Use Sample, State files, one-in-a-hundred samples from the 5-percent and 15-percent questionnaires). In spite of the substantial differences among the various racial and ethnic groups studied, quite stable patterns emerge when the immigrant generations are compared within racial and ethnic groups (table 1).

Table 1. Comparison of earnings and earnings related characteristics for native-born and foreign-born adult men in the United States, by racial and ethnic group, 1970[1]

Racial and ethnic group and nativity[2]	Means				Years since migration at earnings crossover[3]
	Average earnings	Average schooling (years)	Average age	Years since migration	
White:					
Native	9,738	11.9	42.8	....	....
Foreign	9,662	10.8	45.6	21.7	13
Cuban:					
Native	10,341	12.3	43.6	....	....
Foreign	6,857	10.8	42.2	7.2	18
Mexican:					
Native	6,523	8.9	39.6	....	....
Foreign	5,474	6.1	41.9	18.0	15
Black:					
Native	6,138	9.9	41.8	....	....
Foreign	6,585	11.0	40.4	11.3	11
Asian:					
Japanese:					
Native	10,389	12.6	43.6	....	....
Foreign	9,191	14.3	38.4	10.9	18
Chinese:					
Native	10,745	12.7	41.8	....	....
Foreign	8,019	11.9	42.8	16.8	(4)
Filipino:					
Native	7,010	11.1	36.8	....	....
Foreign	7,086	11.0	44.6	18.9	13

[1] Men aged 25 to 64 in 1970 who worked and had earnings in 1969 and, for the analyses for black and Asian immigrants, were not enrolled in school in 1970.

[2] Race/ethnic identity is defined by the race and Spanish origin variables. White men are used as the native-born comparison group in the Cuban analysis. The Mexican analysis is for Arizona, California, Colorado, New Mexico, and Texas. The Cuban and black analyses are for urban areas.

[3] The number of years in the United States at which the earnings of the foreign born equal the earnings of the native born, when other variables are held constant.

[4] The earnings of Chinese immigrants approach but do not equal the earnings of native-born Chinese-Americans, even after 3 decades in the United States.

SOURCE: *1970 Census of Population*, Public Use Sample, 5-percent questionnaire, 1/100 sample, except for a 1/1,000 sample for the white analysis.

Other things the same, schooling and preimmigration labor-market experience of the foreign born have a smaller effect on U.S. earnings than skills acquired by the native born (table 2). For example, among white men, an extra year of schooling raises earnings by 7.2 percent for the native born and 5.7 percent for the foreign born. The effect of schooling and preimmigration experience is particularly small for refugee groups; an extra year of schooling raises earnings by only 3.1 percent for Cuban immigrants and 4.8 percent for Chinese immigrants, the two groups with the largest proportion of refugees. In addition, there is a larger partial effect on earnings of schooling and labor-market experience for white and black immigrants from English-language countries than for those from other countries, reflecting the greater transferability of the skills acquired in the country of origin.

The effect of time in the United States on earnings, controlling for schooling and total labor market experience, is quite large (table 2). The differential effect of U.S. labor market experience compared with that abroad is greatest for immigrants with the weakest transferability of skills—refugees from other than English-language countries, Cubans and Chinese. It is smallest for those with highly transferable skills—economic migrants from English-language countries.

What is the progress of male immigrants relative to native-born men? Other things equal, the earnings of economic migrants equal those of the native born (or those with native-born parents) of the same racial and ethnic group after 11 to 15 years in the United States; beyond this point, immigrants have higher earnings (table 1). For example, among whites the earnings of foreigners are 10 percent lower than those of natives after 5 years of residence, 3 percent lower after 10 years, equal to the natives after 13 years, and 6 percent higher after 20 years. Among Mexican-Americans, the earnings cross-over occurs at about 15 years; among Filipinos, at about 13 years; and among blacks, it occurs at 11 years for the country as a whole and 13 years if the data are limited to urban New York State, the home of two-thirds of foreign-born blacks. Among the Japanese, the earnings cross-over is also in the 11 to 15-year interval if the comparison is with third-generation Americans. The earnings cross-over occurs later, or does not occur at all, for refugees; that is, for the Cuban and Chinese immigrants under study.[3]

The rise in the relative economic position of immigrants based on their duration of residence is found in longitudinal data on earnings and occupational status. In the National Longitudinal Survey file for older men, earnings increased more rapidly from 1965 to 1973 for the foreign born than for the native born, other things the same. Evidence of this relationship also appears in the longitudinal analysis of the occupational mobility (1965 to 1970) of white male immigrants using 1970 census data. The occupational mobility of male immigrants exhibits a U-shaped pattern; that is, occupational status declines when the "last" occupation in the country of origin is compared with the "early" U.S. occupation, after which upward occupational mobility is greater for the foreign born than for the native born. This U-shaped pattern is most intense for those whose skills are the least transferable (Cuban refugees) and least intense for those with highly transferable skills (English-speaking economic migrants).

Table 2. Partial effects on earnings of schooling and labor market experience for adult men in the United States, 1970[1]

Racial and ethnic group	Average percent change in earnings for an additional year —				
	of schooling for natives	of schooling for immigrants	of U.S. labor market experience for natives	of foreign labor market experience for immigrants[2]	of U.S. labor market experience for immigrants[3]
White:	7.2	5.7	2.13	1.41	1.12
Cuban (urban)	7.3	3.1	2.22	0.33	2.37
Mexican (Southwest)	5.2	3.9	1.80	1.67	1.34
Black (urban)	4.6	3.3	.78	1.18	1.60
Asian:					
Japanese	6.3	5.9	1.73	1.52	2.38
Chinese	6.7	4.8	2.73	[4]0.60	2.70
Filipino	5.8	6.4	1.30	1.46	1.94

NOTE: Unless indicated otherwise, the explanatory variables are statistically significant.

[1] The foreign born are compared with native-born men of the same racial and ethnic group, except for the Cubans where the comparison is with native-born urban white men. Unless noted otherwise, the data are for men age 25 to 64 in 1970, who worked at least 1 week and had earnings (wage, salary, and self-employment income) in 1969. The analyses for black and for Asian men exclude persons enrolled in school in 1970. The parameters are estimated from a linear regression of the natural logarithm of earnings on schooling, labor market experience and its square, the logarithm of weeks worked, marital status, and geographic area and, for the foreign born, years since migration and its square.

[2] The quadratic experience variables (T, T^2) were evaluated at $T = 10$.

[3] The quadratic years since migration variables (YSM, YSM^2) were evaluated at YSM = 10. The value measures the differential effect of an extra year of labor market experience in the United States rather than in the country of origin.

[4] Set of country-of-origin experience variables (T, T^2) has no significant effect on earnings.

SOURCE: *1970 Census of Population*, Public Use Sample, 5-percent questionnaire, 1/100 sample, except for a 1/1,000 sample for the white analysis.

Table 3. Relative earnings advantage of native-born U.S. men with foreign-born parents over native-born men with native-born parents, by racial and ethnic group, 1970[1]

Racial and ethnic group	Earnings advantage[2] (in percent)	
White:	4.9	
Mexican[3]	5.1	([4]8.6)
Black:		
All States (urban)	[4]6.4	
New York State (SMSA)	[4]10.7	
Asian:		
Japanese	[4]5.2	
Chinese	[4]4.3	
Filipino	[4]9.0	

NOTE: All coefficients are statistically significant, except for the Japanese, Chinese, and Filipino groups. The sample size for each Asian group was very small for native-born men with both parents native born.

[1] Earnings in 1969 for native-born men, age 25 to 64 in 1970, who worked and had earnings in 1969. There were too few native-born men with Cuban-born parents for an analysis of this group.

[2] The parameter is 100 times the coefficient of a foreign parentage dichotomous variable when the natural logarithm of earnings is regressed on schooling, experience, marital status, the log of weeks worked, geographic area, nativity of parents, and, in some equations, mother tongue. For small values, the parameter is the percent difference in earnings. A positive value indicates higher earnings for those with foreign-born parents (one or both).

[3] Men with Spanish surnames living in Arizona, California, Colorado, New Mexico, and Texas.

[4] Mother tongue is held constant. Evaluated for a Spanish mother tongue in the Mexican analysis and an English mother tongue in the black analysis.

SOURCE: *1970 Census of Population*, Public Use Sample, 15-percent questionnaire, 1/1,000 sample for the white men, and 1/100 sample for other groups.

Second-generation American men are about the same age and have the same schooling as those with both parents born in the United States, but other things being equal they had a 5 to 10-percent earnings advantage in the 1970 census data (table 3). In the National Longitudinal Survey (NLS), but not in the census, third-generation Americans can be compared with fourth and later generations. Analyses using the NLS file for older white men suggest that the earnings advantage of the foreign-origin population is smaller and may disappear by the third generation. Although the second generation has a significant 6-percent earnings advantage over the third generation, the latter has either no earnings advantage or only a small positive advantage (1.0 to 4.0 percent, not statistically significant) over later-generation Americans. This represents a "regression to the mean" in the earnings performance of the foreign-origin population with successive generations born in the United States.

Faster equality for most immigrant women

An analysis of the earnings of immigrant women for the same seven groups, using the same data from the 1970 census, shows patterns similar to the men but with greater variability by race and ethnic origin. Among women who worked, schooling and preimmigration labor market experience of the foreign born have a smaller effect on U.S. hourly earnings than the skills of the native born. The relative difference in the effect of schooling is greatest for the immigrant groups that include the largest proportion of refugees and tied movers.

When there is an earnings cross-over for women, it occurs sooner than for men. On average, just after they arrive, white women have higher hourly earnings than natives, and the gap widens over time. For most groups of nonwhite immigrants, hourly earnings equal those of natives of the same racial and ethnic group within about 5 years. However, among Mexican and Filipino immigrants, time in the United States appears to have no differential effect on earnings (controlling for total potential experience), and their earnings never equal those of women born here of similar descent.

Persons who migrate primarily because of their spouse's job opportunities tend to have less readily transferable skills and are obviously not necessarily economic migrants. Women who married prior to immigration and whose migration decisions therefore may have been influenced in large part by their husband's are found to have lower earnings. For example, among white women, those who married prior to immigration have earnings that are lower by 3 percent, a significant difference. The earnings disadvantage is particularly great for Asian women who married U.S. servicemen.

Women of the second generation earn more than women with native-born parents, other things being equal. The estimated earnings advantage of the former in each of the groups studied is consistent with the 5 to 10-percent earnings advantage found among men of the second generation.

Economic implications

There are clear patterns of racial and ethnic differences in the economic success of immigrants in the United States, even though there is substantial variation in the earnings of individuals within each group. Among the groups studied by immigrant generation, Mexicans and Filipinos tend to have low earnings compared with whites, both overall and when other variables are the same; whereas this is not the situation for those of Japanese and Chinese descent. These findings challenge conventional notions about the impact of discrimination on the schooling and earnings of racial and ethnic minorities.

The impact of immigrants on the native population changes with their length of residence, as they acquire new skills. The longer immigrants reside in the United States and the more their skills generate an economic return comparable to that of the native population, the smaller their adverse effect or the larger their favorable effect on the wages of low-skilled native workers, the smaller their use of income transfers for the poor, and the more favorable is their effect on the aggregate income of the native population.

Economic migrants are likely to have a more favorable impact than refugees or tied movers of the same demographic characteristics and level of schooling, because the former tend to have relatively higher earnings. Among potential economic migrants, those selected by U.S. immigration policy on the basis of their likely productivity in this country will tend to have a more favorable impact than immigrants selected under alternative rationing mechanisms, such as kinship or a first-come, first-served system. The immigration policies of the United States and many other countries, however, include special preferences for refugees and the relatives of citizens and resident aliens because of humanitarian and foreign policy objectives, as well as for domestic social and political considerations. These other objectives, however, have economic costs. ☐

——*FOOTNOTES*——

[1] For a more detailed analysis of immigrant earnings and occupational mobility, see Barry R. Chiswick, "An Analysis of the Economic Progress and Impact of Immigrants," Part II, final report submitted to the Employment and Training Administration, U.S. Department of Labor, June 1980.

[2] See Lloyd G. Humphrey, "To Understand Regression from Parent to Offspring, Think Statistically," *Psychological Bulletin*, 85 (1978), pp. 1,317–22.

[3] Patterns similar to those for the contemporary United States emerge in data for contemporary Britain, Canada, and Israel and for the United States at the turn of the century. See Chiswick, "An Analysis . . . ," Ch. 12.

Nonimmigrant workers: visiting labor force participants

Working visitors include students, laborers, and professionals; most require sponsors, and those in health fields must now pass tough entry tests; to obtain controversial temporary alien labor, employers must show that U.S. workers are unavailable

DAVID S. NORTH

The term "nonimmigrant" is an awkward one, typical of the often negative lexicon within the immigration field. Traditionally, all aliens seeking admission to the United States have been viewed as intending immigrants, until proven otherwise. Those who show that they do not intend to stay here for the rest of their lives are thus viewed as nonimmigrants.

Millions of nonimmigrants are admitted to the United States each year (more than 8.2 million in fiscal year 1978). Fully 80 percent of them are simply tourists,[1] and the balance come to pursue other activities, including work. Of those who come to work, many are not actually employed in the U.S. labor market. There are, for example, diplomats representing their nations in Washington, international civil servants working for the United Nations in New York, and representatives of foreign business concerns seeking markets, raw materials, or technology. None of these temporary entrants performs work normally assigned to U.S. residents.

There are, however, five classes of nonimmigrants who can and do work in the U.S. labor market: students, temporary workers of distinguished merit and ability, other temporary workers, exchange visitors, and intracompany transferees (employees of multinational corporations). Although their numbers are not large, compared to total nonimmigrant admissions, they play interesting—and sometimes controversial—roles in our society. They are, in a sense, the American equivalent of Europe's guestworkers; many of them (those working in agriculture) are modern *braceros*, the term for Mexican nationals who worked for low wages in U.S. agriculture during 1942–64 in the largest nonimmigrant worker program in our history.

In a recent study, the interaction of the five classes with the U.S. labor market was examined.[2] A thumbnail sketch of each category appears in exhibit 1.

A majority of the members of most of the classes are "bonded" to their employers. Bonded workers' right of residence in the United States is tied to their prearranged employment. They do not have legal access to other jobs in the United States, and if they cease working for the employer that brought them into the country they are no longer legally entitled to remain and are subject to deportation. The bonding concept is not an inevitable characteristic of alien worker programs; legal immigrants in the United States and many guestworkers in Europe are not bonded to their employers.

Program summaries

Each of the five programs of interest was created for a specific purpose, and has its own interaction with the U.S. labor market. Following is a summary of each of the programs in alphabetical order as they are listed in the immigration law.[3]

Students. Those with F-1 visas are admitted to pursue their education; that many of them wind up working in

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Exhibit 1. Labor market characteristics, fiscal 1978 admissions, and admission trends of selected classes of nonimmigrants

Class and visa symbol	Fiscal 1978 admissions	Characteristics
Students (F-1)	187,030	Only a minority work (at least legally); none are bonded to their employers; admissions of this group have increased in the 1970's.
Temporary workers of distinguished merit and ability (H-1)	16,838	All are workers, mostly in the professions; all are bonded to their employers; admissions have declined in the 1970's.
Other temporary workers (H-2)	22,832	All are workers, mostly in blue-collar occupations (including farmwork); all are bonded to their employers; admissions have declined in the 1970's.
Exchange visitors (J-1)	53,319	Most are workers, some are not; most are in the professions; some of the workers are bonded to their employers; admissions have been steady in the 1970's.
Intracompany transferees (L-1)	21,495	All are workers, mostly well-paid professionals and managers; all are bonded to their employers; admissions increased rapidly in the 1970's.

SOURCE: Admissions data from fiscal 1978 Annual Report, Immigration and Naturalization Service (forthcoming); characteristics from David S. North, *Nonimmigrant Workers in the U.S.: Current Trends and Future Implications* (Washington, New TransCentury Foundation, 1980).

the United States is an unintentional, but predictable, byproduct of their presence here. Although most F-1's attend 4-year colleges or graduate schools, many are admitted to attend grammar schools, high schools, and institutions where they are taught English and vocational subjects.

Students wishing to come to the United States must first find and be accepted by an educational institution authorized to admit foreign students by the Immigration and Naturalization Service. The school then issues a document (form I-20) to the student, which he or she then takes to a U.S. Consulate to apply for a visa. During the visa application process, the alien must satisfy the consular officer that he or she has enough money to get to and from the United States, to pay for the planned educational program, and to cover living expenses without working. Unless this assurance can be made, no visa is granted.

Should the student subsequently find that he or she needs additional funds and cannot secure those funds by working on campus (permission for which can be obtained from the college foreign student adviser), the student is required to seek a work permit from the Immigration Service. In fiscal 1979, for example, when nearly 190,000 F-1 students were admitted, 33,285 were granted permission to work and 5,364 were denied such permission. These data suggest either that most F-1 students do not need to work or that many work without permission.

F-1 students who work, either legally or illegally, are not bonded to their employers, as are most other nonimmigrant workers. They are free to move around the U.S. labor market, making their own arrangements and changing jobs as they choose. The nature of their work and the pay they receive is roughly comparable to that of U.S. students in the same situation, although their limited knowledge of English and of U.S. society is a handicap to some, and others presumably experience anti-alien discrimination.

Temporary workers of distinguished merit and ability. Those with H-1 visas are admitted because a U.S. employer filed a formal petition for their presence, the Immigration Service approved the petition (as it does in approximately 95 percent of the cases), and a consular official issued a visa to the nonimmigrant. These temporary workers are bonded to their employers, and include persons with extraordinary talents (leading opera singers, actors, and musicians) or exotic skills (jai alai players, French chefs). Sometimes entire companies (ice shows, symphony orchestras) arrive on a single H-1 petition, bringing their blue-collar support staff with them.[4]

A third subclass among the H-1's are members of the professions, admitted individually, but sometimes (as in the case of registered nurses) recruited in substantial numbers.

Other temporary workers. Those in the H-2 classification fill jobs for which the U.S. Department of Labor has certified that U.S. workers are not available. Most of them are assigned to less attractive jobs on the geographical fringes of the United States: dominating the construction industry in Guam, performing much of the blue-collar and service work in the Virgin Islands, cutting trees in western Maine and sugar cane in southern Florida, and herding sheep in remote pastures in the Mountain States.

The screening process for H–2 workers is more complex than that for any other group of nonimmigrant workers. First, the employer must satisfy the Labor Department that he has genuinely tried to secure resident workers (by offering them appropriate wages and working conditions), has failed in his recruiting efforts, and is thus qualified to hire alien workers (of his own choosing). Employers seeking to import H–2 workers are required to pay a special hourly wage, the adverse effect wage rate, to both their foreign and domestic workers. The 1980 special wage rates for the States using H–2 workers appear in table 1.

Applications for certification are often controversial —as they have been in the East Coast apple harvest, where congressional pressure exists to grant the certifications. (See table 2 for State-by-State certification of H–2's in the apple harvest.) In recent years, the courts have also intervened—generally requiring the certification of the nonimmigrant workers.

The potential H–2 employer, with a labor certification in hand, seeks approval of a petition from the Immigration Service and then secures either visas or visa-equivalents for the workers. He may hire any alien in the world he likes once he has the labor certification.

Exchange visitors. These nonimmigrants secure their J–1 visas in much the same way as students secure F–1 visas. The alien finds an exchange program sponsor approved by the International Communications Agency (an independent Federal agency), and then is admitted into that program by the sponsor, who issues an admissions certificate (like the foreign student's I–20 form). Having obtained a certificate, the exchange visitor may then seek a visa from a consular official.

Table 1. Minimum wage rates for H–2 workers, by State, 1980

States	1980 rates[1]
Arizona	$3.73
Colorado	3.79
Connecticut	3.32
Florida (sugar cane only)	4.09
Maine	3.43
Maryland	3.23
Massachusetts	3.30
New Hampshire	3.58
New York	3.18
Rhode Island	3.30
Texas	3.54
Vermont	3.53
Virginia	3.51
West Virginia	3.28

[1] Rates are based upon 1978–79 United States Department of Agriculture wage data and the formula published at 20 CFR §653.207(b) (1). Pursuant to 20 CFR §655.207(e), the employer must pay at least $3.35 per hour in calendar 1981. See 29 U.S.C. 206(a) (1).

SOURCE: *Federal Register*, Vol. 45, No. 92, May 9, 1980, pp. 30733–30734.

Table 2. Labor certification granted for temporary foreign workers (H–2's) in the apple harvests, 1975–79[1]

State	1975	1976	1977[2]	1978[3]	1979
Total	4,742	3,432	4,835	4,931	6,686
Colorado	0	0	0	0	134
Connecticut	96	75	102	121	135
Maine	358	299	389	436	432
Maryland	178	0	30	0	384
Massachusetts	404	360	417	387	447
New Hampshire	245	284	354	331	349
New York	1,587	1,151	1,703	1,716	2,571
Rhode Island	19	13	12	17	18
Vermont	353	252	305	315	331
Virginia	978	621	922	1,036	1,141
West Virginia	524	377	601	572	744

[1] The number of jobs certified does not indicate the actual number of foreign workers admitted for such employment. An employer may choose not to use any or all of the certifications granted, and some foreign workers may work in two or more certified jobs.

[2] All certifications in 1977 were made pursuant to order from U.S. District Court at Roanoke, Virginia.

[3] In compliance with the order of the Fourth U.S. Circuit Court of Appeals in Richmond, Virginia, the Immigration Service admitted 414 more apple pickers than were certified in 1978. These are not included in the 1978 column.

SOURCE: Administrative reports of the Employment and Training Administration, U.S. Department of Labor.

Exchange visitors are an interesting, mixed lot. They include high school students living with American families, college and graduate school students, visiting professors, post-doctoral scholars, and foreign medical graduates performing their internships and residencies in U.S. hospitals.

Some of the J–1's study full time, others work. Some of those who work are bonded employees brought to the United States by a sponsor-employer.

Intracompany transferees. Those with L–1 visas are professionals and managers employed by multinational corporations, who have worked for their companies for at least 1 year and who have been screened through the same process as the H–1 visa holders.

Areas of controversy

Beyond the educational and diplomatic advantages of many of these programs, there are two major controversies surrounding the impact of nonimmigrant workers on U.S. labor markets. One concerns foreign-trained physicians and nurses, and the other involves various groups of farm laborers brought into the United States via the H–2 program.

Foreign health professionals. The issues regarding the foreign medical graduates and the foreign nursing graduates are similar. In both cases, groups representing the competing U.S. work force (such as the American Nurses Association and the American Association of Medical Colleges) contended that it was considerably easier for a foreign-trained health professional to qualify for a professional assignment in the United States than it was for one who is U.S.-trained, because of a less stringent prearrival competency examination (in the case of the foreign medical graduates) and a deferred examination (in the case of foreign nursing graduates). U.S. physicians and nurses contended that the quality of care provided by the alien workers was not up to U.S. standards. Although rarely mentioned in these arguments, rigorous admission standards for such workers could also tighten the labor market to the benefit of U.S. workers.

The foreign health care professionals admitted to the United States were numerous. During 1964–73, there were more admissions of foreign medical graduates than there were graduates of U.S. medical schools. The steady supply of foreign graduates eased the pressure to expand U.S. medical schools for years, thereby making it more difficult for U.S. blacks and others to secure places. One result of this combination of circumstances (the substantial numbers of foreign medical graduates and the level of support for U.S. medical schools) was that there were more Filipino medical graduates in the United States in 1975 than there were black ones. That balance has since changed; there are now more black than Filipino medical graduates.

Foreign nursing graduates were not as large a factor in the nursing labor force, but approximately one-fifth of the 432,000 increase in the size of the nursing work force during 1969–78 resulted from the admission of foreigners. Most of the foreign nursing graduates had trouble passing examinations (in English) required by the States. The nurses who failed the examinations were then forced to work as nurses aides or licensed practical nurses—an ironic development for nonimmigrants of "distinguished merit and ability."[5]

Eventually both resident work forces prevailed. During 1976–77, Congress and the Executive created tougher laws regarding physician admissions[6] and created a more rigorous competency examination for foreign medical graduates.[7] (Admissions of nonimmigrant medical graduates dropped sharply as a result, as table 3 indicates.) The reaction to the American nurses was less immediate: earlier this year, the Immigration Service promulgated regulations making passage of an examination in English, equivalent to those of the State boards of nursing examiners, a prerequisite to securing an H–1 visa as a registered nurse.[8]

Foreign farmworkers. The recurrent controversy about the farmworkers among the H–2's can only be summarized here. Some U.S. growers have maintained that domestic workers are not available at the wages set by the Department of Labor, and that alien workers are needed to prevent crop losses. Representatives of resident farm workers (such as the Migrant Legal Action Program, Inc.) contend that the growers actively prefer the hard working, docile Caribbean workers (largely from Jamaica) and sabotage efforts to recruit U.S. workers. They also point out that agricultural employers obtain, in effect, a 9-percent discount for hiring H–2's because they are not required to pay social security and unemployment insurance taxes for these workers.

What is rarely discussed is the remarkable power that employers of nonimmigrants have over their workers, particularly those in agriculture. H–2 employers have virtually unlimited power to hire and fire their workers. These employers can, and do, make the kind of highly selective hiring decisions that would be illegal outside the context of the H–2 program. Sugar cane employers of H–2's, for example, confine their hiring to English-speaking, black men (recruited in Jamaica and, to a lesser extent, in other former British colonies). They insist on young men (in a narrow age range) without a police record and in excellent physical condition. Because there are many more potential cane cutters than are needed, employers secure a remarkably elite work force; for the rates paid (around $3 an hour in the 1976–77 season), employers probably could not recruit such a work force in the United States. Further, because the H–2 farmworker is bonded to his employer, firing means not only that the worker has lost his opportunity to work at relatively high wages, but it also means his expulsion from the United States. If a Florida sugar cane grower is really annoyed with a worker, he may not only fire him, and expel him from the country, but

Table 3. Nonimmigrant physicians admitted to the United States, by class of admission, fiscal 1970–78

Nonimmigrant class	1970	1971	1972	1973	1974	1975	1976	1977	1978
Total	5,365	5,191	4,283	5,166	5,517	3,466	3,243	2,141	1,169
Temporary workers of distinguished merit and ability (H–1)	83	178	231	350	578	426	542	455	180
Other temporary workers (H–2)	100	47	25	0	0	0	0	0	0
Industrial trainees (H–3)	174	173	82	178	149	143	77	65	20
Exchange visitors (J–1)	5,008	4,784	3,935	4,613	4,717	2,849	2,562	1,578	951
Intracompany transferees (L–1)	0	9	10	25	73	48	62	43	18

SOURCE: *INS Annual Reports*, for the years cited, Table 16B.

also blacklist him so that he never can work again as an H–2 farmworker.[9]

As if those powers are not enough to keep the work force in line, the H–2 employer has had additional help. In case of a strike, the Government has obligingly supplied replacements for the striking workers, on the grounds that the strikers have broken their contracts with the employers. However, regulations proposed by the Immigration Service in the spring of 1980, indicate that this practice may not continue.

Impacts on U.S. labor market

The findings in our study were that the labor-market role and impact of specific subsets of nonimmigrant workers vary widely and are strongly influenced by the conditions under which they entered the country. The impacts of the nonimmigrants on specific labor markets fall into three categories:

- The smallest impact is that of the accidental workers (all the F–1's and most J–1's); they generally do not cluster, and they come and go in the labor market with the freedom of immigrant workers; they are not tied to specific employers. Their impact is about the same as that of the addition of a similar number of U.S. workers of similar qualifications to the same labor market.
- The impact of those admitted individually to work (nonnurse H–1's, L–1's, some J–1's, and some nonrural H–2's) is mixed. In some instances, they fill genuine vacancies in the workplace, and thereby help the economy function more smoothly; in some cases they make the society more cosmopolitan, bringing to the United States exotic skills. In other cases, they may be (and here the argument grows complex and spirited) displacing resident workers or reducing training opportunities for such workers. This is particularly likely if there is a clustering of visiting alien workers.
- The impact of workers admitted in groups or as part of a mass-hiring operation is clear. (These are the rural H–2's, the H–1 nurses, and some of the other H–2's.) Such workers tend to "freeze" the micro-labor markets where they cluster: labor intensive work patterns (such as the hand cutting of sugar cane in Florida) are preserved, and wages do not rise as they might otherwise.

There will continue to be, and there should be, for nonlabor-market reasons, a continued flow of immigrants and nonimmigrants to the United States; that is an important part of our heritage. It is another matter, however, whether part of the nonimmigrant stream should provide bonded workers as a subsidy to a small number of U.S. employers. ☐

FOOTNOTES

[1] See *1978 Yearbook of the Immigration and Naturalization Service*, table 16. (To arrive at the total and the percentage used in the text we excluded more than 1 million returning resident aliens included in that table.)

[2] David S. North, *Nonimmigrant Workers in the U.S.: Current Trends and Future Implications* (Washington, New TransCentury Foundation, 1980). This article is based on that study, which was supported by the Employment and Training Administration, U.S. Department of Labor.

[3] Immigration and Nationality Act, Section 101 (a) (15) (A) through (L): S 1101 *et. seq.*

[4] According to the testimony of Barbara Robinson before the Select Commission on Immigration and Refugee Policy in New York on January 21, 1980, the Vienna State Opera came to Washington, D.C., in 1979 with 494 people on one H–1 visa. Included in this group were 43 laborers who replaced the stagehands at the Kennedy Center.

[5] Adele Herwitz, *Investigation into the Readiness of Graduates of Foreign Nursing Schools to Meet Licensure Requirements in the United States, Comprehensive Final Report* (prepared by the Commission on Graduates of Foreign Nursing Schools, Philadelphia, Pa., under contract with the Department of Health, Education and Welfare, Bureau of Health Manpower, Division of Nursing, March 1979).

[6] Health Professions Educational Assistance Act of 1976 (P.L. 94–484), and the Health Services Extension Act of 1977 (P. L. 95–83).

[7] The new test is called the Visa Qualifying Examination (VQE) and was first administered worldwide in 1977.

[8] See the *Federal Register*, Apr. 16, 1980.

[9] For more on how the growers have used their power to repatriate workers who displease them, see "The Cane Contract: West Indians in Florida," in *NACLA: Report on the Americas*; Peter Kramer, *The Off-Shores: A Study of Foreign Farm Labor in Florida* (St. Petersburg, Fla., 1966); and Philip Shabecoff, "Florida Cane Cutters: Alien, Poor, Afraid," *The New York Times*, Mar. 12, 1973.

Employment patterns of Southeast Asian refugees

Based on the limited data available, most earlier Indochinese refugees found jobs, have had gradual income gains, but work long hours; recent arrivals speak less English and face more employment problems because of economic conditions

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The extraordinary exodus for Vietnam, Laos, and Kampuchea (Cambodia) has brought more than 360,000 refugee settlers to the United States beginning in 1975. Recent arrivals have greatly swollen the numbers. Based on President Carter's June 1979 commitment to admit 14,000 a month, 168,000 Southeast Asian refugees will have entered the United States during fiscal year 1980.[1]

The Refugee Act of 1980[2] was designed primarily to meet the needs of those fleeing political and economic uncertainties as well as military conflicts in Southeast Asia. The new law concluded a long history to temporary, ad hoc legislation (see the box, p. 41) by establishing a permanent and systematic method[3] for accepting refugees into the United States and assuring their effective resettlement. Thus, a major goal of the act is the swift and complete integration of the Indochinese refugees into the "mainstream" of American life. Principally, this involves locating and obtaining adequate employment.

Congress sought to assist the refugees in their employment search. Under the 1980 law, it required the Office of Refugee Resettlement to provide resources for employment and training and job placement.[4] Congress also provided monetary assistance for up to 3 years—expecting all to be working and economically self-sufficient by then.

Some have questioned whether, within 3 years, the Southeast Asian refugees will gain a level of labor force participation, employment, and income to warrant the label "self-sufficient." However, based on our evaluation of all available data, there is sufficient cause for optimism. The vast majority of refugees have actively joined the U.S. labor force and found jobs relatively quickly. Differences among men and women are substantial in some areas, but these largely reflect similar patterns in the U.S. population. Cultural differences among the three Indochinese nationalities are certainly distinguishable, yet their employment levels are surprisingly similar. And, by far the most promising indicator, both labor force participation and employment evidently increase with each year of residence in the United States.

Still, there are signs that urge caution. Refugees tend

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to work longer hours than U.S. workers, while many remain dependent on government subsidies. Significant regional disparities also argue against generalized optimism. Already, for example, an uneven geographical distribution of refugees within the United States has generated concern and controversy, not only because it implies a concentrated and differential impact on local government resources, but because it affects newer refugees' employment opportunities. And, a growing concern is apparent over the characteristics of the recent arrivals and their prospects for employment.

Data on refugees

Our analysis of the employment status of Indochinese refugees presented in this article is based on the two major sources of refugee information available: surveys conducted by Opportunity Systems, Inc., for the Department of Health and Human Services and the annual Alien Address Registration conducted by the Immigration and Naturalization Service. Each provides data on overall employment and demographic differentials, although coverage of the refugee population is quite different, and comparisons are more suggestive than precise.

Opportunity Systems, Inc., conducts a series of telephone surveys that cover a cross section of all Southeast Asian refugees who arrived through December 1977. The sample selects from the 1975 Evacuee Master File and from those admitted under the various temporary programs: the Humanitarian Program (January–May, 1976), the Expanded Parole Program (May–December, 1976), and the 1977 Indochinese Parole Program (August–December).

The most recent available survey, taken during April–June 1979 by Opportunity Systems, and reported in the 13th *Report to Congress,*[5] included 356 Vietnamese, 175 Cambodian, and 185 Laotian heads of households. These households contained a total of 3,539 persons, or an average of 4.94 per household. Response rates appear to be a recurring problem for the Opportunity Systems surveys, as one might expect from the general difficulty with locating and interviewing immigrants after they enter the United States. For the April–June survey, 716 of an original 1,000 were interviewed successfully, yielding a response rate of only 71.6 percent.

Under the Alien Address Registration, aliens are required by law to register each January with the Immigration and Naturalization Service. They file a postcard form that lists name, address, alien identification number, date of birth, date of entry, and type of visa. In addition, they are to report their employment status and place of employment. Although coverage is typically a problem, Linda Gordon and Stephen Schroffel[6] estimate conservatively that between 85 to 90 percent of the Southeast Asian refugee population registered from 1976 to 1979. The 1979 registration included 157,509 persons of Vietnamese, Cambodian, or Laotian nationality; about 87 percent of all those admitted to that date.

The Immigration Service data reported here are derived from a 6.8-percent sample, a total of 10,629 persons.[7] A 10-percent subsample provides information on industry and occupation.

Unfortunately, the employment information from these sources is not directly comparable. Unlike the Opportunity Systems surveys, the alien registration data do not distinguish between those who are out of work but looking for a job ("in the labor force" but unemployed) and those out of work and not searching ("out of the labor force"). Consequently, the Immigration Service data measure only the proportion of refugees who report holding a job at the time of registration. This proportion of refugees employed can be compared, however, with the employment population ratio routinely reported for the U.S. population.[8] Moreover, a profile of the refugee experience can be constructed by examining several labor market indicators estimated from each source.

Brief reference will also be made to a study conducted by the Office of the Inspector General, U.S. Department of Health and Human Services.[9] The study was designed to assess the resettlement effort by gathering qualitative information from open-ended discussions with 900 people, including 500 refugees and 335 workers from local communities and voluntary agencies. Although not statistically valid samples, the observations reported will be used here to help fill out an otherwise skeletal profile of the resettlement experience.[10]

With the Refugee Act of 1980, Congress anticipated the need for comprehensive and current statistical information to help monitor the resettlement efforts. Thus, the law requires the Secretary of Health and Human Services to develop a reporting capability that will provide Congress an updated profile of the refugees' employment and labor force characteristics, a description of their geographical location, and an account of the activities and policies of the Office of Refugee Resettlement, the voluntary agencies, and those groups and individuals sponsoring refugees. Such a reporting capability is essential because many of the government's existing information systems do not identify refugees as a separate group for reporting purposes.[11]

Labor force activity

An employment profile of the Indochinese refugees can be sketched by reviewing several indicators of labor market activity.

As shown in the following tabulation, employment-population ratios for the Southeast Asian refugees indicate that approximately 54 percent were employed:

Population	*Employment-population ratio*		
	Total	*Men*	*Women*
U.S. civilian	58.9	72.6	46.6
Refugee:			
Immigration Service	53.3	62.6	42.6
Opportunity Systems, Inc.	54.4	67.7	37.7

The independent estimates are remarkably close, considering the Opportunity Systems survey (April–June 1979) includes only the pre-1978 arrivals, while the Immigration Service registration (January 1979) includes those admitted later. The 54 percent employment ratio for refugees, however, is smaller than the proportion of the U.S. population employed during January 1979.

It is of some importance that the sex differential is similar in both the refugee and U.S. populations. Female employment has been and will likely continue to be a significant factor in raising household incomes for refugees and, thus, in contributing to more rapid resettlement.

These differences in employment ratios are influenced, of course, by both the rate of labor force participation and the unemployment rate. As mentioned previously, the Immigration and Naturalization Service registration data do not permit this essential refinement. However, the comparison of the Opportunity Systems data and U.S. labor force measures helps account for the employment ratio differential.

Opportunity Systems estimates of refugee labor force participation and unemployment rates and the comparable U.S. labor force data are shown in the following tabulation:

Measure	*Population*	
	U.S.	*Refugee*
Labor force participation rate		
Men	78.2	70.3
Women	50.2	39.3
Unemployment		
Men	4.9	3.6
Women	7.0	3.5

Clearly, much of the above difference in employment ratios results from the significantly lower rates of labor force participation among the refugees; the difference is essentially the same for both sexes. Comparison of unemployment rates strengthens this conclusion. Once a refugee has entered the labor force, he or she is more likely to have found a job than a U.S. worker. In addition, the importance of female employment among refugees is again highlighted: whereas women in the U.S. labor force are much more likely than men to be unemployed, female and male refugees share similar low rates of unemployment.

Consequently, these data suggest that the lower overall level of employment in the refugee population results from a lower rate of labor force participation, rather than a greater inability to find employment once searching has begun. Of course, this merely leaves another question: why do refugees have lower labor force participation rates?

The primary answer seems to be that refugees are taking advantage of available educational and training opportunities. Data collected by Opportunity Systems show that 59.8 percent of those interviewed gave school attendance as one of the principal reasons for not searching for a job. Homemaking was mentioned by 26.1 percent; poor English (21.2 percent) and poor health (17.6 percent) were also listed frequently.

The Government interview data[12] corroborates that both training and health affect refugees' labor market behavior. The Inspector General reported that 35 percent of those interviewed cited their inadequate knowledge of English as a major reason for not being employed. Another 19 percent gave health as a contributing factor. The report also noted that, although 41 percent of those interviewed took jobs immediately upon arrival, only 9 percent would advise others to do so. It seems many refugees view training, especially language training, as essential to securing better employment opportunities over the long run.

Such a perspective, if held throughout the refugee population, could substantially affect participation and employment rates in the short run because many of the newer arrivals are sponsored by earlier entries and would receive their advice. In addition, the presence of new government programs, resulting from the provisions of the Refugee Act of 1980, could allow more of the new arrivals to take advantage of training opportunities.

Over the long run, however, the refugees will likely approach levels of labor force activity comparable to the U.S. population. Table 1 demonstrates this with data from both the alien registration and the Opportunity Systems surveys.

The data in columns 1 and 2 of table 1 show that, for those entering before January 1978, each additional year of residence increased the likelihood of employment by an average of about 6 percentage points. The 1975 arrivals are of particular interest because most are eligible for and will become U.S. citizens in 1980. As of January 1979, after 4 years of residence, both men and women have reached virtually the same employment ratio as the U.S. population: 70 percent of male refugees were employed compared to 72.6 percent of U.S. men; 46.1 percent of the female refugees and 46.6 percent of U.S. women were employed.

The Opportunity Systems estimates of refugee labor force participation parallel the above employment counts. Again, each successive year in the United States shows refugees participating at a higher rate. Nevertheless, their participation is still below the overall U.S.

level, with 1975 male refugees about 9 percentage points below their U.S. counterparts.

More recent arrivals

Arrivals within the year preceding the January 1979 alien registration have a rather low employment ratio. This could result merely from their new exposure to the United States. However, such an assumption is unwarranted. There is general agreement, although little documentation, that Southeast Asian refugees arriving before 1978 were positively selected; that is, they had higher educational and occupational status backgrounds in Asia and a greater knowledge of English. For example, a General Accounting Office review of the resettlement program[13] reported that more recent arrivals are "poorer, less able to speak English, and less exposed to urban life than the earlier wave of refugees."

The National Governor's Association holds a similar view, reporting to its members that[14]

> refugees who arrived after 1978 faced even greater problems of adjustment and employment. They are comparatively less educated, and have fewer marketable skills and poor language ability. In contrast to the earlier refugees who immediately accepted entry-level employment, this second group showed an increasing reliance on cash and medical assistance.

Consequently the lower employment ratios and labor force participation rates of newer arrivals may be caused by either differential time in the United States, lesser background skills, or even divergent opportunities in areas of resettlement. This question remains largely unexplored, however, because a proper research design would require observations of the same individuals over time; a longitudinal study for which there has been only limited time and resources.

Still, a few tentative observations are available. Table 2 shows the 1979 income distribution for refugees entering in 1975, 1976 and 1977. In addition, it includes the 1978 income distribution of the cohort arriving in 1975. The April–June 1979 survey data for the three cohorts support the claim developed in table 1 that the longer a refugee resides in the United States, the higher his or her income. Without additional evidence, this conclusion (as noted) is wrought with inference problems. However, the November–December 1978 survey data show that, as the 1975 cohort remained an additional 6 months in the United States, its income distribution shifted upward. This more accurately shows that length of U.S. residence facilitates reaching higher employment and income levels.

Table 1. U.S. labor market activity in 1979 of Southeast Asian refugees by year of entry and sex, persons age 16 and over

Year of entry	Employment ratio (Immigration Service)		Labor force participation (Opportunity Systems, Inc.)	
	Men	Women	Men	Women
Pre-1975	74.1	54.2	....	....
1975	70.0	46.1	69.1	42.9
1976	64.2	36.2	65.5	34.4
1977	58.8	41.0	58.4	29.6
1978	33.5	19.0	....	....
1979	13.8	28.6	....	....

Table 2. Monthly income for Southeast Asian refugees, by year of entry, persons age 16 and over

Monthly income	1978 distribution[1] of refugees who entered in 1975	1979 distribution[2] of refugees who entered in		
		1975	1976	1977
Less than $200	2.1	2.7	3.3	4.6
$200 to 399	3.1	3.6	4.1	5.6
$400 to 599	7.6	4.4	6.2	15.8
$600 to 799	14.7	11.6	15.7	12.4
$800 or more	70.0	77.6	70.2	60.8
Unknown	2.5	.0	.5	.8

[1] From the November–December 1978 survey.
[2] From the April–June 1979 survey.

SOURCE: Opportunity Systems, Inc., *Seventh Wave Report: Indochinese Resettlement Operational Feedback*, July 10, 1979.

Table 2 also reveals that the majority of refugees with jobs receive $800 or more per month. This is certainly a promising sign. Nevertheless, it is important to note that to earn this monthly income, the refugees were working significantly longer hours than the U.S. labor force. For instance, the 13th Health, Education and Welfare, *Report to Congress*, stated that, compared to 58.7 percent of the U.S. labor force working 40 hours or more per week, at least 85 percent of the refugees labored this long.

The longer workweek, and indications that about a third of all the refugees receive cash assistance, suggests that even the relatively comparable employment levels may not be enough for the refugees to achieve "self-sufficiency." Still, there is reason to maintain a guarded optimism.

Occupational profile

What jobs have Indochinese refugees found? Table 3 presents two independent estimates and compares them to the U.S. labor force in January 1979. At this writing, table 3 represents the most recent occupational profile available for the Southeast Asian refugees. Still, one must remember that many refugees, suspected of possessing substantially different occupational traits, have entered since these data were collected. The current occupational profile may look very different.

Immigration's alien registration, covering all those who entered up to 1979, classifies about one-third of the refugees as white-collar workers. This is about 20 percentage points below the white-collar share of the U.S. workforce. In addition, the largest white-collar category of U.S. workers, about a quarter, held clerical and sales jobs; both Immigration and Opportunity Systems data report that only 13 percent of the refugees worked at such jobs. However, 22.1 percent of the refugees reporting to Immigration were service workers, which compares to only 13.3 percent of U.S. workers.

Overall, then, the occupational profiles of the two populations seem reasonably similar. Even the lower proportion of refugees in white-collar jobs may result from the inclusion of new arrivals in the Immigration data. Previous research, for example, has shown that new arrivals experience a substantial downward mobility from their occupational status in the country of origin. It takes a number of years to regain even a share of that initial decline.[15]

A diverse population

Nationality may also be another source of variability in the employment experience of these refugees. The term "Southeast Asian" obscures many essential differences among those from Vietnam, Cambodia, or Laos: differences include language, religion, culture, occupational histories, and family composition. Even within each nationality, diverse ethnic groups condition the refugees' behavior in sharply distinct ways: the Hmong from Laos and the ethnic Chinese from Vietnam are just two important examples. Therefore, nationality differences among labor market indicators should be considered mere approximations, preliminary introductions, to more complex determinants of these refugees' work experiences.

Some insight into the diversity of the refugee population is gained by contrasting the 1979 employment-population ratio (age 16 and over) for each nationality,[16] as shown in the following tabulation:

Nationality	*Employment ratio*	*Sample size*
Total	53.2	6,741
Vietnamese	54.7	5,852
Cambodian	55.7	255
Laotian	38.5	634

Vietnamese and Cambodian refugees have very similar shares of their population employed. The Laotian group, however, reports a much lower share. Because the Laotian subgroup is dominated by the Hmong, a mountain tribal people, this lower employment level may not be surprising. This difference can be explained simply by the age, sex, and arrival date of the Laotians. That is, when one controls statistically for the variation in employment caused by these demographic factors, virtually no difference remains in the employment ratios for these groups.[17]

Favored destinations

Federal policy toward the distribution of refugees has aimed at their wide dispersal.[18] In spite of this, the refugees continue to concentrate in several States and counties; either because of the emphasis on family reunification and sponsorship, or because of secondary migration (after initial resettlement) toward ethnic enclaves.

Table 4 shows the proportion of refugees in several States from 1976 to 1979. The clearest and most important observation from these data is the increasing concentration in both California and Texas. In 1976, both States shared 30.8 percent of the total refugee population; by 1979, they held 43.3 percent. These figures, of course, precede the increased numbers arriving in 1979. Yet, State Department information on place of intended resettlement for those arriving in 1979 indicates that the impact of these newer arrivals on the two States may be greater: California is receiving about 4 of every 10 new arrivals, and Texas about 1 in 10.[19]

In addition to the disproportionate share of new arrivals, there is general agreement that California and Texas gain refugees through secondary migration. For instance, David North[20] has shown, using data from the 1978 alien registration, that there was a strong net migration to California, Texas, Louisiana, and Virginia. The shift was occasioned, of course, by a reduction in some States: Maine, the Dakotas, and Hawaii. The interstate shift also corresponded with an increased concentration in urban areas.

Table 4 also provides an important implication of this uneven geographical distribution. Matched with the proportion of the total refugee population in each State is the corresponding employment ratio for refugees reporting in January 1979. The first observation of significance is that California, with the largest share of refugees, has the lowest employment ratio among the States listed. However, Texas, the second most popular State for these refugees, has the highest ratio. In each case,

Table 3. Occupational distribution for Southeast Asian refugees and U.S. population, persons age 16 and over

Occupation	U.S. workforce, January 1979	Refugees	
		January 1979 [1]	April - June 1979 [2]
White collar			
Total	51.2	32.2	51.8
Professional and technical workers	15.8	16.1	17.7
Managers and administrators	10.9	2.2	21.1
Clerical and sales workers	24.5	13.9	13.0
Blue collar			
Total	48.8	67.8	48.2
Craftworkers	13.2	12.7	22.5
Operatives and transport workers	15.4	24.3	9.7
Farm managers	1.4	.0	.8
Laborers, farm and nonfarm	5.5	8.7	9.5
Serviceworkers	13.3	22.1	5.7

[1] Immigration and Naturalization Service, Alien Address Registration, January 1979.

[2] Opportunity Systems, Inc., *Seventh Wave Report: Indochinese Resettlement Operational Feedback*, July 10, 1979.

the refugee employment ratio differs from the U.S. population by a significant amount; much lower for California and higher for Texas. The remaining States, with the exception of Louisiana, have employment levels comparable to the total U.S. figure.

The reason for these vast differences between California and Texas is not clear. However, even when the demographic composition of the refugees in each State is accounted for statistically (that is, age, sex, year of entry, and nationality), the chance of a refugee having found work is still significantly greater in Texas than in California.[21]

One possible contributing factor is that California may suffer from a disproportionate influx of secondary migrants who are not employed. This secondary migration effect has not been studied extensively outside its immediate impact on the number of refugees in an area. Even then, the focus is net migration. Consequently, table 5 provides a rare portrait of the demographic characteristics and employment of secondary migrants.

Secondary migration: Los Angeles

The data presented in table 5 derive from the 1978 and 1979 alien registrations and pertain only to Los Angeles. As such, they do not permit a comparison with the Texas experience. Nevertheless, they do explore the assumptions about the difference in a preliminary fashion. Los Angeles forms an important part of the southern California region that attracts a substantial number of secondary migrants. If secondary migrants have a lower employment level there, it becomes more likely that the surrounding areas will have had similar experiences.

The data are part of a 4-percent, systematic random sample of Southeast Asian refugees registering with the Immigration Service in January 1979, who reported their current address as Los Angeles. To determine their residential status, each respondent was checked for his or her address 1 year previously, in January 1978. Migrants, consequently, are defined as those moving to Los Angeles during 1978.

Table 4. Proportion of all Southeast Asian refugees residing in selected States, 1976–79, and their 1979 employment-population ratio

[In percent]

State	Proportion of all Southeast Asian refugees				1979 employment population ratio (age 16 and over)	
	1976	1977	1978	1979	Percent	Rank
California	22.5	24.3	27.8	31.2	46.1	7
Texas	8.3	8.5	9.2	10.1	63.5	1
Pennsylvania	6.0	4.9	4.5	4.2	53.2	5
Louisiana	2.9	4.2	4.5	4.1	62.5	2
Virginia	4.3	4.3	4.3	3.8	55.9	3
Washington	3.8	3.6	3.6	3.6	50.0	6
Illinois	3.2	2.8	2.8	3.0	54.6	4

SOURCE: Immigration and Naturalization Service, Alien Address Reports, adapted from Linda W. Gordon, "Settlement Patterns of Indochinese Refugees in the United States," paper presented at the annual meeting of the Southwestern Social Science Association, Houston, Texas, Apr. 2–5, 1980.

Table 5. The distribution (all ages) and employment-population ratio (ages 16 and over) of Southeast Asian refugees in Los Angeles, by residential status, 1978–79

Residential status	Distribution		Employment-population ratio	
	Percent	Number measured[1]	Percent	Number measured
Total	100.0	183	47.6	124
Stayer	50.8	93	55.1	69
New entry	23.0	42	29.2	24
Mover	11.5	21	60.0	10
Migrant:				
Within California	6.0	11	38.1	21
Outside California	8.7	16		

[1] Twenty persons were excluded as missing.

The sample shows that 5,902 Southeast Asian refugees lived within the Los Angeles city limits, or about 39.2 percent of the county's total. Most of the city's refugees were Vietnamese and were under age 25. Over half (59.7 percent) entered the United States in 1975, with an additional 21.8 percent arriving in 1978.

For the distribution of respondents by residential status, "stayers" are those who lived at the same address in January of both 1978 and 1979; "new entries" registered in 1979 reported their date of entry as 1978 and could not be located on the 1978 registration list; and, "movers" are persons living in Los Angeles for both registration dates, but reporting different addresses. Migrants moved into Los Angeles during 1978 from either another city in California or from another State. Ten percent of the sample registered in 1979 reported their date of entry as before 1978, but did not file with the Immigration Service in 1978. These are considered "missing" and have been excluded from this part of the analysis.

The data show that Los Angeles gains, at least, an additional 14.7 percent of its refugee population from secondary migration. Of course, it also loses some, which is not indicated here. Only about half of these migrants, however, originated outside the State.

The proportion of new arrivals in the city is of much greater significance than secondary migrants. Almost a quarter of all registered refugees in Los Angeles entered the United States during 1978, far exceeding the proportion of the national total that arrived in that same year.

In addition to this numerical impact, new arrivals also had a significantly lower employment ratio than any of the other three residential groups. New arrivals are only half as likely to be employed as those who have moved within Los Angeles, possibly to find employment, and are almost 10 percentage points less likely than secondary migrants (table 5).

The data also support, however, the argument that secondary migrants contribute to lower employment levels. These migrants are about 30 percent less likely to be employed than persons remaining residentially stable in Los Angeles. Still, there is reason to believe that this negative employment impact may be short-lived. Secondary migrants, more so than those living in Los Angeles during the whole year, tend to be men and have few additional persons listed at their address.[22] A reasonable hypothesis would be that, because these migrants have characteristics normally associated with higher employment levels, their continued residence in Los Angeles during the following year would result in substantial employment gains.

Settling old and new issues

Any evaluation of the employment records of the refugees must consider a fundamental point: refugees are not admitted to the United States to perform a special labor supply function. Their import is intended neither to fill temporary gaps in particular corners of the labor market nor to ease a shortage of domestic workers. The Refugee Act of 1980 refers only to accepting those of "special humanitarian concern." As a result, Southeast Asian refugees do not have any advantage that would allow them to displace domestic workers. In fact, the special aid programs made available by the new law are designed to overcome inherent disadvantages, those likely to prohibit refugees from entering the labor market on any terms. Medical assistance, for example, provides a necessary remedy to the effects of long periods in holding camps, to the lingering and devastating consequences of malnutrition, and to the damaging results of open-seas flights.

It is also worth noting that many of the programs open to refugees, as well as much of the interest in research on refugees, is necessary to protect them from unfair labor practices. Inability to speak English, long work hours, inadequate income, and elementary fears of not being self-supporting are precisely the conditions that would permit refugees to be exploited in the labor market—to the detriment of both themselves and U.S. workers. It is important, therefore, that U.S. trade unions continue to support the goals of the resettlement program, and that refugees participate in available training programs.

Of course, it is also essential to recognize that, unlike many previous groups, these refugees enter an American economy strained by double-digit inflation and rising unemployment. In this context, Federal, State, and local governments are less able to provide assistance than in more prosperous times. In their place, the "private sector," primarily the voluntary agencies and the refugee sponsors, has been assigned the major role in the entire process.

Any future attempt to review the employment-related activities of the resettlement experience, therefore, needs to take account of the whole range of related activities. This should involve conducting and reviewing research in at least three major areas.

First, there is a need to generate data on participation and employment that represent the entire refugee population, are more comparable to standard labor statistics on the U.S. population, and can be made available more quickly than existing reports. In the tradition of the present descriptive exercise, this information—and the analysis it generates—would serve as a national accounts system, measuring how many and who passed through specific sectors of the American economy. It is this type of information Congress seeks through the Refugee Act to gauge how smoothly resettlement progresses.

Although essential for labor market analysis, such inquiries stop short of precisely those questions of particular importance to the refugee program. For example, how and to what extent do the following influence the participation of refugees in the labor market: voluntary agencies, ethnic enclaves, government programs, and community reception.

These issues require a series of more detailed studies which would be conducted at the local level and produce new data. Perhaps the key issue for these studies is the role of ethnic communities in conditioning the participation of refugees in particular sectors of the labor market and in specific training programs. Included within this area of investigation are questions such as: how important will refugee owned, operated, and staffed small businesses become as a means of generating employment for successive waves of arrivals? Is poor English as important to labor force participation where a receptive ethnic enclave can employ the newcomer? And, will the presence of these communities counterbalance the presumed negative effect of the lower status backgrounds of the latest arrivals?

The third area of research focuses specifically on the various programs and services available, and unavailable, to refugees. The key emphasis here should be on the varying philosophies and services of the private voluntary agencies. Indeed, so much of the responsibility for resettlement has been given to this sector, that one would anticipate an outpouring of comparative research projects. Yet, as of this writing, no such studies are underway.[23]

Government programs will be studied more completely as part of the normal evaluation process. Such studies usually examine the internal structure of existing or alternative services and their differential outcomes, hopefully including labor market outcomes after several years. Efforts to make these studies more comparative

(that is, contrasting them to programs in various areas of the country), would be a useful step. Integrating these studies with the research on the role of the voluntary agency and ethnic community should also be encouraged.

Finally, there is a serious lack of understanding of how the refugees view themselves in the resettlement process. Throughout the United States, new communities are emerging, undoubtedly with their own unique perspective on their experiences and future opportunities. These perceptions need to be uncovered, studied, and their messages understood. ☐

FOOTNOTES

[1] Southeast Asians represent 72 percent of the 230,700 refugees and asylum cases sought by the Administration in fiscal year 1980. Overall, the Administration planned to accept 169,200 from Asia, 33,000 from the Soviet Union, 17,000 from Latin America, 5,000 from Eastern Europe, 2,500 from the Middle East, 1,500 from Africa, and 2,500 asylum cases.

[2] Public law 96-212, signed into law Mar. 17, 1980.

[3] The refugee act requires the President to request the number of refugees over 50,000 to be admitted each fiscal year before that year begins and after consultation with Congress. Because the act passed in the middle of fiscal year 1980, the Administration requested and received an extension of the present rate of admission for Indochinese refugees (14,000 monthly).

[4] The Refugee Act of 1980, Section 442 (A).

[5] *Indochinese Refugee Assistance Program,* U.S. Department of Health and Human Services, Office of Refugee Affairs, Dec. 31, 1979.

[6] Linda W. Gordon and Stephen A. Schroffel, "The Indochinese Refugees in America: New Ethnic Groups," presented at the annual meetings of the American Statistical Association, Houston, Tex., Aug. 11-14, 1980.

[7] The total sample size differs slightly from that reported by Gordon and Schroffel, *op. cit.,* because of the method used to identify Southeast Asian refugees.

[8] The comparison assumes that few refugees have been institutionalized since arrival.

[9] "Indochinese Refugee Assessment," Secretarial Report, U.S. Department of Health and Human Services, Sept. 28, 1979.

[10] It should also be remembered that this study took place before the passage of the Refugee Act of 1980. Thus, many of its conclusions may reflect the uncertain budgetary circumstances under which the resettlement program worked for several years.

[11] Recently, the Office of Management and Budget turned down a request from the Department of Labor to change the Employment Service reporting form to identify refugees. As a consequence, it will be extremely difficult to determine whether refugees who are not enrolled in other job training or placement services, but receiving cash assistance, are complying with the law and registering with the Service. In addition, the Secretary of Labor, who has to report to the Coordinator for Refugee Affairs on the steps taken to increase refugee participation in the Department's programs, will not be able to report on their level of Employment Service use.

[12] "Indochinese Refugee Assessment," U.S. Department of Health and Human Services.

[13] *The Indochinese Exodus: A Humanitarian Dilemma,* U.S. General Accounting Office, Apr. 24, 1979, p. 88.

[14] "A review of the Indochinese Refugee Program," *Labor Notes,* Feb. 22, 1980, p. 8.

[15] For example, see Barry N. Stein, "Occupational Adjustment of Refugees: the Vietnamese in the United States," *International Migration Review,* January 1979, pp. 25-45.

[16] Data are not reported for 379 persons; also excluded are 40 persons claiming nationality in other than the three countries listed.

[17] See Robert L. Bach, "Employment Characteristics of Indochinese Refugees, January 1979," *Migration Today,* forthcoming, 1980.

[18] See, for example, Darrel Montero, *Vietnamese Americans: Patterns of Resettlement and Socioeconomic Adaptation in the United States* (Boulder, Colo., Westview Press, 1979).

[19] Linda W. Gordon, "Settlement Patterns of Indochinese Refugees in the United States," presented at the annual meeting of the Southwestern Social Science Association, Houston, Tex., Apr. 2-5, 1980, p. 8.

[20] Julia Valda Taft, David S. North, and David A. Ford, *Refugee Resettlement in the U.S.: Time for a New Focus* (Washington, New TransCentury Foundation, 1979).

[21] Bach, "Employment Characteristics . . . ."

[22] Robert L Bach, "Secondary Migration of Indochinese Refugees to Los Angeles, California," unpublished paper, mimeo, table 8.

[23] As part of our research on refugees, we have been examining the experiences of refugees resettled by the Lutheran Immigration and Refugee Service. However, the design does not allow a comparison with other agencies.

The new Cuban immigrants: their background and prospects

Samples from immigration data show that most early arrivals were young working-age men, that education and skill levels are above average for Cuba, and that the number of ex-offenders is significant but includes many jailed for political reasons

ROBERT L. BACH

In mid-April 1980, the Cuban government, by announcing it had withdrawn "protection from the Florida corridor," triggered the flight of more than 123,000 new Cuban refugees to the United States. This might have been merely the latest addition to the exodus that began in 1959, except that from the outset neither the Cuban nor U.S. governments had control over the character or volume of the immigrants. Cuban President Fidel Castro had evidently underestimated the response to the advertised opportunity to leave. And the U.S. tradition of accepting Cuban refugees with open arms was suddenly strained by the potential burden of unknown numbers of new immigrants landing in south Florida.

Much of the confusion and bewilderment that caught reporters' eyes and overwhelmed some local officials resulted from the international political dilemma and, specifically, the Carter Administration's delay in declaring a legal status for the Cubans. The Administration faced a tough policy question. The historical open-door policy for Cuban immigrants and the Cuban-American community's expectations that this group would be treated the same argued for accepting them quickly and giving them full "refugee status" under the Refugee Act of 1980. Foreign policy reinforced this view: once again, here was a demonstration of the failure of the Castro government.

Yet the Administration was wary not to create in haste an unwarranted precedent. Unlike the previous flows, this one lacked order and due process, making it impossible to screen undesirables before their departure from Cuba.[1] There was also the possibility that to embrace these migrants as refugees would open the Florida coast to an onslaught of Caribbean poor. Fifteen thousand Haitian "boat people" in Miami were enough to give substance to that concern.

But clearly the most troublesome issue was the cost of resettlement. In a period of fiscal restraint and recession, President Carter decided not to grant the Cubans the generous benefits of refugee status (for example, 100 percent Federal reimbursement of refugee assistance costs). Instead, in late June, the Administration announced that the newcomers would be treated as applicants for asylum, and that special legislation would be sought to resolve both the Cuban and Haitian legal status issue. As a result, Cubans who arrived between April 21 and June 19 (and all Haitians processed by the Immigration and Naturalization Service before June 19) had their parole status extended for 6 months.[2]

This solution was fashioned in the face of a tough political reality; in part, the consequence of an anti-immigration public sentiment characteristic of bad economic times. A Columbia Broadcasting System-*New York Times* poll, for example, found that almost half of those sampled nationwide opposed admitting more Cubans. Lack of jobs was a primary reason. The State Department received calls and telegrams that ran heavily against the boatlift, and Senator Lawton Chiles (Demo-

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crat-Florida) reported an 80 percent negative constituent response.[3]

Some responsibility for this public mood must lie with the public characterization of these Cubans. *Granma*, the Cuban Communist party newspaper, charged that those who left were "social dregs," "delinquents," and "scum." "Lumpen," short for lumpenproletariat, became the standard phrase for the new refugees. Many reports in U.S. newspapers echoed the theme, focusing attention on the number of "social undesirables": prisoners, the disabled, mental patients, and others.

Compared to the "Golden Exile" of the 1960's, when wealthy businessmen, professionals, and managers migrated *en masse*, this latest wave of Cubans fared poorly. But how poorly? Did the disorganization of their flight or the current political climate unfairly color our impressions? Based on an analysis of data collected by the Immigration Service during processing, the new arrivals were neither the "upper-crust" nor the bottom layer of Cuban society. They generally possess education and skill levels above the average for those remaining in Cuba and about the same as those who arrived in the 1970's. The sample data examined in the following sections were based on Immigration Service files from two processing centers in Miami and from Eglin Air Force Base, where later (and allegedly less desirable) refugees were processed.

The Miami profile

The registration records of the Cuban Refugee Emergency Center in Coral Gables represent a good starting point. President Eisenhower established the center in 1960 to process the first wave of Cuban immigrants, and President Kennedy expanded the resettlement program (and its facilities) 1 year later. Thus the Center was the logical place to receive this latest group.

The center registered nearly 2,000 of the first to reach Miami. But, as the influx accelerated and processing responsibility passed to the Federal Emergency Management Agency,[4] processing operations moved to Tamiami Park and, subsequently, to Opa Locke Airport in North Miami. President Carter later opened another processing center in Florida (Eglin Air Force Base), followed by the use of military bases in Arkansas, Pennsylvania, and Wisconsin.

I extracted from the Center's registration records a 50 percent systematic random sample, including information on age, sex, education, and occupation. There were 1,937 records in all, and each person had arrived before April 29. A 10-percent subsample included additional information on marital status, knowledge of English, last place of residence in Cuba, and relatives and friends in the United States.

Because these registrations represented only the earliest arrivals, biographical data forms for 633 persons processed at Opa Locke Airport also were examined. These were later arrivals, between May 9 and 13. The Immigration Service prepares these forms only for persons 14 years old and over. Given the pace of processing at the airport, only 10 percent of these records could be used, thus yielding a rather small sample size. Nevertheless, the two samples taken together provide a clear profile of those arriving in the Miami area.[5]

Most of the early arrivals had jumped the gates of the Peruvian Embassy in Havana, thus initiating this latest flight. They were older than those processed at Opa Locke and less likely to have relatives or friends already in the United States. There were also more men in this first group and fewer who were married. But these differences are inconsequential compared to the overall profile. The majority from both samples were working-age men, many came with families, and over 70 percent had relatives or friends awaiting them.

Additional information available only for the earliest arrivals (Coral Gables) indicated that 90 percent had been residing in the province of Havana. Most lived in the capital city. Almost no one (5 percent) could speak or understand English, even though their average years of schooling in Cuba was about the same as earlier Cuban refugees who could. Their 9 years of school, on average, was much lower than the Cuban refugees leaving in the early 1960's, but similar to those arriving in the 1970's.

From a labor force point of view, it is difficult to see how those arriving in Coral Gables could be called "social dregs," "undesirables," or "lumpenproletariet." Only one person sampled among the earliest arrivals was unemployed prior to arrival and only 18 percent would be considered "out of the labor force" by U.S. labor force classifications: 11 percent reported they were students, 6 percent were homemakers, 10 persons were retired, and two were in the military. Nor were many of the arrivals "marginally employed." By U.S. labor force classifications, the majority at Coral Gables were solidly employed: craftworkers, factory laborers, equipment operators, and professionals or technicians. This included mechanics, plumbers, crane and large-equipment operators, carpenters, and masons. Twenty percent of the professionals were teachers and, of those sampled, there were physicians, nurses, professors, accountants, and computer operators. Evidently, many skilled workers were among the first to accept the offer to leave.

The Cubans arriving later and registering at Opa Locke reported fewer skilled jobs. There were fewer professionals, more bus, taxi, and truck drivers, and far more service workers. Yet the greatest difference was the proportion who neither held nor sought a job. The Cubans processed at Opa Locke were nearly twice as likely (32 percent) as the earlier group to be homemakers, students, or retired.

The immigrants in both samples generally had occupational experiences in Cuba that are remarkably similar to the types of jobs most likely obtainable in the Miami economy.[6] This is, as an aside, unlike other groups of recent refugees resettled in the United States, who reportedly lack urban industrial skills.

Skeptics, however, will and should object to the conclusions drawn from these samples. There are at least two reasons why those processed in Miami may be more highly skilled and better educated than most other 1980 arrivals. First, if Castro did empty jails and mental hospitals when the flow was greatest, as the allegations run, these "undesirables" would have arrived later than the period covered by these samples. They also would be more likely to have been processed at a military base. In addition, Federal officials decided early in the processing operations at Key West to send family groups to Miami and single men and women elsewhere. The larger share of families in the sample from Opa Locke, compared to those registered at the emergency center, is a consequence of this decision.

To check on these probable biases, I examined the Immigration Service biographical data forms for the Cubans processed at Eglin Air Force Base. This represents the first step of a project to document the background characteristics of the approximate 123,000 Cubans who arrived since April 20, 1980. The project is being carried out with the cooperation of the Office of the U.S. Coordinator for Refugee Affairs, the Immigra-

History of U.S. immigration law

Until 1965, U.S. permanent immigration law made no explicit provision for the refugee. All immigration is regulated by the Immigration and Nationality Act of 1952, as amended (most recently in 1980). The predecessor to the 1952 act set a ceiling on immigration and established a system of distributing visas by nationality (defined in most cases by the country of birth). The number, or quota, of visas allotted to each nationality corresponded to the share it had already contributed to the U.S. ethnic make-up. This resulted in a large quota for the United Kingdom and small quotas for southern and Eastern Europe. While the large German quota enabled many refugees from the Hitler regime to enter the United States as regular immigrants, postwar displaced persons and refugees from Eastern Europe who wished to come to the United States had no choice but to wait or accept the terms offered by other countries of immigration.

At first the United States, responding to this need, tried to speed up displaced-person admissions without changing the quota system. About 80,000 Poles, Balts and southern Europeans (about half of them refugees) were admitted under a December 1945 directive by President Truman to use the quota numbers accumulated during the war. And the 215,000 displaced persons admitted under the Displaced Persons Act of 1948 were to be charged against the quotas of future years. It was only with the Refugee Relief Act of 1953 that the United States went outside the quota system by authorizing distribution of 215,000 special nonquota immigrant visas to a number of eligible groups of Europeans and Chinese. The McCarran-Walter Act of 1952, amending the immigration and nationality law, had eliminated the clause excluding Asians as immigrants but had retained the quota system.

Refugees were first mentioned explicitly in the general immigration law in the amendments passed in 1965. The law abolished the national origins quota system and set up in its place a hierarchy of preferences for visa distribution based on personal qualities: that is, relationship with U.S. citizens, accomplishments, labor skills, and so forth. First preference went to the sons and daughters of U.S. citizens: the seventh (and last) to refugees. Hemispheric immigration ceilings established by this law were put together in 1978 to form a worldwide ceiling of 290,000 immigrants per year. Refugees received 6 percent of the ceiling, or 17,400. Refugees, however, did not enter the country on the same terms as others. [As] conditional entrants, [they had to] wait 2 years [under pre-1980 laws] before they could apply for status as immigrants.

There was a definition of the refugee given in the 1965 law; it was narrower than that [in a] 1951 U.N. convention. Refugee programs dependent upon American initiative and funds spanned the globe. And yet the U.S. immigration law of 1965, following the practice of the 1950's, continued to tie refugee status to communism and turmoil in the Middle East. Thus, under the 1965 law, refugees were persons who "because of persecution on account of race, religion, or political opinion . . . have fled from any Communist or Communist-dominated country or area, or from any country in the general area of the Middle East, and are unable or unwilling to return to such country on account of race, religion, or political opinion."

. . . Thus limited by its immigration laws, the United States could not have admitted as many refugees as it has in the past 14 years if the executive branch had not had use of a special authority known as the parole. Instituted by the McCarran-Walter Act of 1952, the parole clause authorized the Attorney General to admit to the United States temporarily, for "emergent reasons" or for reasons deemed in the national interest, *any* alien applying for admission. Referring to the use of the parole to admit over 30,000 Hungarian refugees between 1956 and 1958, Congressman Walter said: "We never anticipated anything of this magnitude, but we did know this sort of situation would arise. That is why the provision was put in the law." The parole enabled the United States to admit refugees from non-Communist countries, such as Chile, after 1973. And in the absence of other authority, the executive branch has had to resort to the parole to admit large numbers of refugees in emergency situations.

—HARRY F. YOUNG

"Refugees—An International Obligation,"
Department of State Bulletin, December 1979, pp. 13–14.

tion and Naturalization Service, and the Department of Labor.[7] The data from Eglin Air Force Base are presented here for the first time.

The Eglin profile

Interest in these records was the same: what are the Cubans' background characteristics? Do they differ from previous Cuban refugees now residing in Miami? Do their occupational histories show that few are employable? And if there are a significant number with prison records, who are they and how long had they been incarcerated?

The sample was a 10-percent systematic random selection that identified for study 925 asylum applicants arriving throughout May. As was true of the registration data from Opa Locke, Immigration officials interviewed only persons age 14 or older. Information included age, sex, marital status, last place of residence in Cuba, and occupational histories.

The Eglin sample further documents the familiar observation that these Cubans are young, working-age adults. Sixty-four percent at Eglin were age 20 to 34, compared to 58 percent of all those in Miami. The average age was 33 at Eglin.

Much attention has focused on the predominance of single men in this flow: it is believed that single men are more difficult than family groups to resettle. In fact, and as anticipated by the manner of processing at Coral Gables, there were many single men at Eglin. Men outnumbered women nearly 9 to 1, representing 89.3 percent of the total camp population. At least one-third of both men and women reported they were currently married, with the women more likely to be so than the men: 43.4 percent versus 33.2 percent.

Because most of the new arrivals were in their late twenties and early thirties, they not only have many years ahead in the U.S. labor force, but they also had a chance to accumulate substantial employment experience in Cuba. The nature of this experience is critical to judging them "socially undesirable." How, then, do those sent to Eglin fare?

Whereas unemployment was virtually negligible in both Miami samples, 2.8 percent of the Eglin group reported no employment as their longest held activity in Cuba ("principal job"). This unemployment rate increased to 4.7 percent immediately prior to departure. However, because most were single men, only 15 percent were out of the labor market in Cuba; that is, they were homemakers, students, patients, or soldiers. This compares to one-third of the sample at Opa Locke. Clearly the Cubans at Eglin are used to work and will undoubtedly seek it in the United States.

But what are their occupational experiences? Like those in Miami, they are concentrated in four occupational categories: laborer (25 percent), craftworker (22.7 percent), machine operative (14.1 percent), and transport operative (11.2 percent). The Eglin group also contains nearly the same share of professional and technical workers and service workers. As shown in table 1, the three samples provide a consistent occupational profile.

The Cubans at Eglin had held what would be considered skilled or semiskilled jobs. As craftworkers and laborers, they worked primarily in manufacturing and construction. All three samples show a large number of mechanics, painters, masons, carpenters, heavy equipment operators, electricians, and bakers. Machine operatives at Eglin included lathers, sanders, welders, meatcutters, and press operators. Of course, transportation workers were mainly drivers of trucks, taxis, and buses.

The proportion of professional and technical workers at Eglin also matched that of the Miami groups. Teachers at all grade levels were the largest number of such workers. This possibly reflects the reported significant cutbacks in educational enrollment in Cuba, especially at the university level. There were also a few doctors, nurses, and medical technicians, as well as a number of entertainers and athletes.

These people can hardly be said to have been marginal to the Cuban economy, nor unemployable in the United States. Yet the charge of "undesirable" does not rest solely on occupational background. The most alarming stories concerned the prevalence of criminals.

Ex-offender data. A key question concerning ex-offenders among the refugees is what does a prison record in Cuba mean. In what manner are they "socially undesirable"? For instance, the United States has accepted political prisoners from Cuba as part of normal immigration for several years. Those admitted in the fall of 1979 averaged 10.4 years in prison. Still it is a reasonable and unanswered question whether those with prison records in this most recent, massive flow committed

Table 1. Last occupation in Cuba for refugees, age 14 and over, processed in Florida

Occupation	Coral Gables Emergency Center		Opa Locke Airport		Eglin Air Force Base	
	Number	Percent	Number	Percent	Number	Percent
Total employed	[1] 641	100.0	43	100.0	[2] 732	100.0
Professional and technical	67	10.5	3	7.0	52	7.1
Manager and administrator	11	1.7	1	2.3	11	1.5
Sales	9	1.4	1	2.3	7	1.0
Clerical	45	7.0	4	9.3	45	6.1
Craft	197	30.7	6	14.0	166	22.7
Operative	73	11.4	4	9.3	103	14.1
Transport operative	86	13.4	12	27.8	82	11.2
Laborer	108	16.9	3	7.0	183	25.0
Farm laborer	0	0.0	0	0.0	8	1.1
Farmer	2	0.3	3	7.0	0	0.0
Service	43	6.7	6	14.0	74	10.1
Private household	0	0.0	0	0.0	1	0.1

[1] One occupation unspecified.
[2] Data unrecorded for 18 persons, 1.9 percent of the total.

similar "political" crimes.

The Immigration Service data show how many refugees reported prison records, as well as the duration of their confinement. An initial screening process separated more than 800 former felons who were sent to Federal prisons. Most other ex-offenders remained with the general refugee population. However, only occasionally is it possible to determine why these persons were in jail. Thus, caution is necessary: the following information refers to all persons in the Eglin sample who reported a former offense, regardless of the reason.

Immigration officials recorded that 16.4 percent, or 152 of the sampled emigrants at Eglin, had spent some time in jail.[8] Less than half, however, were in prison at the time of departure: 44.1 percent of the ex-offenders, or only 7.2 percent of the total camp population. Evidently, most of these latest refugees left Cuba from their homes, not through prison gates.

The majority (55.2 percent) of the ex-offenders spent less than 3 years in jail: 6.2 percent for less than 60 days, 7.9 percent for less than 1 year, 24.7 percent between 1 and 2 years, and 16.4 percent from 2 to 3 years. Reasons given for these jail terms included robbery (1 to 2 years), drugs (2 to 3 years), vagrancy, refusing military service or to work for the state, and caught trying to escape to the United States.

Six percent of all those with prison records specifically stated they were political prisoners. This is undoubtedly an underestimate. Another 3 percent could be included for refusing service to the state, either military or labor. And a small but significant proportion had been in prison dating from the early 1960's, when many political prisoners were first jailed. But the most important reason for the probable undercount is simply that most ex-offenders did not report the nature of their crime. Consequently, I would argue that between 9 percent and 20 percent of those at Eglin who reported a prior offense could be classified as political prisoners.

Do these ex-offenders account for an identifiable minority? Evidently not. The average age of the ex-offenders was 32.6, virtually the same as the total Eglin sample. Both groups also had a similar proportion married, and only slightly more of the ex-offenders were men. The only significant difference was in their occupational backgrounds. (See table 2.)

Overall, ex-offenders were about as likely as the total Eglin group to be employed in each occupational category, with two exceptions. Just prior to departure, ex-offenders had experienced an overall shift out of operative jobs and into nonfarm laborer positions. There was also a less significant shift out of the professional and service sector and into construction. There could be many reasons for such a shift, but by U.S. standards, this represents a downward slide in skill requirements, status, and wages.

Along with this shift, the ex-offenders encountered a doubling of their unemployment rate (which had already been twice that of the total Eglin group), as shown in the following tabulation:

	Out of labor market		*Unemployed*	
	Number	*Percent*	*Number*	*Percent*
Total Eglin sample:				
Principal job . . .	152	16.7	21	2.8
Last job	139	15.3	36	4.7
Ex-offenders:				
Principal job . . .	61	40.1	5	5.5
Last job	72	47.7	9	11.4

Evidently, the ex-offenders shared with all the Eglin-bound refugees a significant increase in economic hardship prior to leaving. But ex-offenders suffered doubly, perhaps because of their prior offense.

What can be learned from this background profile? Evidently, the refugees' experiences in Cuba do not jus-

Table 2. Principal and last occupation in Cuba for total Eglin AFB sample and for ex-offenders, age 14 and over

Occupation	Total Eglin				Ex-offenders			
	Principal job		Last job		Principal job		Last job	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Total employed	[1]756	100.0	[2]768	100.0	91	[3]100.0	[4]79	100.0
Professional and technical	56	7.4	52	6.8	7	7.7	4	5.1
Manager and administrator	10	1.3	11	1.4	2	2.2	1	1.3
Sales	10	1.3	7	0.9	2	2.2	2	2.5
Clerical	44	5.8	45	5.9	5	5.5	3	3.8
Craft	170	22.5	166	21.6	18	19.8	16	20.2
Operative	115	15.2	103	13.4	13	14.3	4	5.1
Transport operative	82	10.8	82	10.7	10	11.1	8	10.1
Laborer	168	22.2	183	23.8	22	24.2	29	36.7
Farm laborer	8	1.1	8	1.0	1	1.1	0	0.0
Farmer	2	0.3	0	0.0	0	0.0	0	0.0
Service	69	9.1	74	9.7	6	6.5	3	3.8
Private household	1	0.2	1	0.1	0	0.0	0	0.0

[1] Data unrecorded for 17 persons, 1.8 percent of total.
[2] Data unrecorded for 18 persons, 1.9 percent of total.
[3] Detail may not add to totals because of rounding.
[4] Data unrecorded for 1 person.

tify the alarming charges of social undesirability, especially in terms of their occupational histories. Rather than on the margins of the labor market, the recently arrived Cubans have served the mainstream of the urban Cuban economy. But what of their future in the United States? What jobs are they likely to find?

Role of existing enclave

The future of the 1980 Cuban refugees can not be separated from the history of the entire post-revolution exodus. The Cubans who came before should serve not only as an example of what may come but, given the resettlement program's special emphasis on family reunification and sponsorship, as active participants in the process of adaptation to American life. For many new arrivals, the presence and vitality of the Cuban-American community will cushion the adjustments usually required of those involved in such migrations. In this ethnic enclave, many will find jobs, often without the need to learn English. And, socially, many things will remain the same; for in Miami, you "can be born, or die and be buried, Cuban style."[9]

Like most refugee migrations, the Cuban exodus has developed through a series of outflows, with each group projecting distinct background profiles and encountering diverse experiences in the United States. The importance of this sequential migration is that each wave sets the stage for the next. The earliest Cuban refugees were the landowners, bankers, government officials, and businessmen who benefited greatly from U.S. connections and who, as a result, had much to lose from the revolution. Besides their wealth and status, they also had attained a level of education far exceeding the remainder of the native Cuban population. A 1962 sample showed that 36 percent of this first wave had 12 years or more of formal schooling. At the time, only 4 percent of the entire Cuban population had such advanced education.[10]

The Cuban missile crisis stopped the outflow in 1962; it restarted 3 years later, when the two governments agreed to a series of flights—the "aerial bridge"—that would bring any person who desired to the United States (except those of military age and in strategic economic positions). Approximately 40 percent of the total exodus, excluding the most recent group, arrived on these flights from 1965 to 1973.

These aerial-bridge refugees also represented the upper socioeconomic strata of pre-revolutionary Cuba. As one journalist reported it then,

> to a great extent these people represent the professional and business class of Cuba; the able, the educated, the successful. The struggle in most Latin American countries is to build a stable middle class; that of Cuba has been gutted. This exodus is the biggest brain drain the Western Hemisphere has known.[11]

A survey in 1968 added support. The aerial-bridge arrivals had a level of formal schooling that still outstripped the source population. Eleanor Rogg found that virtually the same percentage (37 percent) in 1968 had 12 years or more of education, as in the earlier wave.[12]

The earliest exiles were able, in effect, to transplant their prerevolutionary Cuban social position into fertile U.S. economic soil. Many in the first wave brought money with them or, more likely, had transferred substantial funds to the United States before their departure. Upon arrival, both Federal and private-business loans were readily available, as were substantial Federal funds for education and assistance. Some U.S. employers also rehired their former employees from Cuban subsidiaries.

Nevertheless, many experienced downward social mobility as they took whatever jobs were available—a characteristic common to refugees and immigrants. Professionals also experienced initial licensing problems, forcing many of them to accept jobs well below their level of training. Consequently, much of the apparent success of these early arrivals once in the United States resulted simply from their substantial initial underemployment and the fact that their subsequent upward mobility was merely a return to their former statuses.[13]

The vitality of this Cuban-American enclave today is considerable, as a recent albeit self-congratulatory profile of the Miami enclave testifies.[14] In Dade County, Cubans account for 16 (out of 62) bank presidents, 250 vice presidents, and more than 500 other bank officers. Approximately one-third (18,000) of the businesses in Miami are Cuban owned or operated. On the labor side, 85 percent of the garment industry's factory workforce is Cuban-American. Cubans staff most of the hotels, and their share of construction workers has reportedly reached nearly 75 percent.

But neither should the enclave's success be overstated. The same article notes that the average income of the Cuban head of household in Miami is only $15,000 per year, with 31 percent earning less than $12,000. Nationwide, Cubans have an unemployment rate significantly higher than the total civilian labor force, even though they are, on average an older group—typically less subject to joblessness.[15]

The Cuban flow has also significantly changed in background composition. Lourdes Casal and Andres Hernandez, for example, have noted a steady decline in the average educational levels of each successive cohort of Cuban refugees. This began in the later years of the aerial bridge and has continued.[16]

The compositional change has had an impact on Cuban communities in the United States. The later arrivals have, in a sense, become the working class—lower waged and skilled—for the golden exiles of the 1960's and early 1970's. Thus, there has been a total transplantation of the prerevolutionary Cuban social structure to Miami, with all the implications of unequal wealth, power, and prestige. The recent emigrants will add to the lower strata.

1973–74 arrivals compared

Insight into how the new Cuban immigrants will progress in the United States may be gained by studying a similar group who entered during 1973–74. This comparison, although not precise, demonstrates not only the changing composition of the Cuban migration, but identifies the ability of the ethnic enclave to incorporate subsequent newcomers.

The comparison group comprises 590 Cuban men who arrived after the close of the aerial-bridge. Most left Cuba several years before and had spent time in Spain. Interviewed for the first time upon arrival, they were tracked and reinterviewed in 1976–77 and again in 1979. The series of interviews provides a profile of their experiences over 6 to 7 years in the United States.[17]

The 1973–74 group shares with the recent arrivals a distinctly working-class character. Only 22 percent had attained 12 years of formal schooling. This was significantly lower than the earlier refugees, but still higher than the Cuban population. Their average education, 8.6 years, was virtually the same as those sampled recently in Miami. And, reflecting their lower education, the 1973–74 sample shared with the recent arrivals a significant lack of English knowledge.

The occupational histories of the 1973–74 immigrants correspond to the contemporary economic reforms in Cuba intended to socialize the remaining, smaller scale sectors of the private urban economy. In fact, although political pressures continued to be a primary reason for leaving, they were just as likely to mention the inability of achieving, over a longer period, a higher standard of living. The evidence that many of the Eglin-based Cubans suffered increased economic hardship prior to departure suggests that the motivations of the two groups may be similar, too.

About one-third (32.5 percent) of the 1973–74 group derived their income in Cuba from either government or educational institutions. Wholesale and retail sales accounted for another 21.2 percent, and direct personal services employed 15.1 percent. A rough approximation with U.S. occupational classifications shows that nearly 30 percent were craftworkers or nontransport machine operatives; including supervisors, artisans, plumbers, electricians, carpenters, butchers, and bakers. Service-workers accounted for 19.7 percent. One-quarter held white-collar or professional jobs: a category combining professional and technical workers with clerical workers.

These occupational origins correspond rather closely with the pattern among the 1980 arrivals, especially in their common concentration in craft and operative jobs. To the extent that these background experiences help in the U.S. labor market, the progress of the 1973–74 group may provide a clue as to the future of the latest arrivals. Both groups, by the way, arrived in the midst of a recession, although the 1974–75 downturn was probably more severe.

Almost all 1973–74 immigrants settled in Miami, where 48 percent found their first employment as craftworkers or machine operatives. This indicates a substantial, overall shift to these categories from other occupations held in Cuba. Another 38 percent were unskilled laborers, and only 5 percent were professionals or managers. The majority located employment in manufacturing (34.3 percent) or construction (22.0 percent).

After 3 years in the United States, most had regained positions comparable to those abandoned in Cuba. They earned, on average, a modest $7,764 per year. But more importantly, 40 percent were employed by firms that were owned or operated by other Cubans. In fact, preliminary figures from the interviews 6 years later show that the Cuban enclave still employed 40 percent of these refugees.[18]

The 1973–74 arrivals were able to utilize their working-class skills in the U.S. labor market.[19] Higher levels of education and English knowledge were particularly associated with greater earnings. But even more important was the positive impact of enclave participation. Within this 1973–74 group, those who worked for Cuban owned or managed firms earned significantly more each month.

By projecting this future on the majority of the recent immigrants, it appears that they will find self-sustaining employment within a relatively short period as part of the Cuban-American working class. Thus, in addition to its outpouring of emergency relief in Miami, the Cuban enclave will also provide employment for a substantial proportion of the new arrivals. This direct contribution of the Cuban enclave is much more important in the present context than before because the current posture of the Carter Administration is to ask more of the affected local communities than ever before.

Resettlement hampered

There are several reasons why this resettlement of Cuban refugees may not succeed as well as previous efforts. Most of the reasons have been well-played in the press and pointed to in this article. The size of the influx within such a short period made orderly processing extremely difficult. Recurring problems locating responsible sponsors were a consequence. Other characteristics of these refugees, or the profiles of those not represented in these samples, may also identify problems. The apparently small but significant proportion of homosexuals in this group is merely another example. And the current recession, coupled with conservative fiscal policy to combat inflation, promise difficulties for all job seekers.

In addition, there are two particular changes in progress that will not only have an effect on these Cubans, but because of the timing of this influx, will be pushed along with greater speed—and perhaps less care.

The new Cuban refugees came only weeks after Congress passed legislation finally regularizing the procedure for admitting refugees. (See box, p. 41.) The Cubans, and with them the Haitians, became the first test of perhaps the weakest section of the law, procedures for case by case review of asylum applicants. As if someone had studied the legislation to determine what it did not cover, recent events touched the one area not contemplated in detail beforehand—the United States as a country of first asylum. Indeed, much of the delay in the Carter Administration's deliberations on the Cubans would be attributed to an attempt to conceptualize the United States as a place of first asylum. But searches for other countries to accept large proportions of these Cubans and appeals to the United Nations lacked the urgency of other contemporary moves by countries of first asylum to gain international cooperation. Recall that, in the case of the Vietnamese "boat people," the world responded only after Malaysia and Singapore began towing refugee-laden boats back out to sea.

Also like the Southeast Asian countries of first asylum, the Carter Administration first held that it could not afford to accept the entire flow—thus setting up a monumental dilemma. U.S. refugee policy is traveling in two opposing directions: at once reaching out to compelling international and humanitarian problems, while withdrawing from policies of domestic relief. The result is a series of false steps in both directions and much bewilderment. Even the eventual offer of Federal payment for some services provided Cuban and Haitian refugees ended up as much less than it appeared. The plan to make them eligible for certain social programs apparently did not take into account the fact that Florida has no programs for emergency assistance or medical help.[20]

The 1980 Cuban influx also occurred at a bad time, not only because the public expressed an anti-immigration mood, with U.S. citizens pressed by unemployment, inflation, and foreign conflict, but because of the effort to reform the immigration law. The combination of these factors elevated the significance of the Cuban immigration to unwarranted importance in relation to other national problems. Immigrants became associated with all kinds of social and economic ills, most commonly unemployment. But refusing to admit 123,000 people as refugees would not even begin to solve the Nation's unemployment problem. ☐

——FOOTNOTES——

[1] Statement by Victor H. Palmeiri, U.S. Coordinator for Refugee Affairs, in a press release on June 20, 1980.

[2] Initially, without a status, the new Cuban immigrants were actually undocumented aliens, illegally transported to the United States by U.S. citizens. But, unlike other illegal aliens who are subject to deportation, the Immigration and Naturalization Service promptly accepted their application for status, gave them a visa, and authorization to work.

[3] *The Washington Post*, Apr. 26, 1980, p. A22.

[4] Part of the reason for this change of responsibility was that without a declared refugee status for the Cubans, the Cuban Refugee Emergency Center, which is funded by the Department of Health and Human Services, could not have remained involved.

[5] For more detail, see Robert L. Bach, "A Profile of the Recent Cuban Refugees Arriving in Miami," *Migration Today*, forthcoming.

[6] *Ibid.*

[7] By the time this article is published, the profile of all 123,000 or so will be available from either the author or the Coordinator's office.

[8] Of course, whether the applicants told the truth is debatable. Although there is no way to check, my impression is that the incentive was there to be truthful. Immigration and Naturalization Service interviewers were instructed to ask for detail if an applicant could not account for blocks of time in his or her occupational history, plus the applicants knew that they would also be interviewed and cleared through the Federal Bureau of Investigations and Central Intelligence Agency.

[9] Carlos J. Arboleya, "The Cuban Community 1980. Coming of Age, as History Repeats Itself," self-published letter, p. 5.

[10] Alejandro Portes, Juan M. Clark, and Robert L. Bach, "The New Wave: A Statistical Profile of Recent Cuban Exiles to the U.S.," *Cuban Studies*, January 1977, pp. 1–32.

[11] Quoted in Reynaldo A. Cue and Robert L. Bach, "The Return of the Clandestine Worker and the End of the Golden Exile: Recent Mexican and Cuban Immigrants in the United States," paper presented at the Conference on the New Immigration, Research Institute on Immigration and Ethnic Studies, Smithsonian Institution, Sept. 15–17, 1976, p. 22.

[12] Eleanor M. Rogg, *The Assimilation of Cuban Exiles: The Role of Community and Class* (New York, Aberdeen Press, 1974).

[13] Dale Truett, Chapter 5, in University of Kentucky, *Negro Employment in the South.*

[14] Arboleya, "The Cuban Community 1980 . . . ."

[15] The data used for this statement are from 1977. See Morris J. Newman, "A Profile of Hispanics in the U.S. work force," *Monthly Labor Review*, December 1978, pp. 3–14. The 1977 data are useful here because they provide sufficient time for the aerial-bridge group to recover from any initial disorientation, but do not include those entering later or those under special arrangements to release political prisoners.

[16] Lourdes Casal and Andres R. Hernandez, "Cubans in the U.S.: A Survey of the Literature," *Cuban Studies*, July 1975, pp. 25–51.

[17] See Portes, et al., "The New Wave: . . . ," for a detailed description of the research design.

[18] Alejandro Portes and Juan M. Clark, "Cuban Immigration to the United States, 1972–79: A Preliminary Report of Findings," mimeo, Center for International Studies, Duke University, Durham, N.C., May 13, 1980.

[19] Alejandro Portes and Robert L. Bach, "Immigrant Earnings: Determinants of Economic Attainment Among Cuban and Mexican Immigrants in the United States," *International Migration Review*, forthcoming.

[20] *The Tampa Tribune*, June 23, 1980.

Immigration and employment: a need for policy coordination

In coming years, immigrants may constitute as much as 45 percent of U.S. labor-force growth; efforts are needed to ensure that national goals for immigration and employment are complementary

DAVID S. NORTH AND PHILIP L. MARTIN

All nations have immigration policies, usually quite explicit, and all nations have labor market policies, which are at least implicit. In most industrial democracies, the two policies are strongly linked and may even be administered by the same government agency. In the United States, however, there is often little coordination between the two, despite the major impact of international migration on the U.S. labor market.

Logic would seem to suggest that there should be a close relationship between these policies. First, the Government is in a stronger position to alter the size and characteristics of the alien work force than it is to make similar adjustments in the resident labor force.

Secondly, international migrants have made a major contribution to the growth of the U.S. labor force, which increased from 82.3 million in 1968 to 102.5 million in 1978, or by about 2 million per year.[1] In its intermediate growth rate model, the Bureau of Labor Statistics projects that this rate of increase will continue through 1985 and will then drop to 1.2 million annually through 1990.[2]

Since the beginning of fiscal 1978, the number of legal migrants recorded by the Immigration and Naturalization Service has been about 600,000 per year, a flow which seems destined to remain constant or even increase, given the continuing entry of refugees. About one-half of the immigrants join the labor force within 2 years of their arrival. This proportion will rise in the following two decades as grown immigrant children join the labor force.[3]

The 300,000 aliens who become employed soon after arrival (15 percent of the current rate of increase in the labor force) represent only *legal* immigrants. The labor-force impact of foreign-born workers should be adjusted upwards to account for illegal or undocumented workers. These workers may equal or substantially exceed the number of legal immigrants. Thus, 30 to 45 percent of the annual growth of the labor force may consist of newly arrived aliens.

New immigrants, both legal and illegal, are spread unevenly throughout the Nation. They tend, as have previous generations of immigrants, to settle where they expect to find a supporting community, economic opportunities and a familiar climate. For example, in 1975, 38.9 percent of the arriving legal immigrants settled in 10 cities, which accounted for only 9.8 percent of the Nation's resident population.[4] However, as table 1 indicates, the labor markets in which the migrants cluster often have higher unemployment rates than the national average, which was 5.8 percent in 1979.

With these preliminary observations recorded, we turn to four questions:

1. What are the objectives of U.S. policies regarding immigration and employment?
2. How are these policies made?
3. How do these policies interact with each other?
4. What, if anything, should be done to change the situation?

Policy objectives. U.S. employment policies have multiple goals. The primary objective is full employment—de-

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fined as an economic climate in which anyone "able, willing, and seeking work" can find a job. Employment policies may also be intended to curb inflationary pressure, encourage adequate wages and safe and decent working conditions, increase job satisfaction, and promote production efficiency and more widespread use of collective bargaining. There is an alternative view, that employment policy should seek primarily to increase the gross national product. Those who hold this view feel that the forces of the free market should generally determine the rewards for and the conditions of work.

Employment policy goals are not always mutually compatible at any time. For example, increasing job satisfaction may temporarily slow productivity growth and intensify inflationary pressures. Fortunately, certain policy tools—counseling and training, labor-market information exchanges, wage and training subsidies, and direct public service employment—permit remedial efforts to be concentrated on labor markets experiencing special bottlenecks or on groups of workers with unique economic problems.

The goals of the current *de jure* immigration policy are also multiple: to admit relatives of U.S. citizens and permanent resident aliens; to recruit a few needed workers; and to absorb some portion of the world's refugee population, generally those fleeing Communist countries. In 1978, the United States admitted 132,780 refugees and 30,877 workers and family members in the occupational preference categories. Virtually all of the remaining 437,785 entrants were accepted because they were relatives of U.S. residents.

The only immigrants screened for labor-market characteristics are the workers for whom the occupational preferences are sought. These workers receive labor certifications from the U.S. Department of Labor if their would-be employers can prove that their skills are needed, and that their presence will not depress the U.S. labor market. However, the state of the labor market is not considered in admitting the great majority of workers. In fact, the total flow of immigrants is affected more by individual decisions of U.S. residents seeking the admission of relatives, and the actions of foreign officials creating flows of refugees than it is by the U.S. Government.

The Nation also has a *de facto* immigration policy, which permits the entry and presence of millions of ille-

Table 1. Major immigrant receiving cities, by immigrant-to-resident ratio, 1978, and by unemployment rate, labor force size, and number of persons unemployed, 1979

[Ranked in ascending order of ratios]

City of intended residence	Ratio of 1978 immigrants to resident population [1]	1979 unemployment rate [2] (in percent)	Labor force (in thousands)	Number of unemployed (in thousands)
Miami, Fla.	1:15	6.8	210.1	14.3
Elizabeth, N.J.	1:49	8.9	54.6	4.9
San Francisco, Calif.	1:57	7.1	326.4	23.2
El Paso, Tex.	1:68	7.8	158.7	12.4
Paterson, N.J.	1:78	12.2	67.5	8.2
New York, N.Y.	1:83	8.7	3,019.0	264.0
Pasadena, Calif.	1:83	4.4	58.4	2.5
Santa Ana, Calif.	1:84	4.7	113.8	5.4
Alexandria, Va.	1:92	5.3	54.3	2.9
New Bedford, Mass.	1:92	8.1	50.0	4.1
Glendale, Calif.	1:93	4.0	73.1	2.9
Los Angeles, Calif.	1:96	6.2	1,434.9	89.5
San Diego, Calif.	1:98	6.6	387.2	25.4
Average/total		7.7	6,008.6	459.7
Hartford, Conn.	1:100	6.9	74.9	5.2
Newark, N.J.	1:102	11.7	158.1	18.5
Jersey City, N.J.	1:105	9.1	101.8	9.3
Las Vegas, Nev.	1:110	6.2	93.9	5.8
Dearborn, Mich.	1:114	5.3	47.0	2.5
Fresno, Calif.	1:114	7.3	111.5	8.2
Seattle, Wash.	1:124	5.3	328.2	17.5
Stockton, Calif.	1:124	10.1	60.4	6.1
Houston, Tex.	1:125	3.5	874.0	30.9
Providence, R.I.	1:129	7.2	78.6	5.7
San Jose, Calif.	1:136	5.7	281.5	16.1
Fort Lauderdale, Fla.	1:138	5.0	98.2	4.9
Chicago, Ill.	1:146	6.4	1,458.0	93.2
Average/total		5.9	3,766.1	223.9
New Orleans, La.	1:152	6.5	232.5	15.0
Torrance, Calif.	1:152	4.1	73.2	3.0
Tacoma, Wash.	1:155	8.0	75.9	6.1
Oakland, Calif.	1:150	7.0	186.5	13.5
Hialeah, Fla.	1:162	5.5	65.4	3.6
Sacramento, Calif.	1:164	7.4	148.5	11.0
Berkeley, Calif.	1:170	7.4	68.1	5.1
Portland, Oreg.	1:171	5.7	230.7	13.2
Bridgeport, Conn.	1:175	7.1	69.3	4.9
Long Beach, Calif.	1:175	5.6	172.8	9.7
Tampa, Fla.	1:176	5.1	163.3	8.3
Anaheim, Calif.	1:180	4.4	136.9	6.1
Average/total		6.1	1,623.1	99.1
Stamford, Conn.	1:203	5.0	62.7	3.1
Salt Lake City, Utah	1:205	4.5	106.5	4.8
Yonkers, N.Y.	1:207	5.1	109.6	5.6
Washington, D.C.	1:208	7.5	320.0	24.0
Denver, Colo.	1:209	5.3	257.3	13.7
Rochester, N.Y.	1:219	6.4	144.7	9.2
Dallas, Tex.	1:222	3.6	524.9	19.0
Hollywood, Fla.	1:234	5.8	67.9	3.9
Average/total		5.2	1,593.6	83.3

[1] Population data are 1977 estimates.

[2] Data are annual averages. The national annual unemployment rate for 1979 was 5.8 percent. Average unemployment rate calculated by dividing the total labor force for each group of cities into the total number of unemployed for the group.

NOTE: Cities selected were those with populations of more than 100,000 (in 1970), and immigrant arrivals totaling more than 500 in fiscal 1978.

SOURCE: Ratio of 1978 arriving immigrants to population computed from *INS Annual Report, 1978*, table 12A (for immigrants), and *Statistical Abstract of the United States, 1979*, table 24 (for population); 1979 labor-market data from computer printout supplied by the Division of Local Area Unemployment Statistics, Bureau of Labor Statistics.

gal migrants. The "goals" of this policy include the creation of a substantial work force without legal rights for the benefit of some U.S. employers, while permitting Mexico and other less developed countries to export a substantial percentage of their excess labor force.

Policymaking. The formation of labor-market policy might be compared with the continuous cooking of a stew; the flavor changes as ingredients are added, but the process is an ongoing one and the changes are not abrupt. Employment policy operates through a series of vehicles, such as the setting of the minimum wage, adjustment of the unemployment insurance and workers' compensation systems, change in the laws and the personnel of the National Labor Relations Board, and variation in the funding and emphasis of the Comprehensive Employment and Training Act (CETA). Many of these decisions are Federal, but some are also made at the State and local levels. Policymaking in this arena involves the interested parties in a never-ending round of legislative, executive, and judicial exercises, alternatively battling and compromising with each other. The focus is essentially domestic, far more concerned with inflation, unemployment, poverty, and productivity than with immigration.

In contrast, immigration policymaking is not continuous, and its focus is heavily influenced by international considerations. The basic structure of the immigration law is changed about once a generation (most recently in 1965, when the 1921 country-of-origin quota system was eliminated). Immigration policy develops in fits and starts, as policymakers react negatively to existing practices and because of its international elements, its results are harder to predict and control.

A further complication is the *locus* of employment and immigration policymaking. The congressional labor and taxation committees dealing with employment policy do not deal with immigration policy, which is handled by the judiciary committees, and vice versa. Similarly, the U.S. Department of Labor plays a lead role in making employment policy, but only a minor one in immigration policy, which is administered by the Departments of State and Justice.

Policy interactions. Given the different objectives of both the *de facto* and *de jure* immigration policies on one hand and operative employment policy on the other, and the different ways in which decisions are made in these fields, it should be no surprise that there is little policy coordination.

The principal area of conflict is between the full employment and improved jobs goals of employment policy and the treatment of illegal immigrants. The U.S. Government devotes $20 billion annually to unemployment insurance to cope with the short-term effects of unemployment, and $8 billion more to CETA in a search for longer term solutions to the problem. Simultaneously, however, it tolerates the presence of perhaps millions of low-wage illegal immigrant workers, who compete with some U.S. residents for jobs, and tend to depress wages and working conditions of millions of others. The distributional effects of immigrant labor, especially if illegal, are not well understood, but it is clear that some employers, workers, and consumers are benefiting while others lose. Even more ambiguous are the consequences of the long-term use of so many illegal migrants.

The alternatives available. Bearing in mind the difficulties inherent in immigration policymaking, the Congress in 1978 created the Select Commission on Immigration and Refugee Policy to address these and other complex issues. The Commission, headed by Father Theodore Hesburgh, president of Notre Dame University, will report its findings to the Congress and the President next year.

Early indications are that the Commission recognizes the conflicts between existing immigration and related labor-market policies, and prefers to diminish them.[5] With regard to its final recommendations, the Commission appears to have several options:

- One is the preservation of the status quo, unhappy as it may be, as a rough compromise, the best available in an imperfect world.
- Another would be to leave the thrust of *de jure* immigration policy essentially as it is, but to devote more resources to its enforcement.[6]
- A third approach would be, simultaneously, to seek to change the law so that it comes closer to today's realities, while seeking more vigorous enforcement of the new immigration policy.

The third option is the most likely approach, and it would be helpful if the Commission would stress the need for coordination of the Nation's labor-market and immigration policies.

Specific alternatives open to the Commission include: legalizing the presence of some of the undocumented workers currently in the United States, making provisions for larger flows of legal immigrants in the future, and setting up a program of employer sanctions which would make it illegal to hire aliens without proper documentation. Or it might propose a guest- or nonimmigrant-worker program, as discussed elsewhere in this issue.

Whatever the Commission decides, it will do so after having faced the complex conflicts in employment and immigration policymaking. That, in itself, is a welcome development.[7]

—— *FOOTNOTES* ——

[1] *Employment and Training Report of the President* (U.S. Department of Labor, Employment and Training Administration, 1979), table A-1, p. 233.

[2] *Ibid.*, table E-2, p. 354.

[3] David S. North and Allen LeBel, "Manpower and Immigration Policies in the United States (Washington, National Commission for Manpower Policy, 1978), Special Report 20, pp. 98–103, and pp. 246–49.

[4] See North and LeBel, *op. cit.*, p. 95. For similar data on the clustering of the Indochinese refugees, see Julia V. Taft, David S. North, and David A. Ford, *Refugee Resettlement in the U.S.: Time for a New Focus* (Washington, New TransCentury Foundation, 1979), pp. 179–87.

[5] It should be noted that most European nations pursuing "active manpower policies" place immigration under the jurisdiction of the Ministry of Labor. For a description of the way in which Germany made immigration contingent on unemployment throughout the 1960's, see Philip L. Martin, *Guestworker Programs: Lessons from Europe* (U.S. Department of Labor, 1980).

[6] The Border Patrol, the uniformed police force of the Immigration and Naturalization Service, had exactly one operative helicopter at this writing. There are more policemen assigned to guard the Capitol and the adjacent buildings of the Congress (1,167) than there are INS investigators to enforce the immigration law in the interior of the Nation (798).

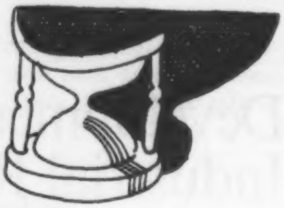
[7] Reprints of this article will be available from the Giannini Foundation, University of California at Berkeley. No. 593.

Adjusting to democracy

> . . . The immigrant must be taught that he must stand straight up on his own feet; that the ward politician is dependent on him—on his vote—and not he on the ward politician. In this way he first learns that he is a part of the Government, and while this is done by indirection, in a large sense, there is no other force that is doing it at all. The Pole, the Bohemian, the Lithuanian, the Slovak, and to a much lesser degree the Galician, have inherited the feeling that somehow government is a thing inimical to their natural development . . . Being weaker than it they must be silent in its presence, and if forced to speak, lie, as for them to tell the truth would mean imprisonment or death.

—CARROLL D. WRIGHT
"Influence of Trade Unions on Immigrants,"
Bulletin of the Bureau of Labor,
January 1905, No. 56, p. 5.

Major Agreements Expiring Next Month



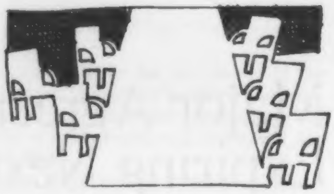
This list of collective bargaining agreements expiring in November is based on contracts on file in the Bureau's Office of Wages and Industrial Relations. The list includes agreements covering 1,000 workers or more.

Employer and location	Industry	Union[1]	Number of workers
Apartment Building Owners and Managers Association of Chicago (Illinois)	Services	Service Employees	3,000
Chicago Dry Cleaners Association (Chicago, Ill.)	Services	Teamsters; and Laundry, Dry Cleaning, and Dye House Workers (Ind.)	4,000
Chicago Real Estate Owners Council (Chicago, Ill.)	Services	Service Employees	4,500
Dana Corp., Parish Frame Division (Reading, Pa.)	Transportation equipment	Steelworkers	1,800
Foster Grant, Inc. (Interstate)	Rubber	Retail, Wholesale, and Department Store Union	1,100
Gibson Products Corp. (Greenville, Mich.)	Electrical products	Auto Workers (Ind.)	3,000
Goulds Pumps, Inc. (Seneca Falls, N.Y.)	Machinery	Steelworkers	1,100
Houston Food Council, Chain Food Stores[2] (Houston, Tex.)	Retail trade	Food and Commercial Workers	1,850
ICI United States, Inc. (Charlestown, Ind.)	Instruments	Chemical Workers	1,000
Lockheed Aircraft Corp. (Burbank, Calif.)	Transportation equipment	Engineers and Scientists Guild (Ind.)	2,200
Louisville Gas and Electric Co. (Louisville, Ky.)	Utilities	Independent Protective Association of Utility Workers (Ind.)	2,700
Olin Corp. (East Alton, Ill.)	Instruments	Machinists	3,750
Rohr Industries, Inc. (Chula Vista, Calif.)	Transportation equipment	Machinists	3,000
Rohr Industries, Inc. (Riverside, Calif.)	Transportation equipment	Machinists	1,300
RCA Corp. (Interstate)	Electrical products	Electrical Workers (IUE)	5,650
RCA Corp. (Interstate)	Services	Electrical Workers (IBEW)	2,300
RCA Global Communications Inc., Communications Trade Division (Interstate)	Communication	Teamsters (Ind.)	1,000
Safeway Stores, Inc. (Texas)	Retail trade	Food and Commercial Workers	1,300
Textile Maintenance Institute of Chicagoland (Illinois)	Services	Teamsters; and Laundry, Dry Cleaning and Dye House Workers (Ind.)	5,000
Trane Co. (Clarksville, Tenn.)	Machinery	Machinists	1,300
Tropicana Products, Inc. (Bradenton, Fla.)	Food products	Teamsters (Ind.)	1,500

[1] Affiliated with AFL–CIO except where noted as independent (Ind.)

[2] Industry area (group of companies signing same contract).

Developments in Industrial Relations



Job protection stressed in telephone contracts

A scheduled mid-August strike against American Telephone and Telegraph Co. and its operating and manufacturing arms was averted when the Communications Workers accepted a 3-year offer for the 525,000 workers it represents in the Bell System. As usual, the International Brotherhood of Electrical Workers settled on similar terms for its 119,000 workers, as did the Telecommunications International Union for 56,000 workers. During the bargaining, which began in June, the three labor organizations worked together on formulating demands and in responding to company proposals. Although there were no strikes over national issues, there were several brief strikes over local issues, including a 16-hour walkout and later a 19-hour walkout by 33,000 CWA members employed by the New York Telephone Co., and a 30-hour walkout involving 70,000 CWA members at Pacific Telephone Co. in California and Nevada. The last national strike against the Bell System, lasting 5 days, preceded the 1971 settlement.

CWA President Glenn Watts valued the settlement package at 34.9 percent. Union officials calculated the two wage escalator adjustments (August of 1981 and 1982) on the assumption that the Consumer Price Index for Urban Wage Earners and Clerical Workers (CPI-W) would rise 9.5 percent in the year ending May 1981 and 9.7 percent in the year ending 1982. There was no immediate comment on the settlement by the Council on Wage and Price Stability, but Watts said the annual increase in compensation was "comfortably within" the Administration's 7.5 to 9.5 percent annual guideline, which is based on assumed 7.5 percent annual rises in the CPI-W and also permits the exclusion of certain increases in the cost of benefits.

CWA officials estimated that the August 1980 initial wage increase would average 9.24 percent, or $28.82 a week. Pay rates were not increased for employees in the first step of the progression schedules, but those at the top of the schedules received 10.2 percent increases and those in intermediate steps received a smaller increase.

For the 1981 and 1982 increases, workers in the top progression step will receive 3 percent increases; those in the intermediate steps will receive a smaller increase. The union estimated the increases at 2.67 percent, or $9.16 weekly, in 1981 and 2.68 percent, or $10.17, in 1982. In addition, telephone operators received a two-stage "upgrading" increase up to a maximum of $7.50 a week for those at the top step.

The two wage escalator adjustments will be calculated at the new rate of 55 cents a week plus 0.65 percent of the individual's weekly rate for each 1 percent increase in the CPI-W. The previous rate was 50 cents a week plus 0.6 percent of the weekly rate for each 1 percent index rise. According to the union, the new formula will recover about 80 percent of price increases measured by the CPI-W, compared with 75 percent for the previous formula.

The settlement included 14 provisions that, according to the union, dealt with "the interrelated issues of job security and job pressures" stemming from "an ailing economy and the rapidly changing state of technology." Included were:

- Four paid and one unpaid "excused work days" a year for regular employees (instead of three paid and one unpaid), in addition to a one-time excused day on December 26, 1980.
- Three weeks of paid vacation after 7 years of service (formerly 8 years), effective in 1981.
- A new procedure for scheduling vacations.
- Termination of the practice of monitoring some calls handled by operators.
- Establishment of a joint committee to assist employees affected by technological changes.
- Adoption of a plan protecting 15-year employees downgraded because of technological changes from pay reduction for the balance of the contract term, with an increasing reduction to apply afterwards.
- A 50-percent increase in supplemental income protection payments to laid-off workers, bringing the payment rate to 40 percent of the basic weekly wage plus $8 per year of service (maximum payment of $18,000). Eligibility was extended to employees who are age 62 with 20 years of service and those whose age plus service total 75.
- An understanding that "traditional" telephone work will not be contracted out if it "will currently and di-

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"Developments in Industrial Relations" is prepared by George Ruben and other members of the staff of the Division of Trends in Employee Compensation, Bureau of Labor Statistics, and is largely based on information from secondary sources.

rectly cause layoffs or part-timing of employees."

- A "successorship memorandum of agreement" providing various income and job security protections for employees transferred because of a reorganization of the Bell System.

Major changes in pensions included provisions for (1) two "guaranteed cost-of-living" adjustments in benefits; (2) retirement at full benefit rates for 30-year employees, (previously, the employee's pension was reduced 3 percent for each year under age 55 at retirement); (3) an improved and simplified normal pension formula—the October 1980 increases (for employees retiring after August 1980) range from $12.11 to $29.85 a month for each year of service, depending on preretirement earnings, August 1981 increases range from $13.35 to $32.73, and August 1982 increases range from $14.78 to $35.98; and (4) increases in minimum pensions, ranging from 48 percent after 20 years of service to 115 percent after 40 years.

Other provisions called for improvements in health, dental, life insurance, and vision care benefits and an increase in the mileage allowance for authorized use of a personal automobile.

First woman on AFL–CIO Executive Council

The AFL–CIO's Executive Council selected Joyce D. Miller as its first female member. Miller is a vice president of the Amalgamated Clothing and Textile Workers Union and president of the Coalition of Labor Union Women. In order to elect a woman, the Council waived its rules that a member be a chief officer of a union and that two representatives of the same union could not serve on the 35-member council. Murray Finley, president of the Amalgamated Clothing and Textile Workers, was already a council member. AFL–CIO President Lane Kirkland said he hoped the time would come when women as well as minorities would gain election to union presidencies, making special rules unnecessary.

The chief item of business at the summer session was the Council's endorsement of President Jimmy Carter for re-election, calling him the "clear choice" for American workers. The Council said it would ask the Federation's General Board to endorse the Democratic ticket and to plan a vigorous campaign to inform union members about the candidates and issues in the 1980 election campaign.

The Council took steps to direct pension money into "socially desirable" investments beneficial to labor by endorsing the creation of a Government-guaranteed "super" fund of pension assets. The purpose of the fund would be to (1) encourage investments in "job-creating" industries such as construction and transportation; (2) coordinate pension funds proxy votes on issues before shareholders; (3) provide a clearinghouse to assist investors in avoiding companies with poor labor relations; and (4) encourage unions to press for a larger role in managing pension funds.

Airline workers get new contract

American Airlines and the Transport Workers Union negotiated a 30-month agreement providing for general wage increases of 6 percent retroactive to March 1980, 2 percent in September 1980, 4 percent in March and September of 1981, and 4 percent in March of 1982. The agreement, which covered 12,400 ground service employees, continued the cost-of-living clause, providing annual adjustments of 1 cent for each 0.3-point rise in the Bureau of Labor Statistics Consumer Price Index (1967=100) in September of 1980 and 1981 and August of 1982, with maximum adjustments of 18, 22, and 22 cents, respectively (the previous contract allowed 34 cents over its 30-month term).

Longevity pay was increased to a maximum of 15 cents an hour (from 13 cents). Paid vacation was liberalized by providing for 4 weeks after 10 years of service (formerly 12 years) and 5 weeks after 17 years (formerly 20) beginning in 1981. Employees can accumulate up to 130 days of sick leave effective in 1981 (formerly 120 days) and 140 days in 1982 and will receive $25 for each day of unused sick leave at retirement (previously, employees received $12 for each unused day at the end of each year).

Subject to government approval, all previous pension contributions were to be refunded and workers were to receive pension credit for years in which they did not contribute. Other improvements included a 25-cent payment for the first government license held and 20 cents for the second, effective in December 1980 (formerly 20 and 15 cents), increasing to 35 and 30 cents in December 1981. Line-pay for mechanics, fleet, and ground service employees was increased to 10 cents (formerly 5 cents), effective in September 1981.

Initial contract at Southern textile firm

A 9-year dispute between the Clothing and Textile Workers union and Wellman Industries, Inc., ended when the parties agreed on an initial contract for 1,000 workers in Johnsonville, S.C. In addition, the textile firm agreed to an affirmative action plan and cash settlements to workers who were affected by seven National Labor Relations Board findings that Wellman had engaged in unfair labor practices.

Wellman employees voted in April 1972 for representation by the Textile Workers Union of America. However, subsequent efforts to negotiate a contract were unsuccessful and the union complained to the National

Labor Relations Board that Wellman was engaging in unfair labor practices. The Board upheld the charges and rejected the company's contention that it did not have to negotiate with the union because its employees were not permitted to vote on the Textile Workers Union of America and the Clothing Workers merger that resulted in formation of the ACTWU.

Under the settlement, Wellman will pay a total of $465,000 to employees who lost earnings as a result of layoffs or reductions in pay or who were improperly discharged. Under a consent decree entered in U.S. District Court, the company agreed to increase, within 3 years, the number of black employees to 48 percent of skilled jobs, 35 percent of office jobs, and 15 percent of officials and managers. To help in this effort, Wellman will set up a $100,000 fund for training employees.

The contract provided for a 9-percent wage increase and for reopening bargaining on wages and benefits in both the second and third years. Other terms included a seventh paid holiday and adoption of funeral leave, jury duty, and military duty pay.

In another development involving ACTWU, the union charged that J. P. Stevens & Co., had not agreed to a July 1980 wage increase for the unionized employees at its Roanoke Rapids, N.C., plant to punish them and to "chill the union organizing activities elsewhere." (See *Monthly Labor Review*, September 1980, p. 60, for information on wage increases that were granted or negotiated at other southern textile companies in July 1980.)

The ACTWU, which for 6 years has been trying to negotiate an initial contract at the plant, recalled that the National Labor Relations Board issued a complaint against Stevens for denying a 1979 wage increase to the 3,000 workers. The complaint asserted that the company had withheld the increase from the employees because they had joined or supported the union for mutual protection and to engage in collective bargaining.

Workers agree to purchase printing firm

Employees agreed to purchase Dayton (Ohio) Press, Inc., to avert a possible closing of the magazine printing firm. The agreement between the parent Charter Co. and 13 unions calls for Charter to receive a $35-million long-term note. The employees would borrow $100 million, of which $70 million would be used for new machinery and $30 million for operating expenses. To partly offset these costs, the employees agreed to a 14-percent wage reduction. An official of the Graphic Arts union, which represents 850 of the workers, said that the purchase was contingent on obtaining long-term printing contracts, as well as on arranging the financing.

Prior to the decision to sell the plant to the employees, Charter had considered moving the operation to Tennessee, Virginia, or Georgia; selling the business to another firm; or investing $70 million in new rotagravure presses necessary for the firm to be competitive with other magazine printers.

The company ruled out buying new presses after the unions refused to accept a wage freeze that Charter said was necessary to equalize labor costs with its competitors. The rejected proposal, made in February 1980, was for a 15-year contract with wages to be frozen until the five competitors' wages equalled those at Dayton Press, which was expected to occur in 1983. During the balance of the 15-year period, employees would have received the average amount of the increases received by the employees of the five companies. According to a union official, straight-time pay for the unionized workers at Dayton Press ranged from $15,674 to $20,072 a year at the time of the proposal.

Dayton Press has been losing money for the past 4 years. In February, employment was 2,600, including 700 on layoff, compared with 5,700 in 1970.

Benzene standard overturned

The Supreme Court ruled by a 5 to 4 vote that the U.S. Department of Labor's 1977 standard for worker exposure to benzene was invalid because the Department had not proved it was necessary. Justice John Paul Stevens, writing for four members of the Court, said that the Occupational Safety and Health Administration in issuing the standard had failed to prove that it was "reasonably necessary and appropriate" to remedy a "significant risk of material health impairment." Stevens said OSHA had acted incorrectly in reducing the allowable exposure level to one part of benzene per million parts of air, from 10 ppm, because the agency had not obtained "empirical evidence" or "opinion testimony" that "exposure to benzene at or below the 10 ppm level had ever in fact caused leukemia." He said that OSHA's rationale for tightening the standard was its long-standing position that exposure to cancer-causing agents must be reduced to the lowest possible level because there is no such thing as a "safe level."

Charles Dibona, president of the American Petroleum Institute, said that the court's ruling establishes that "health regulations in this country must be made on the basis of scientific fact rather than pure speculation." Edmund B. Frost, general counsel of the Chemical Manufacturers' Association, said, "Congress did not mandate—nor can OSHA achieve—a perfectly risk-free society. OSHA can now regulate only significant, not theoretical, risks."

Deputy Assistant Secretary of Labor Basil Whiting conceded that the ruling will make it more difficult to set standards but said OSHA will "press forward in regulating benzene, as well as in regulating other cancer-causing and toxic substances."

The legal challenge to the benzene standard, initiated by the American Petroleum Institute, had resulted in a ruling by the 5th U.S. Circuit Court of Appeals in New Orleans that the standard was unreasonable because of a lack of evidence of significant health benefits. The appeal before the Supreme Court that resulted in the upholding of the lower courts' ruling was *Industrial Union Department (of the AFL-CIO)* vs. *American Petroleum Institute.* (For a fuller discussion of the case, see "Significant Decisions in Labor Cases," September 1980, pp. 53–54.)

Minority quotas for U.S. contracts upheld

In one of the most important civil rights cases in recent years, the Supreme Court decided that Congress has constitutional power to earmark Federal funds for minority groups to compensate for discrimination. In rejecting, by a 6 to 3 vote, an appeal of a decision upholding a 1977 law allocating 10 percent of a public works appropriation to minority contractors, the Court said Congress may favor a minority group whenever it finds racial discrimination and tailor the remedy to end that discrimination. The Court said that the findings of discrimination need not be as specific as when a judge imposes a remedy and that the people adversely affected by corrective programs need not have been found guilty of discrimination. (See "Significant Decisions in Labor Cases," September 1980, pp. 54–56.)

Kahn denounces construction agreements

Construction settlements in California drew attention as a number of unions negotiated 3-year contracts that, according to industry officials, would raise labor costs by more than 40 percent. Alfred E. Kahn, chairman of the Council on Wage and Price Stability, denounced these settlements—and some others in the industry—as inflationary and called on John T. Dunlop, head of the tripartite Pay Advisory Committee, to investigate the problem. Dunlop immediately began discussions with construction industry and union leaders to determine if 1980 settlements alter traditional wage relationships between the various crafts and, thus, create competition among crafts. During his tenure as leader of the former Construction Industry Stabilization Committee, Dunlop worked to stabilize these pay relationships as part of his plan to moderate construction settlements.

Perhaps the most noteworthy settlement was between Plumbers District Council 16 and the various employer associations for 12,000 workers in a 13 county area, including Los Angeles. It provided for an $8.85 increase in the previous $20-an-hour wage-benefit cost. Wages were increased to $15.25 an hour on July 1, 1980 (from $13.83), to $16.85 on July 1, 1981, and to $18.69 on July 1, 1982. The balance of the package consisted of increases in employer payments into various benefit funds and increases in travel pay and subsistence.

William Deel, head of the Plumbing Contractors Association, said that the association was forced to settle on the $8.85 package because 500 independent companies continued to work during the 2-week strike, putting the 180 companies in the association at a competitive disadvantage. According to Deel, the independent companies, which employ 7,000 of the 12,000 workers, had signed interim agreements that bound them to accept whatever terms were negotiated by the association.

Deel indicated that the settlement may cause a trend toward nonunion construction because "the nonunion firms pay anything they want, and skimp or even skip entirely the fringe benefits, such as pensions." However, a plumbers union official said plumbers average about $20,000 a year, calling that "hardly excessive" for skilled craft workers.

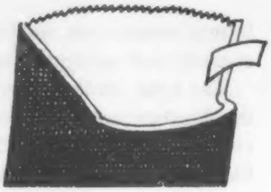
The other settlements involved a number of crafts and generally provided for $6.37 packages over the 3-year contract duration.

Insurer to yield job data

The U.S. Department of Labor withdrew a 2-day-old order barring Prudential Insurance Co. from holding Federal government contracts after the company agreed to supply the computerized employment data the Department had been seeking. The accord, worked out with the assistance of Federal District Judge Herbert Stern, provided that Prudential will supply the information regarding its employees back to July 1, 1976, on condition that the Government keep the records confidential.

The Department had been seeking the information as part of an investigation to determine if Prudential engaged in any discriminatory employment practices. Prudential had agreed to supply printouts of certain data but not the actual computer tapes, contending that this would have violated the privacy of its employees. This stalemate led to the order that would have cost Prudential more than $200 million a year in income from Government contracts.

Judge Stern, who heard Prudential's appeal of the order, scheduled a September hearing on the Department's request that Prudential also supply information for earlier years to enable it to make comparisons with the later information. Prudential contended that it was not required to supply the earlier information because it was covered by a 1976 conciliation agreement resolving previous employment matters. ☐



Book Reviews

American universities: making the grade?

American Academics: Then and Now. By Logan Wilson. New York, Oxford University Press, 1979. 309 pp. $13.95.

American Higher Education in Decline. By Kenneth H. Ashworth, foreword by Logan Wilson. College Station, Tex., Texas A & M University Press, 1979. 105 pp. $7.95.

Both distinguished educators, the authors of these books have written rather different accounts of the institutional behavior of higher education in the recent past. Logan Wilson's book, the more scholarly of the two, focuses on the people who staff the classrooms, laboratories, and offices of colleges and universities, while Kenneth H. Ashworth's essay examines the institutions of government, enterprise, and accreditation which, it claims, largely account for higher education's "decline." Though neither author dwells on economic factors, both books provide penetrating glimpses of the firms and markets which generate and channel higher education's economic activity.

Wilson's book is really a sociological profile of American academics—"then," by which Wilson means the early 1940's (when he previously analyzed the academic profession in *The Academic Man*), and "now" in the late 1970's. As in the earlier book, he begins by tracing the life cycle of an average academician as professional recruit, student, and apprentice, staff member, and "professor administrant." Progression through these stages, he observes, is basically a matter of competence rather than political or market power. Thus, in succeeding chapters, Wilson describes the ways that competence is discovered and nurtured in academia and how these processes lead to differentials in status and prestige for institutions as well as individuals.

It is the chapters on status appraisal, professional and economic status, and university and individual prestige that reveal the importance to economic understanding of mastering the sociology of the profession. One finds in universities an intellectual values structure which assumes negligible differences in the "value" of knowledge among the various fields and a commitment to the advancement of knowledge in all disciplines rather than to personal self-interest or pecuniary profit. Accordingly, faculty are judged by their intellectual quality and scholarly output rather than by the substantial differences between their market prices in nonacademic opportunities. Wilson has laced the last few chapters of the book with illustrations of how this desire for interfield equality has led to shortages and hence potential qualitative declines in specialties where opportunity wages are high, and to institutional reliance on assorted compensatory nonmonetary remuneration schemes designed to widen real incentive structures despite constraints on salaries. Thus, the devices of market adjustment are clearly evident amid the sociological trappings of the Wilson volume.

While Ashworth in *American Higher Education in Decline* does not deny the link between social organization and market performance, he implies that the link is moot so long as three institutional actors continue to undermine academia's values structure: the Federal bureaucrats who "harass" and "subjugate" higher education, the entrepreneurs of "freeze-dried" nontraditional education who, in a new version of Gresham's law, produce the least rigorous off-campus programs, and impotent regional accrediting associations which ought to know better but relax standards anyway. These three actors and their constituencies have become interdependent through Federal largess, which Ashworth argues has propelled American higher education into decline.

Fortunately, in Ashworth's view, the latest cycle of governmental interaction with higher education is drawing to a close as Federal monies for student support dry up. But a new cycle, propelled by urgent public needs for the unique services academia can provide, those services oriented more towards technological research and social understanding than to the current cycle's focus on broadened access, may be just around the corner. If so, Ashworth calls for stiffened backs and wiser choices in the halls of ivy, lest government be allowed to intervene once again into higher education's internal processes and priorities.

Ashworth's attitude towards markets for higher education services, therefore, is ambivalent: he mistrusts the allocative processes of free markets, expecially the leveling influence of entrepreneurial activity on standards of academic excellence; yet he abhors the regulatory threat of Federal and State employees who lack understanding of what a university is and how it works.

If not regulation, then what? Self-regulation, he seems to be saying, and *his* objectives in such a system would be merit at the expense of equality, and excellence at the expense of the "prevailing standard of mediocrity."

Both books are written for a general audience, though I suspect that the majority of the readers will be educators or perhaps government bureaucrats who keep files on their enemies. The Wilson book should also appeal to aspiring academicians eager to catch a glimpse of the institution to which they may be committing their life's work.

Both books add marginally to previous literature on the current academic malaise—the Wilson book primarily to the sociology of the academic profession, the Ashworth polemic to the public debate about the quality of educational outcomes. Readers should be warned that Ashworth's tell-it-like-it-is style substitutes opinion for evidence on almost every page; it will not persuade cautious readers unless they already harbor a similar set of prejudices about the roles of government, nontraditional suppliers, and standard-setting in American higher education.

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The work ethic: battered but unbowed

The Work Ethic in Industrial America, 1850–1920. By Daniel T. Rodgers. Chicago, The University of Chicago Press, 1978. 300 pp. $5.95, paper.

In Daniel T. Rodgers' words, "This is at bottom a study not of work but of ideas about work." The book focuses on the question, "What happened to work values among middle-class northerners when work itself was radically remade?" The issue of the work ethic in early industrial America has obvious appeal to the student of American history, but, because of Rodgers' lucid and concise treatment of this ever controversial issue, it will perhaps reach a wider audience. Although his penetrating analysis of the relationship between workers and their machines draws from a wide-range of literary vehicles and historical figures, he tends to concentrate on a particular genre or a few influential persons in many of his chapters.

The early 19th century marked the beginning of the transformation of the American economy from an agricultural to an industrial base. However, home production, or the "putting-out" system of handmade goods, still flourished. Thus, work was still primarily autonomous and associated with self-fulfillment and personal independence. By the mid-19th century, disparate strands of view, some of which were rooted in the Protestant Reformation and others in the era of the American Revolution, all came together to reaffirm that work was the core of moral life. "Work made men useful in a world of economic scarcity; it staved off the doubts and temptations that preyed on idleness; it opened the way to deserved wealth and status; it allowed one to put the impress of mind and skill on the material world."

Industrialization drove an unbridgeable void between the notion of work for self-fulfillment and work for monetary gain. The debasing and monotonous nature of factory work, together with the issue of wage employment, led to continuous worker efforts, most of which failed, to render industrial toil more humane. "From the cooperatives' attack on hireling wage labor, to the progressive moralists' campaign against factory monotony, to the restless discontent of industrial workers, northerners had tilted against the industrial regime, where time and discipline were screwed to an unfamiliar pitch, skills split and autonomy undermined." To trace these developments, Rodgers leaves no stone unturned, extracting material from sermons, lectures, children's literature, editorials, essays, poems, speeches, and cartoons. To represent the honest workingman, for example, he vividly describes the square-jawed, paper-capped, bare-armed, muscled blacksmith holding the tools of his trade—a commonplace figure of the industrial era.

"The first issue to trouble the moralist was the matter of wage working." To some wage labor seemed little different than slavery if a worker could not realistically aspire to a business of his own. Counterattacks on the wage system included the formation of cooperative workshops, profit-sharing, piecework, and finally an industrial democracy crusade (which in today's international circles would be known as "codetermination"), whereby employees and employers share in the decisionmaking process. Obviously, some of the labor issues of yesterday are still with us today. Piecework points to another example. To individualize payment, it was necessary to find precisely how long a worker should take to do a particular job. This gave birth to the still controversial time and motion studies. What bound all these causes together was an unwillingness to let go of the idea that work, if it was worthwhile, required the self-direction of the worker.

Industrial monotony drove a second wedge between work ideals and work realities and proved to be as vexing and unsettling as the question of a worker's economic freedom. In the chapter, "Mechanicalized Men," Rodgers traces the evolution of the problem and subsequent worker reactions through the works of four leading labor experts or reformers of the factory system. Carroll D. Wright, first Commissioner of the Federal Bureau of Labor in 1885, argued that factories had imposed moral order on moral chaos. In contrast, two

Englishmen—John Ruskin and William Morris—advocated abandoning or severely restricting the machine. This attack eventually led to the short-lived handicraft movement—arts and crafts societies fashioning their wares by hand. Ultimately, Jane Addams concluded that, since machines were inviolable, factory workers might become more happily adjusted if they knew their work was part of something larger. She started the "industrial betterment movement," with teamwork as the dominant motif. This led to a turn-of-the century surge in industrial education based on the notion that monotony could be conquered by proper mental preparation. However, against Addams protests, the schools were refashioned along factory lines, and classes were job-focused rather than worker-focused. "So the critics of routinized work turned at last toward leisure."

"Vacations were a new habit for the suburban middle class in the 1850's." In the chapter, "Play, Repose, and Plenty," Rodgers analyzes 19th century theorizing on rest, relaxation, and consumption. *Play* and recreation are praised by American ministers, most notably Henry Ward Beecher, as an offsetting influence to the excesses of work. As an alternative to play, a growing library of books advocated the power of *repose* to rekindle the mind or to regenerate spiritually troubled souls. *Plenty* refers to the age-old argument that overproduction and underconsumption would result in supply outrunning demand, leading to a general economic glut. This led to the thinking, that still somewhat besets us today, that "the best cure for national impoverishment was not to tighten one's belt but to let it out a notch" and consume. An era of surplus had arrived.

The erosion of the scarcity ideology was the most evident sign of a shift in values. "Yet the striking phenomenon of the age was not change but persistence amid change," the endurance of the work ethic, but a work ethic more and more independent from work itself. Rodgers tracks a splintering of the old phrases and old homilies associated with work ideals from the rolling confusion of everyday life through stories written for boys growing up in the 19th- and early 20th-century America. These tales intertwined lessons of work and discipline. Although they moved from instruction to instruction-within-amusement, from stories of work to stories of play and heroic endeavor, the code of duty among heroes endured; a faith in work survived.

There was still the question of "How much of a man's life should work consume?" In a somewhat less provocative chapter, "Sons of Toil," Rodgers documents the clashes between employer and employee over worktime. Workers relief from toil was manifested in absenteeism, quits, slowdowns, and a call for a shorter than a sun-to-sun workday. Shouts of "a fair day's wage and a fair day's work" became the commonplace cry of the land.

The final chapters deviate from Rodgers' chronological organization scheme to cover the work ethic with regard, first to women, and then to political rhetoric. "We also shall have our share of honored and socially useful toil," says Olive Schreiner in ***Women and Labor*** (1911). The theme that binds two influential women of the time—Harriet Beecher Stowe and Charlotte Perkins Gilman, who stand at either end of the industrial years and view women's status differently—is their repeated insistence on work. Stowe saw work as a way to break down the conventions that often forced single women into marriage. Gilman argued that women's economic dependence on men was catastrophic, stifling their independence, and the only solution was for women to go to work. However, feminist versions of the work ethic were never more than a single strand of thread in the tangled debate over the status of women. By the early 20th century, the issue of women working outside the home was no longer in doubt among many feminists. Rodgers' retrospective prediction, "To turn women's restlessness into a demand for work was to tap an immense reservoir of moral feeling, perhaps the largest that lay open to 19th and 20th century feminists," has indeed been borne out. Although women have entered the work force in record numbers throughout the post-World War II era, they have only recently begun to make inroads into male-dominated occupations.

Beggars and millionaires, who they were and whence came their unearned incomes, were matters that divided turn-of-the century northerners into bitterly contending political camps. Rodgers details the evolution of this struggle in "Political Uses of the Work Rhetoric." An epilogue that discusses Charles W. Eliot's writings—concerned with work and the conditions both of mind and circumstance that made work a rewarding, energizing, joyful activity, or otherwise—concludes the book.

Today, the work ethic may be reflected in what is called the "linear life plan," a progression from school in youth, through work during the middle years, to retirement in the later years. (See the Fred Best-Barry Stern article in the July 1977 issue of the *Review.*) It is argued, however, that—given the tremendous changes that have occurred in our society, such as the increases in education, technology, and life expectancy—such a plan may no longer fit, or be optimal for, many workers. More workers than ever before want direct personal involvement in determining when and how they will work. Ergo, the conflict over the work/leisure issue persists as workers continue to strive for more freedom of choice; Rodgers has given us an insightful historical perspective to this struggle.

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Education as an escape from the ghetto

The Education of Black Philadelphia: The Social and Educational History of a Minority Community, 1900–1950. By Vincent P. Franklin. Philadelphia, University of Pennsylvania Press, 1979. 298 pp. $19.95.

Vincent P. Franklin has written the first historical and social study of education in black Philadelphia, between 1900 and 1950, within the changing social, political, and economic context of the black minority. From the perspective of the black community, the major purpose of public and community educational activities was the advancement of Afro-Americans in the city. Education was perceived as an important vehicle for improving the depressed conditions of black citizens caused by discrimination in employment, housing, and public accommodations. Community educational programs were also geared toward those problems facing the black population. Black leaders, parents, and educators struggled persistently to ensure that the schooling that was made available to black children and adults at public expense also functioned to bring about improvements in the overall social status of black Philadelphians.

The first part of this book concentrates on the period from the turn of the century and the publication of W. E. B. DuBois' *The Philadelphia Negro (1899) to the Onset of the Great Depression.* In chapter 1, Franklin discusses the origins and development of the Philadelphia black community in the 18th and 19th centuries and presents a detailed examination of social conditions prior to 1920, especially the impact of the Great Migration. Chapter 2 examines public and private schooling of black Philadelphians in the 19th and early 20th centuries. The progressive education movement had a significant effect on public education in Philadelphia as school officials attempted to come to grips with the problem of increasing black and immigrant enrollments. According to the author, the increase in public school segregation in the wake of the Great Migration led in the 1920's to a campaign by members of the black community to change official school board policies and practices. Chapter 3 examines the social, political, economic, and educational conditions in black Philadelphia during the 1920's, and describes the unsuccessful campaign to end the practice of segregating black students and teachers in the public school system. The lack of black political power in the city meant that demands for desegregation of public schools would not be met in that decade.

Various historical and literary societies, church and fraternal groups, and social improvement associations organized communitywide educational activities to inform black Philadelphians about their heritage and contemporary social issues and problems. Chapter 4 presents an analysis of the educational programs that flourished between 1900 and 1930.

In Part II, the author discusses the effect of the Great Depression, New Deal, World War II, and changing race relations on black Philadelphia. The economic depression of the 1930's caused even greater poverty and discrimination against blacks in the local and national job market. Chapter 5 examines the social, economic, and political changes for black Philadelphia during the decade. The reemergence of the Democratic Party in Philadelphia during the early 1930's led to increased competition between the two major parties for the large black vote. Chapter 6 details the successful campaign for the appointment of a black to the school board and the official desegregation of the public school system. The increase in black political power was extremely important in bringing about a change in the policies of the politically appointed Board of Public Education.

The national defense mobilization in the late 1930's signaled the beginning of a major shift in black-white, majority-minority relations in the United States. In Philadelphia, the increased demand for skilled workers led to the training and hiring of blacks in areas where they were previously barred. Chapter 7 describes race relations in Philadelphia in the 1930's and 1940's and the campaigns to educate black and white citizens in order to bring about greater interracial cooperation and understanding. Chapter 8 examines conditions in the public secondary schools of the city and the vocational training available to black youths. In the last chapter, Franklin examines the question of change and continuity in the social and educational conditions of black Philadelphia.

In this reviewer's opinion, it is important to note that other racial, religious, and cultural minority groups have been the victims of discrimination and have used public schooling and community educational programs to improve their socioeconomic conditions.

This study is richly researched and should take its place along such classic studies as: Cronin, *The Control of Urban Schools* (1973); Drake, *St. Clair Black Metropolis* (1945); Huggins, *Harlem Renaissance* (1971); Lyman, *The Black American in Sociological Thought* (1972); Spear, *Black Chicago* (1967); and Tyack, *One Best System* (1974).

It is the author's hope that this study will stimulate other comparative analyses of the social and educational history of racial and cultural minorities in urban America.

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Three quiet revolutionaries

Moving the Mountain: Women Working for Social Change. By Ellen Cantarow with Susan Gushee O'Malley and Sharon Hartman Strom. Old Westbury, N.Y., The Feminist Press, 1980. 166 pp., bibliography, $4.75, paper.

Underlying every movement for social reform is a "second echelon" of leadership—the unacclaimed men and women who work behind the scenes to achieve the changes advocated by their more visible colleagues. Ellen Cantarow, Susan Gushee O'Malley, and Sharon Hartman Strom attempt to give credit where credit is due by profiling the careers of three remarkable but little known American activists: suffragette and labor leader Florence Luscomb, civil rights activist Ella Baker, and United Farm Workers organizer Jessie Lopex de la Cruz. All three have participated in an impressive array of progressive organizations and their contributions to their respective causes are, as this book reveals, quite substantial.

To give the reader a greater feeling for these women and their work, the authors have fashioned an "oral history" of the life and times of their subjects. After each woman is sketched in a brief historical and biographical introduction, the story is turned over to the inverviewee who reflects on her years of activism. Comments by the authors interspersed with the narrative put these recollections into historical perspective.

Has this innovative approach to biography worked? It has certainly succeeded in drawing colorful and evocative portraits of three delightfully feisty women. Florence Luscomb, born in 1877 to a wealthy Lowell, Mass. family, traces her activism back to the early suffrage movement. She organized the first union for clerical workers in 1937, ran for Congress and the governorship of Massachusetts, and wrote the first anti-Vietman war pamphlet that appeared in Massachusetts in 1953. She emerges as a reformer in the grand New England tradition: genteel and steely, prim and powerful, she relinquished the privileges of her upper-class background to participate in working-class movements.

Ella Baker, now 77, started her career with an editorial position on the black newspaper *American West Indian News.* In 1938, she began her lifelong association with the National Association for the Advancement of Colored People (NAACP), becoming president of the New York City branch in 1954. In the early sixties, she midwifed the birth of the Student Nonviolent Coordinating Committees (SNCC) and worked extensively with the Southern Christian Leadership Conference. She appears as a woman of quiet strength whose activism is tempered by a self-effacing view of her contributions: "The kind of role I tried to play was to pick up pieces or put together pieces out of which I hoped an organization might come. My theory is, strong people don't need strong leaders."

A visit from Cesar Chavez in 1962 got California-born Jessie Lopex de la Cruz involved in *La Causa*—the efforts to organize migrant farmworkers into a union. By 1967, she had become an official union organizer. The 59-year old de la Cruz now works with her husband and family on a cooperative ranch and is actively engaged in trying to break the power of the corporate growers in the San Joaquin Valley and open the land to small farmers. As these women relate their experiences, the reader grasps something of the inner fire that animates them and their efforts to achieve social reform.

Unfortunately, the editorial commentary does not match the quality of the interviewees' narrative. The authors' enthusiasm and respect for their subjects make this book a lively and readable history, but their admiration overwhelms them on occasion, resulting in an embarrassment of gushing prose. Clichés such as "legendary activist" and "passion for justice," and observations like "It took courage to oppose the Cold War" become tedious and dehumanizing. The three activists might have been better served, and their accomplishments more creditably described in an understated and less partisan style.

A more serious flaw is the authors' tendency to oversimplify historical analysis. Objectivity is sacrificed for polemic and rhetoric, and at times, the tone becomes almost sophomoric. Complex historical developments like the Cold War, the Depression, and the Civil Rights Movement are explained only in the most simplistic terms; little effort is made to give a thoughtful accounting of the social forces behind the events. For example, the Cold War is dismissed in a single sentence as a systematic attack by the United States on the Soviet Union, China, and Western European Communist parties; the Depression is described as a frenzied attempt by big business to expand by overinvesting. One appreciates the authors' wish to keep their own comments brief, but such brevity may not be appropriate to a discussion of intricate social issues.

Despite these drawbacks, the book does achieve its declared goals: it brings to light the contributions of three dynamic reformers whose work has not received the general recognition it deserves. This sharing in the feelings and experiences of those who stand just behind the noisy vanguard of social reform gives the reader a greater appreciation of the patience, courage, and determination required to bring about reform.

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Organizing to preserve wages

. . . The immigrant is, in the first instance, a wage-reducer, either directly or indirectly, although the extent of his influence upon wages can not well be stated; but as a prospective wage-reducer he is met by the trade union in self-defense, just as the trade union meets female and child labor, except in this, the union seeks to organize the immigrants, while it seeks by legislation to prohibit or limit the work of women and children—that is, the union seeks the aid of the state to prevent wage reductions by means of female and child labor, and it seeks by organizing the immigrants to prevent reduction of wages by immigration.

—Carroll D. Wright
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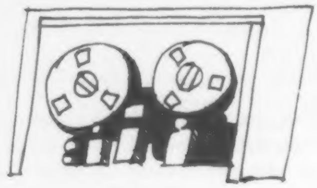

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NOTES ON CURRENT LABOR STATISTICS

This section of the *Review* presents the principal statistical series collected and calculated by the Bureau of Labor Statistics. A brief introduction to each group of tables provides definitions, notes on the data, sources, and other material usually found in footnotes.

Readers who need additional information are invited to consult the BLS regional offices listed on the inside front cover of this issue of the *Review*. Some general notes applicable to several series are given below.

Seasonal adjustment. Certain monthly and quarterly data are adjusted to eliminate the effect of such factors as climatic conditions, industry production schedules, opening and closing of schools, holiday buying periods, and vacation practices, which might otherwise mask short-term movements of the statistical series. Tables containing these data are identified as "seasonally adjusted." Seasonal effects are estimated on the basis of past experience. When new seasonal factors are computed each year, revisions may affect seasonally adjusted data for several preceding years. For a technical discussion of the method used to make seasonal adjustments, see *X-11 Variant of the Census Method II Seasonal Adjustment Program*, Technical Paper No. 15 (Bureau of the Census, 1967).

Seasonally adjusted labor force data in tables 2-7 were last revised in the February 1980 issue of the *Review* to reflect the preceding year's experience. Beginning in January 1980, the BLS introduced two major modifications in the seasonal adjustment methodology for labor force data. First, the data are being seasonally adjusted with a new procedure called X-11/ARIMA, which was developed at Statistics Canada as an extension of the standard X-11 method. A detailed description of the procedure appears in *The X-11 ARIMA Seasonal Adjustment Method* by Estela Bee Dagum (Statistics Canada Catalogue No. 12-564E, September 1979). The second change is that seasonal factors are now being calculated for use during the first 6 months of the year, rather than for the entire year, and then are calculated at mid-year for the July-December period. Revisions of historical data continue to be made only at the end of each calendar year.

Annual revision of the seasonally adjusted payroll data in tables 11, 13, 16, and 18 begins with the August 1980 issue using the X-11 ARIMA seasonal adjustment methodology. New seasonal factors for productivity data in tables 33 and 34 are usually introduced in the September issue. Seasonally adjusted indexes and percent changes from month to month and from quarter to quarter are published for numerous Consumer and Producer Price Index series. However, seasonally adjusted indexes are not published for the U.S. average All Items CPI. Only seasonally adjusted percent changes are available for this series.

Adjustments for price changes. Some data are adjusted to eliminate the effect of changes in price. These adjustments are made by dividing current dollar values by the Consumer Price Index or the appropriate component of the index, then multiplying by 100. For example, given a current hourly wage rate of \$3 and a current price index number of 150, where 1967 = 100, the hourly rate expressed in 1967 dollars is \$2 (\$3/150 × 100 = \$2). The resulting values are described as "real," "constant," or "1967" dollars.

Availability of information. Data that supplement the tables in this section are published by the Bureau of Labor Statistics in a variety of sources. Press releases provide the latest statistical information published by the Bureau; the major recurring releases are published according to the schedule given below. The *Handbook of Labor Statistics 1978*, Bulletin 2000, provides more detailed data and greater historical coverage for most of the statistical series presented in the *Monthly Labor Review*. More information from the household and establishment surveys is provided in *Employment and Earnings*, a monthly publication of the Bureau, and in two comprehensive data books issued annually—*Employment and Earnings, United States* and *Employment and Earnings, States and Areas*. More detailed information on wages and other aspects of collective bargaining appears in the monthly periodical, *Current Wage Developments*. More detailed price information is published each month in the periodicals, the *CPI Detailed Report* and *Producer Prices and Price Indexes*.

Symbols

p = preliminary. To improve the timeliness of some series, preliminary figures are issued based on representative but incomplete returns.

r = revised. Generally this revision reflects the availability of later data but may also reflect other adjustments.

n.e.c. = not elsewhere classified.

Schedule of release dates for major BLS statistical series

Title and frequency (monthly except where indicated)	Release date	Period covered	Release date	Period covered	MLR table number
Employment situation	October 3	September	November 7	October	1 - 11
Producer Price Index	October 3	September	November 7	October	26 - 30
Consumer Price Index	October 24	September	November 25	October	22 - 25
Real earnings	October 24	September	November 25	October	14 - 20
Productivity and costs (quarterly)					
Nonfarm business and manufacturing	October 27	3d quarter			31 - 34
Nonfinancial corporations			November 26	3d quarter	31 - 34
Major collective bargaining settlements (quarterly)	October 27	1st 9 months			35 - 36
Work stoppages	October 28	September	November 28	October	37
Labor turnover in manufacturing	October 30	September	November 28	October	12 - 13

EMPLOYMENT DATA FROM THE HOUSEHOLD SURVEY

EMPLOYMENT DATA in this section are obtained from the Current Population Survey, a program of personal interviews conducted monthly by the Bureau of the Census for the Bureau of Labor Statistics. The sample consists of about 65,000 households beginning in January 1980, selected to represent the U.S. population 16 years of age and older. Households are interviewed on a rotating basis, so that three-fourths of the sample is the same for any 2 consecutive months.

Definitions

Employed persons are (1) those who worked for pay any time during the week which includes the 12th day of the month or who worked unpaid for 15 hours or more in a family-operated enterprise and (2) those who were temporarily absent from their regular jobs because of illness, vacation, industrial dispute, or similar reasons. A person working at more than one job is counted only in the job at which he or she worked the greatest number of hours.

Unemployed persons are those who did not work during the survey week, but were available for work except for temporary illness and had looked for jobs within the preceding 4 weeks. Persons who did not look for work because they were on layoff or waiting to start new jobs within the next 30 days are also counted among the unemployed. The **unemployment rate** represents the number unemployed as a percent of the civilian labor force.

The **civilian labor force** consists of all employed or unemployed persons in the civilian noninstitutional population; the **total labor force** includes military personnel. Persons **not in the labor force** are those not classified as employed or unemployed; this group includes persons retired, those engaged in their own housework, those not working while attending school, those unable to work because of longterm illness, those discouraged from seeking work because of personal or job market factors, and those who are voluntarily idle. The **noninstitutional population** comprises all persons 16 years of age and older who are not inmates of penal or mental institutions, sanitariums, or homes for the aged, infirm, or needy.

Full-time workers are those employed at least 35 hours a week; **part-time workers** are those who work fewer hours. Workers on part-time schedules for economic reasons (such as slack work, terminating or starting a job during the week, material shortages, or inability to find full-time work) are among those counted as being on full-time status, under the assumption that they would be working full time if conditions permitted. The survey classifies unemployed persons in full-time or part-time status by their reported preferences for full-time or part-time work.

Notes on the data

From time to time, and especially after a decennial census, adjustments are made in the Current Population Survey figures to correct for estimating errors during the preceding years. These adjustments affect the comparability of historical data presented in table 1. A description of these adjustments and their effect on the various data series appear in the Explanatory Notes of *Employment and Earnings*.

Data in tables 2–7 are seasonally adjusted, based on the seasonal experience through December 1979.

1. Employment status of the noninstitutional population, 16 years and over, selected years, 1950–79

[Numbers in thousands]

Year	Total non-institutional population	Total labor force		Civilian labor force						Not in labor force
		Number	Percent of population	Total	Employed			Unemployed		
					Total	Agriculture	Nonagri-cultural industries	Number	Percent of labor force	
1950	106,645	63,858	59.9	62,208	58,918	7,160	51,758	3,288	5.3	42,787
1955	112,732	68,072	60.4	65,023	62,170	6,450	55,722	2,852	4.4	44,660
1960	119,759	72,142	60.2	69,628	65,778	5,458	60,318	3,852	5.5	47,617
1964	127,224	75,830	59.6	73,091	69,305	4,523	64,782	3,786	5.2	51,394
1965	129,236	77,178	59.7	74,455	71,088	4,361	66,726	3,366	4.5	52,058
1966	131,180	78,893	60.1	75,770	72,895	3,979	68,915	2,875	3.8	52,288
1967	133,319	80,793	60.6	77,347	74,372	3,844	70,527	2,975	3.8	52,527
1968	135,562	82,272	60.7	78,737	75,920	3,817	72,103	2,817	3.6	53,291
1969	137,841	84,240	61.1	80,734	77,902	3,606	74,296	2,832	3.5	53,602
1970	140,182	85,903	61.3	82,715	78,627	3,462	75,165	4,088	4.9	54,280
1971	142,596	86,929	61.0	84,113	79,120	3,387	75,732	4,993	5.9	55,666
1972	145,775	88,991	61.0	86,542	81,702	3,472	78,230	4,840	5.6	56,785
1973	148,263	91,040	61.4	88,714	84,409	3,452	80,957	4,304	4.9	57,222
1974	150,827	93,240	61.8	91,011	85,935	3,492	82,443	5,076	5.6	57,587
1975	153,449	94,793	61.8	92,613	84,783	3,380	81,403	7,830	8.5	58,655
1976	156,048	96,917	62.1	94,773	87,485	3,297	84,188	7,288	7.7	59,130
1977	158,559	99,534	62.8	97,401	90,546	3,244	87,302	6,855	7.0	59,025
1978	161,058	102,537	63.7	100,420	94,373	3,342	91,031	6,047	6.0	58,521
1979	163,620	104,996	64.2	102,908	96,945	3,297	93,648	5,963	5.8	58,623

2. Employment status by sex, age, and race, seasonally adjusted

[Numbers in thousands]

Employment status	Annual average		1979					1980							
	1978	1979	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.
TOTAL															
Total noninstitutional population[1]	161,058	163,620	163,891	164,106	164,468	164,682	164,898	165,101	165,298	165,506	165,693	165,886	166,105	166,391	166,578
Total labor force	102,537	104,996	105,218	105,586	105,688	105,744	106,088	106,310	106,346	106,184	106,511	107,230	106,634	107,302	107,139
Civilian noninstitutional population[1]	158,941	161,532	161,801	162,013	162,375	162,589	162,809	163,020	163,211	163,416	163,601	163,799	164,013	164,293	164,464
Civilian labor force	100,420	102,908	103,128	103,494	103,595	103,652	103,999	104,229	104,260	104,094	104,419	105,142	104,542	105,203	105,025
Employed	94,373	96,945	97,004	97,504	97,474	97,608	97,912	97,804	97,953	97,656	97,154	96,988	96,587	96,996	97,006
Agriculture	3,342	3,297	3,315	3,364	3,294	3,385	3,359	3,270	3,326	3,358	3,242	3,379	3,191	3,257	3,180
Nonagricultural industries	91,031	93,648	93,689	94,140	94,180	94,223	94,553	94,534	94,626	94,298	93,912	93,609	93,346	93,739	93,826
Unemployed	6,047	5,963	6,124	5,990	6,121	6,044	6,087	6,425	6,307	6,438	7,265	8,154	8,006	8,207	8,019
Unemployment rate	6.0	5.8	5.9	5.8	5.9	5.8	5.9	6.2	6.0	6.2	7.0	7.8	7.7	7.8	7.6
Not in labor force	58,521	58,623	58,673	58,519	58,780	58,937	58,810	58,791	58,951	59,322	59,182	58,657	59,471	59,091	59,439
Men, 20 years and over															
Civilian noninstitutional population[1]	67,006	68,293	68,417	68,522	68,697	68,804	68,940	69,047	69,140	69,238	69,329	69,428	69,532	69,664	69,756
Civilian labor force	53,464	54,486	54,597	54,735	54,760	54,709	54,781	54,855	55,038	54,996	55,114	55,467	55,220	55,398	55,474
Employed	51,212	52,264	52,311	52,453	52,443	52,374	52,478	52,279	52,531	52,300	51,868	51,796	51,510	51,668	51,792
Agriculture	2,361	2,350	2,375	2,377	2,371	2,438	2,427	2,387	2,435	2,394	2,320	2,384	2,270	2,292	2,286
Nonagricultural industries	48,852	49,913	49,936	50,076	50,072	49,936	50,051	49,892	50,096	49,906	49,548	49,412	49,240	49,376	49,506
Unemployed	2,252	2,223	2,286	2,282	2,317	2,335	2,303	2,577	2,507	2,696	3,246	3,671	3,710	3,730	3,682
Unemployment rate	4.2	4.1	4.2	4.2	4.2	4.3	4.2	4.7	4.6	4.9	5.9	6.6	6.7	6.7	6.6
Not in labor force	13,541	13,807	13,820	13,787	13,937	14,095	14,159	14,192	14,102	14,242	14,215	13,961	14,312	14,266	14,282
Women, 20 years and over															
Civilian noninstitutional population[1]	75,489	76,860	77,006	77,124	77,308	77,426	77,542	77,656	77,766	77,876	77,981	78,090	78,211	78,360	78,473
Civilian labor force	37,416	38,910	39,304	39,239	39,362	39,445	39,659	39,878	39,857	39,751	40,137	40,246	40,125	40,471	40,589
Employed	35,180	36,698	37,000	37,075	37,112	37,248	37,402	37,574	37,604	37,496	37,602	37,576	37,530	37,769	37,961
Agriculture	586	591	600	628	572	612	582	540	567	582	552	616	541	565	548
Nonagricultural industries	34,593	36,107	36,400	36,447	36,540	36,636	36,820	37,034	37,037	36,914	37,051	36,960	36,989	37,204	37,413
Unemployed	2,236	2,213	2,304	2,164	2,250	2,197	2,257	2,304	2,254	2,255	2,534	2,670	2,596	2,702	2,628
Unemployment rate	6.0	5.7	5.9	5.5	5.7	5.6	5.7	5.8	5.7	5.7	6.3	6.6	6.5	6.7	6.5
Not in labor force	38,073	37,949	37,702	37,885	37,946	37,981	37,883	37,778	37,909	38,125	37,844	37,844	38,086	37,889	37,884
Both sexes, 16–19 years															
Civilian noninstitutional population[1]	16,447	16,379	16,377	16,367	16,370	16,360	16,326	16,317	16,305	16,302	16,291	16,281	16,271	16,268	16,235
Civilian labor force	9,540	9,512	9,227	9,520	9,473	9,498	9,559	9,497	9,365	9,346	9,168	9,429	9,197	9,334	8,962
Employed	7,981	7,984	7,693	7,976	7,919	7,986	8,032	7,952	7,818	7,859	7,683	7,616	7,497	7,560	7,253
Agriculture	395	356	340	359	351	335	350	344	325	381	370	379	380	401	346
Nonagricultural industries	7,586	7,628	7,353	7,617	7,568	7,651	7,682	7,606	7,493	7,478	7,313	7,237	7,117	7,159	6,907
Unemployed	1,559	1,528	1,534	1,544	1,554	1,512	1,527	1,545	1,547	1,487	1,485	1,813	1,700	1,774	1,709
Unemployment rate	16.3	16.1	16.6	16.2	16.4	15.9	16.0	16.3	16.5	15.9	16.2	19.2	18.5	19.0	19.1
Not in labor force	6,907	6,867	7,150	6,847	6,897	6,862	6,767	6,820	6,940	6,956	7,123	6,852	7,074	6,934	7,273
White															
Civilian noninstitutional population[1]	139,580	141,614	141,822	141,981	142,296	142,461	142,645	142,806	142,951	143,115	143,254	143,403	143,565	143,770	143,900
Civilian labor force	88,456	90,602	90,759	91,082	91,147	91,242	91,579	91,852	91,977	91,821	92,083	92,535	92,096	92,456	92,294
Employed	83,836	86,025	85,976	86,425	86,454	86,571	86,894	86,895	87,081	86,822	86,385	86,148	85,792	86,063	85,981
Unemployed	4,620	4,577	4,783	4,657	4,693	4,671	4,685	4,957	4,896	4,999	5,698	6,386	6,303	6,392	6,313
Unemployment rate	5.2	5.1	5.3	5.1	5.1	5.1	5.1	5.4	5.3	5.4	6.2	6.9	6.8	6.9	6.8
Not in labor force	51,124	51,011	51,161	50,900	51,149	51,219	51,066	50,954	50,975	51,294	51,171	50,868	51,469	51,314	51,606
Black and other															
Civilian noninstitutional population[1]	19,361	19,918	19,979	20,032	20,079	20,128	20,163	20,214	20,261	20,301	20,346	20,395	20,448	20,523	20,564
Civilian labor force	11,964	12,306	12,343	12,404	12,512	12,391	12,432	12,453	12,362	12,266	12,319	12,559	12,446	12,739	12,650
Employed	10,537	10,920	10,982	11,063	11,076	11,044	11,024	10,979	10,937	10,823	10,771	10,813	10,751	10,932	10,930
Unemployed	1,427	1,386	1,361	1,341	1,436	1,347	1,408	1,474	1,424	1,443	1,549	1,746	1,695	1,807	1,719
Unemployment rate	11.9	11.3	11.0	10.8	11.5	10.9	11.3	11.8	11.5	11.8	12.6	13.9	13.6	14.2	13.6
Not in labor force	7,397	7,612	7,639	7,264	7,567	7,737	7,731	7,761	7,899	8,035	8,027	7,836	8,002	7,784	7,914

[1] As in table 1, population figures are not seasonally adjusted.

NOTE: The monthly data in this table have been revised to reflect seasonal experience through 1979.

3. Selected employment indicators, seasonally adjusted

[In thousands]

Selected categories	Annual average		1979					1980							
	1978	1979	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.
CHARACTERISTIC															
Total employed, 16 years and over	94,373	96,945	97,004	97,504	97,474	97,608	97,912	97,804	97,953	97,656	97,154	96,988	96,537	96,996	97,006
Men	55,491	56,499	56,408	56,714	56,629	56,580	56,734	56,486	56,732	56,601	55,998	55,823	55,457	55,629	55,551
Women	38,882	40,446	40,596	40,790	40,845	41,028	41,178	41,318	41,221	41,051	41,156	41,165	41,079	41,367	41,455
Married men, spouse present	38,688	39,090	39,180	39,198	39,124	38,845	38,924	38,749	38,955	38,745	38,342	38,147	38,193	37,999	37,910
Married women, spouse present	21,881	22,724	22,869	22,937	22,919	22,940	23,027	23,111	23,178	23,202	23,080	23,155	23,144	23,097	23,162
OCCUPATION															
White-collar workers	47,205	49,342	49,663	49,816	49,738	49,912	49,911	50,313	50,448	50,302	50,405	50,606	50,861	51,114	51,413
Professional and technical	14,245	15,050	15,068	15,141	15,057	15,131	15,272	15,337	15,444	15,397	15,542	15,551	15,712	15,741	15,761
Managers and administrators, except farm	10,105	10,516	10,698	10,659	10,639	10,617	10,535	10,608	10,971	10,755	10,745	10,882	10,911	11,046	11,153
Salesworkers	5,951	6,163	6,145	6,181	6,261	6,362	6,346	6,452	6,185	6,113	5,989	6,022	5,981	6,128	6,124
Clerical workers	16,904	17,613	17,752	17,835	17,781	17,802	17,758	17,915	17,848	18,037	18,129	18,152	18,256	18,199	18,375
Blue-collar workers	31,531	32,066	31,849	32,209	32,205	32,110	32,302	31,882	31,754	31,670	31,127	30,681	30,243	30,149	29,963
Craft and kindred workers	12,386	12,880	12,761	12,993	13,001	12,925	13,041	12,814	12,728	12,767	12,773	12,523	12,301	12,382	12,233
Operatives, except transport	10,875	10,909	10,909	10,964	10,967	10,963	11,042	10,678	10,661	10,579	10,408	10,336	10,131	10,134	10,066
Transport equipment operatives	3,541	3,612	3,604	3,617	3,593	3,628	3,635	3,616	3,571	3,558	3,483	3,421	3,395	3,335	3,474
Nonfarm laborers	4,729	4,665	4,575	4,635	4,644	4,594	4,584	4,774	4,795	4,767	4,463	4,402	4,416	4,299	4,209
Service workers	12,839	12,834	12,621	12,859	12,937	12,899	12,970	12,979	13,080	12,981	13,034	13,932	12,930	13,045	12,917
Farmworkers	2,798	2,703	2,707	2,722	2,695	2,718	2,694	2,660	2,764	2,733	2,658	2,745	2,606	2,689	2,601
MAJOR INDUSTRY AND CLASS OF WORKER															
Agriculture:															
Wage and salary workers	1,419	1,413	1,384	1,399	1,381	1,475	1,451	1,428	1,417	1,449	1,370	1,405	1,365	1,352	1,263
Self-employed workers	1,607	1,580	1,614	1,642	1,602	1,622	1,596	1,554	1,648	1,600	1,591	1,662	1,590	1,631	1,648
Unpaid family workers	316	304	310	325	313	310	310	293	283	300	281	289	299	292	273
Nonagricultural industries:															
Wage and salary workers	84,253	86,540	86,421	86,912	86,982	87,020	87,384	87,578	87,419	87,221	86,741	86,631	86,257	86,407	86,508
Government	15,289	15,369	15,279	15,407	15,423	15,358	15,397	15,414	15,540	15,622	15,668	15,799	15,891	15,760	15,495
Private industries	68,966	71,171	71,142	71,505	71,559	71,662	71,987	72,163	71,879	71,599	71,072	70,832	70,365	70,647	71,014
Private households	1,363	1,240	1,211	1,313	1,261	1,211	1,220	1,132	1,178	1,115	1,123	1,208	1,219	1,245	1,209
Other industries	67,603	69,931	69,931	70,192	70,298	70,451	70,759	71,031	70,702	70,484	69,949	69,625	69,147	69,402	69,805
Self-employed workers	6,305	6,652	6,689	6,731	6,812	6,781	6,737	6,752	6,809	6,825	6,813	6,648	6,666	6,765	6,879
Unpaid family workers	472	455	450	449	430	417	409	379	397	376	383	411	445	441	399
PERSONS AT WORK [1]															
Nonagricultural industries	85,693	88,133	88,855	88,723	88,638	88,617	89,180	89,454	88,985	88,585	87,660	87,680	87,910	87,454	88,270
Full-time schedules	70,543	72,647	73,053	73,159	73,204	72,997	73,137	73,223	73,110	72,749	71,807	71,224	71,206	70,649	71,478
Part time for economic reasons	3,216	3,281	3,298	3,167	3,315	3,392	3,519	3,513	3,406	3,418	3,816	4,349	3,999	4,113	4,148
Usually work full time	1,249	1,325	1,401	1,273	1,354	1,413	1,491	1,549	1,380	1,463	1,709	2,064	1,781	1,847	1,692
Usually work part time	1,967	1,956	1,897	1,894	1,961	1,979	2,028	1,964	2,026	1,955	2,107	2,285	2,217	2,266	2,456
Part time for noneconomic reasons	11,934	12,205	12,504	12,397	12,119	12,228	12,524	12,718	12,469	12,418	12,037	12,106	12,706	12,692	12,644

[1] Excludes persons "with a job but not at work" during the survey period for such reasons as vacation, illness, or industrial disputes.

NOTE: The monthly data in this table have been revised to reflect seasonal experience through 1979.

4. Selected unemployment indicators, seasonally adjusted

[Unemployment rates]

Selected categories	Annual average		1979					1980							
	1978	1979	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.
CHARACTERISTIC															
Total, 16 years and over	6.0	5.8	5.9	5.8	5.9	5.8	5.9	6.2	6.0	6.2	7.0	7.8	7.7	7.8	7.6
Men, 20 years and over	4.2	4.1	4.2	4.2	4.2	4.3	4.2	4.7	4.6	4.9	5.9	6.6	6.7	6.7	6.6
Women, 20 years and over	6.0	5.7	5.9	5.5	5.7	5.6	5.7	5.8	5.7	5.7	6.3	6.6	6.5	6.7	6.5
Both sexes, 16 - 19 years	16.3	16.1	16.6	16.2	16.4	15.9	16.0	16.3	16.5	15.9	16.2	19.2	18.5	19.0	19.1
White, total	5.2	5.1	5.3	5.1	5.1	5.1	5.1	5.4	5.3	5.4	6.2	6.9	6.8	6.9	6.8
Men, 20 years and over	3.7	3.6	3.7	3.7	3.7	3.7	3.7	4.1	4.0	4.4	5.3	5.9	6.0	6.0	5.9
Women, 20 years and over	5.2	5.0	5.2	4.8	5.0	4.9	5.0	5.1	5.2	4.9	5.5	5.8	5.8	5.9	5.8
Both sexes, 16 - 19 years	13.9	13.9	14.8	14.3	14.1	13.9	13.9	14.0	13.8	13.8	14.6	17.4	16.4	16.7	17.0
Black and other, total	11.9	11.3	11.0	10.8	11.5	10.9	11.3	11.8	11.5	11.8	12.6	13.9	13.6	14.2	13.6
Men, 20 years and over	8.6	8.4	8.1	8.0	8.6	8.4	8.6	9.6	9.2	9.3	10.9	12.0	12.6	12.7	12.7
Women, 20 years and over	10.6	10.1	10.3	9.8	10.2	9.5	10.0	10.0	9.0	10.5	11.4	11.9	10.9	11.5	10.6
Both sexes, 16 - 19 years	36.3	33.5	32.6	32.3	35.1	32.8	34.3	34.6	37.9	33.0	29.8	35.2	34.4	35.6	37.4
Married men, spouse present	2.8	2.7	2.9	2.9	2.9	2.9	2.8	3.4	3.1	3.4	4.1	4.7	4.9	5.1	4.9
Married women, spouse present	5.5	5.1	5.3	4.8	5.2	4.8	5.0	5.2	5.4	5.3	5.7	6.3	6.1	6.2	6.1
Women who head families	8.5	8.3	7.9	7.7	8.4	8.4	8.4	9.2	8.5	8.7	9.3	8.3	8.4	8.9	8.9
Full-time workers	5.5	5.3	5.4	5.3	5.4	5.4	5.4	5.7	5.6	5.8	6.6	7.5	7.4	7.6	7.4
Part-time workers	9.0	8.7	8.8	8.4	8.9	8.3	8.5	8.7	8.9	8.3	8.9	9.3	8.8	8.7	8.6
Unemployed 15 weeks and over	1.4	1.2	1.1	1.1	1.2	1.1	1.2	1.3	1.2	1.3	1.6	1.6	1.7	1.8	2.1
Labor force time lost[1]	6.5	6.3	6.4	6.2	6.4	6.4	6.4	6.7	6.6	6.8	7.5	8.8	8.3	8.5	8.3
OCCUPATION															
White-collar workers	3.5	3.3	3.5	3.3	3.4	3.2	3.3	3.4	3.4	3.3	3.7	3.9	3.7	3.7	3.7
Professional and technical	2.6	2.4	2.5	2.4	2.7	2.4	2.3	2.2	2.3	2.3	2.4	2.7	2.6	2.4	2.3
Managers and administrators, except farm	2.1	2.1	2.3	2.2	2.2	1.9	2.0	1.9	2.2	2.4	2.6	2.7	2.4	2.5	2.4
Salesworkers	4.1	3.9	4.0	3.5	3.8	3.7	3.8	4.4	4.5	4.0	4.7	4.5	4.4	4.2	4.1
Clerical workers	4.9	4.6	4.9	4.5	4.7	4.4	4.6	4.8	4.7	4.5	5.1	5.4	5.3	5.4	5.4
Blue-collar workers	6.9	6.9	7.3	7.1	7.2	7.5	7.2	8.0	7.7	8.0	9.7	11.3	11.5	11.5	11.4
Craft and kindred workers	4.6	4.5	4.7	4.3	4.6	4.9	4.4	4.9	4.8	5.4	6.7	8.1	8.0	7.4	8.1
Operatives, except transport	8.1	8.4	8.9	9.0	9.1	9.0	9.0	9.9	9.2	9.3	11.6	14.0	13.8	14.6	13.6
Transport equipment operatives	5.2	5.4	6.2	6.1	5.6	5.2	5.0	6.9	6.7	6.6	8.9	9.0	10.5	10.5	10.0
Nonfarm laborers	10.7	10.8	11.3	11.0	10.7	12.2	12.2	12.3	12.0	13.0	14.1	15.4	16.2	16.1	16.5
Service workers	7.4	7.1	7.1	6.7	6.8	6.6	6.6	6.9	6.9	7.1	8.0	8.5	8.1	8.4	8.6
Farmworkers	3.8	3.8	3.9	4.1	4.3	4.5	4.3	4.4	3.9	4.0	5.0	4.8	4.2	4.8	5.6
INDUSTRY															
Nonagricultural private wage and salary workers[2]	5.9	5.7	6.0	5.8	5.9	5.8	5.8	6.2	6.0	6.2	7.1	8.2	8.3	8.2	8.0
Construction	10.6	10.2	10.1	9.6	9.9	10.2	10.3	10.8	10.5	13.0	15.1	17.5	16.5	18.1	18.3
Manufacturing	5.5	5.5	5.9	6.0	6.0	5.9	5.9	6.7	6.4	6.5	7.9	9.9	9.9	10.3	9.3
Durable goods	4.9	5.0	5.4	5.3	5.5	5.6	5.5	6.7	6.3	6.4	8.3	10.5	11.2	11.2	10.2
Nondurable goods	6.3	6.4	6.8	7.1	6.8	6.3	6.4	6.8	6.7	6.7	7.4	8.8	8.0	8.8	7.9
Transportation and public utilities	3.7	3.7	3.7	4.0	3.8	4.2	4.1	4.4	4.4	3.8	4.6	5.1	5.2	5.8	5.7
Wholesale and retail trade	6.9	6.5	6.5	6.4	6.4	6.5	6.4	6.6	6.4	6.3	7.0	7.6	8.0	7.5	7.6
Finance and service industries	5.1	4.9	5.2	4.7	4.9	4.6	4.7	4.6	4.6	4.9	5.1	5.7	5.7	5.7	5.6
Government workers	3.9	3.7	3.7	3.3	4.0	3.6	3.6	3.8	4.0	4.2	4.4	4.2	3.5	4.1	4.0
Agricultural wage and salary workers	8.8	9.1	9.9	10.0	9.9	10.1	9.4	10.3	9.2	10.2	11.9	11.7	9.7	10.8	13.8

[1] Aggregate hours lost by the unemployed and persons on part time for economic reasons as a percent of potentially available labor force hours.

[2] Includes mining, not shown separately.

NOTE: The monthly data in this table have been revised to reflect seasonal experience through 1979.

5. Unemployment rates, by sex and age, seasonally adjusted

Sex and age	Annual average		1979					1980							
	1978	1979	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.
Total, 16 years and over	6.0	5.8	5.9	5.8	5.9	5.8	5.9	6.2	6.0	6.2	7.0	7.8	7.7	7.8	7.6
16 to 19 years	16.3	16.1	16.6	16.2	16.4	15.9	16.0	16.3	16.5	15.9	16.2	19.2	18.5	19.0	19.1
16 to 17 years	19.3	18.1	18.5	16.9	18.4	17.3	18.0	19.0	18.7	17.4	18.7	21.7	19.8	20.9	22.8
18 to 19 years	14.2	14.6	15.4	15.6	15.0	14.7	14.5	14.0	15.1	14.7	14.4	17.7	18.0	17.7	16.6
20 to 24 years	9.5	9.0	9.3	9.2	9.6	8.8	9.8	10.1	9.5	9.7	11.4	12.7	12.4	12.3	11.9
25 years and over	4.0	3.9	4.0	3.9	4.0	4.0	3.8	4.2	4.1	4.4	5.0	5.5	5.5	5.7	5.5
25 to 54 years	4.2	4.1	4.2	4.1	4.2	4.3	4.1	4.4	4.5	4.7	5.4	5.9	6.0	6.1	5.9
55 years and over	3.2	3.0	3.1	2.9	3.0	2.7	2.7	3.5	2.8	2.8	3.4	3.6	3.4	3.5	3.6
Men, 16 years and over	5.2	5.1	5.2	5.2	5.2	5.2	5.2	5.7	5.5	5.7	6.7	7.7	7.8	7.8	7.7
16 to 19 years	15.7	15.8	16.3	16.1	15.7	15.8	15.6	16.2	15.6	14.8	16.1	19.7	19.5	19.7	20.2
16 to 17 years	19.2	17.9	18.0	16.7	17.1	17.8	17.9	19.0	18.0	15.9	18.3	22.0	21.8	20.8	24.6
18 to 19 years	13.2	14.2	15.1	15.3	14.4	14.0	13.6	13.9	14.1	14.0	14.2	17.9	19.3	18.7	17.0
20 to 24 years	9.1	8.6	8.8	8.8	9.5	8.4	9.4	10.4	9.9	10.4	12.3	13.7	13.8	13.4	13.9
25 years and over	3.3	3.3	3.4	3.3	3.4	3.5	3.2	3.7	3.6	3.9	4.7	5.3	5.5	5.6	5.4
25 to 54 years	3.4	3.4	3.5	3.6	3.5	3.8	3.4	3.8	3.8	4.2	5.0	5.7	5.8	6.1	5.7
55 years and over	3.1	2.9	3.1	2.8	2.8	2.6	2.6	3.5	2.6	2.7	3.4	3.5	3.8	3.9	4.0
Women, 16 years and over	7.2	6.8	7.0	6.6	6.9	6.6	6.8	6.8	6.8	6.8	7.3	7.8	7.5	7.8	7.6
16 to 19 years	17.0	16.4	17.0	16.4	17.2	16.1	16.4	16.3	17.6	17.3	16.3	18.7	17.3	18.2	17.8
16 to 17 years	19.5	18.3	19.0	17.2	19.8	16.7	18.0	19.1	19.5	19.2	19.1	21.4	17.6	20.9	20.7
18 to 19 years	15.3	15.0	15.7	15.9	15.6	15.5	15.5	14.2	16.2	15.6	14.6	17.5	16.6	16.6	16.1
20 to 24 years	10.1	9.6	9.8	9.6	9.7	9.3	10.2	9.8	9.1	9.0	10.2	11.6	10.8	11.1	9.7
25 years and over	5.1	4.8	4.9	4.6	4.9	4.7	4.7	4.9	4.9	5.0	5.5	5.7	5.6	5.7	5.7
25 to 54 years	5.4	5.2	5.3	5.0	5.2	5.0	5.1	5.2	5.4	5.5	6.0	6.1	6.1	6.2	6.2
55 years and over	3.3	3.2	3.2	2.9	3.4	2.9	2.9	3.4	3.0	2.9	3.4	3.6	2.8	3.0	3.0

6. Unemployed persons, by reason for unemployment, seasonally adjusted

[Numbers in thousands]

Reason for unemployment	1979					1980							
	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.
NUMBER OF UNEMPLOYED													
Lost last job	2,680	2,632	2,731	2,729	2,728	2,988	2,907	3,047	3,611	4,301	4,625	4,558	4,360
On layoff	915	855	929	987	944	1,019	1,031	1,129	1,424	1,944	2,117	1,975	1,692
Other job losers	1,765	1,777	1,802	1,742	1,784	1,969	1,876	1,918	2,188	2,357	2,508	2,583	2,668
Left last job	875	825	835	845	800	779	813	788	926	992	898	857	897
Reentered labor force	1,788	1,760	1,762	1,698	1,771	1,797	1,784	1,803	1,967	2,015	1,822	1,868	1,895
Seeking first job	745	801	804	736	858	811	827	805	743	884	863	930	867
PERCENT DISTRIBUTION													
Total unemployed	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Job losers	44.0	43.7	44.5	45.4	44.3	46.9	45.9	47.3	49.8	52.5	56.3	55.5	54.4
On layoff	15.0	14.2	15.2	16.4	15.3	16.0	16.3	17.5	19.6	23.7	25.8	24.0	21.1
Other job losers	29.0	29.5	29.4	29.0	29.0	30.9	29.6	29.8	30.2	28.8	30.6	31.5	33.3
Job leavers	14.4	13.7	13.6	14.1	13.0	12.2	12.8	12.2	12.8	12.1	10.9	10.4	11.2
Reentrants	29.4	29.2	28.7	28.3	28.8	28.2	28.2	28.0	27.1	24.6	22.2	22.7	23.6
New entrants	12.2	13.3	13.1	12.3	13.9	12.7	13.1	12.5	10.3	10.8	10.5	11.3	10.8
UNEMPLOYED AS A PERCENT OF THE CIVILIAN LABOR FORCE													
Job losers	2.6	2.5	2.6	2.6	2.6	2.9	2.8	2.9	3.5	4.1	4.4	4.3	4.2
Job leavers	.8	.8	.8	.8	.8	.7	.8	.8	.9	.9	.9	.8	.9
Reentrants	1.7	1.7	1.7	1.6	1.7	1.7	1.7	1.7	1.9	1.9	1.7	1.8	1.8
New entrants	.7	.8	.8	.7	.8	.8	.8	.8	.7	.8	.8	.9	.8

7. Duration of unemployment, seasonally adjusted

[Numbers in thousands]

Weeks of unemployment	Annual average		1979					1980							
	1978	1979	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.
Less than 5 weeks	2,793	2,869	3,168	2,778	2,955	2,919	2,916	3,184	2,995	2,985	3,309	3,872	3,333	3,363	3,268
5 to 14 weeks	1,875	1,892	1,738	2,035	1,963	1,869	1,986	1,907	2,081	2,160	2,391	2,697	2,922	2,700	2,490
15 weeks and over	1,379	1,202	1,185	1,152	1,195	1,191	1,230	1,334	1,286	1,363	1,629	1,722	1,766	1,915	2,184
15 to 26 weeks	746	684	658	644	678	660	711	795	790	776	953	1,014	1,027	1,057	1,259
27 weeks and over	633	518	527	508	517	531	519	539	496	587	676	708	739	858	925
Average (mean) duration, in weeks	11.9	10.8	10.7	10.7	10.5	10.6	10.5	10.5	10.7	11.0	11.3	10.5	11.7	11.6	12.6

NOTE: The monthly data in these tables have been revised to reflect seasonal experience through 1979.

EMPLOYMENT, HOURS, AND EARNINGS DATA FROM ESTABLISHMENT SURVEYS

EMPLOYMENT, HOURS, AND EARNINGS DATA in this section are compiled from payroll records reported monthly on a voluntary basis to the Bureau of Labor Statistics and its cooperating State agencies by 166,000 establishments representing all industries except agriculture. In most industries, the sampling probabilities are based on the size of the establishment; most large establishments are therefore in the sample. (An establishment is not necessarily a firm; it may be a branch plant, for example, or warehouse.) Self-employed persons and others not on a regular civilian payroll are outside the scope of the survey because they are excluded from establishment records. This largely accounts for the difference in employment figures between the household and establishment surveys.

LABOR TURNOVER DATA in this section are compiled from personnel records reported monthly on a voluntary basis to the Bureau of Labor Statistics and its cooperating State agencies. A sample of 40,000 establishments represents all industries in the manufacturing and mining sectors of the economy.

Definitions

Employed persons are all persons who received pay (including holiday and sick pay) for any part of the payroll period including the 12th of the month. Persons holding more than one job (about 5 percent of all persons in the labor force) are counted in each establishment which reports them.

Production workers in manufacturing include blue-collar worker supervisors and all nonsupervisory workers closely associated with production operations. Those workers mentioned in tables 14–20 include production workers in manufacturing and mining; construction workers in construction; and nonsupervisory workers in transportation and public utilities, in wholesale and retail trade, in finance, insurance, and real estate, and in services industries. These groups account for about four-fifths of the total employment on private nonagricultural payrolls.

Earnings are the payments production or nonsupervisory workers receive during the survey period, including premium pay for overtime or late-shift work but excluding irregular bonuses and other special payments. **Real earnings** are earnings adjusted to eliminate the effects of price change. The **Hourly Earnings Index** is calculated from average hourly earnings data adjusted to exclude the effects of two types of changes that are unrelated to underlying wage-rate developments: fluctuations in overtime premiums in manufacturing (the only sector for which overtime data are available) and the effects of changes and seasonal factors in the proportion of workers in high-wage and low-wage industries. **Spendable earnings** are earnings from which estimated social security and Federal income taxes have been deducted. The Bureau of Labor Statistics computes spendable earnings from gross weekly earnings for only two illustrative cases: (1) a worker with no dependents and (2) a married worker with three dependents.

Hours represent the average weekly hours of production or nonsupervisory workers for which pay was received and are different from standard or scheduled hours. **Overtime hours** represent the portion of gross average weekly hours which were in excess of regular hours and for which overtime premiums were paid.

Labor turnover is the movement of all wage and salary workers from one employment status to another. **Accession rates** indicate the average number of persons added to a payroll in a given period per 100 employees; **separation rates** indicate the average number dropped from a payroll per 100 employees. Although month-to-month changes in employment can be calculated from the labor turnover data, the results are not comparable with employment data from the employment and payroll survey. The labor turnover survey measures changes during the calendar month while the employment and payroll survey measures changes from midmonth to midmonth.

Notes on the data

Establishment data collected by the Bureau of Labor Statistics are periodically adjusted to comprehensive counts of employment (called "benchmarks"). The latest complete adjustment was made with the release of June 1980 data, published in the August 1980 issue of the *Review*. Consequently, data published in the *Review* prior to that issue are not necessarily comparable to current data. Complete comparable historical unadjusted and seasonally adjusted data are published in a Supplement to Employment and Earnings (unadjusted data from April 1977 through March 1980 and seasonally adjusted data from January 1974 through March 1980) and in *Employment and Earnings, United States, 1909–78*, BLS Bulletin 1312–11 (for prior periods).

Data on recalls were shown for the first time in tables 12 and 13 in the January 1978 issue of the *Review*. For a detailed discussion of the recalls series, along with historical data, see "New Series on Recalls from the Labor Turnover Survey," *Employment and Earnings*, December 1977, pp. 10–19.

A comprehensive discussion of the differences between household and establishment data on employment appears in Gloria P. Green, "Comparing employment estimates from household and payroll surveys," *Monthly Labor Review*, December 1969, pp. 9–20. See also *BLS Handbook of Methods for Surveys and Studies*, Bulletin 1910 (Bureau of Labor Statistics, 1976).

The formulas used to construct the spendable average weekly earnings series reflect the latest provisions of the Federal income tax and social security tax laws. For the spendable average weekly earnings formulas for the years 1978–80, see *Employment and Earnings*, March 1980, pp. 10–11. Real earnings data are adjusted using the Consumer Price Index for Urban Wage Earners and Clerical Workers (CPI-W).

8. Employment by industry, 1950–79

[Nonagricultural payroll data, in thousands]

Year	Total	Mining	Construction	Manufacturing	Transportation and public utilities	Wholesale and retail trade	Wholesale trade	Retail trade	Finance, insurance, and real estate	Services	Government		
											Total	Federal	State and local
1950	45,197	901	2,364	15,241	4,034	9,386	2,635	6,751	1,888	5,357	6,026	1,928	4,098
1951	47,819	929	2,637	16,393	4,226	9,742	2,727	7,015	1,956	5,547	6,389	2,302	4,087
1952	48,793	898	2,668	16,632	4,248	10,004	2,812	7,192	2,035	5,699	6,609	2,420	4,188
1953	50,202	866	2,659	17,549	4,290	10,247	2,854	7,393	2,111	5,835	6,645	2,305	4,340
1954	48,990	791	2,646	16,314	4,084	10,235	2,867	7,368	2,200	5,969	6,751	2,188	4,563
1955	50,641	792	2,839	16,882	4,141	10,535	2,926	7,610	2,298	6,240	6,914	2,187	4,727
1956	52,369	822	3,039	17,243	4,244	10,858	3,018	7,840	2,389	6,497	7,278	2,209	5,069
1957	52,853	828	2,962	17,174	4,241	10,886	3,028	7,858	2,438	6,708	7,616	2,217	5,399
1958	51,324	751	2,817	15,945	3,976	10,750	2,980	7,770	2,481	6,765	7,839	2,191	5,648
1959[1]	53,268	732	3,004	16,675	4,011	11,127	3,082	8,045	2,549	7,087	8,083	2,233	5,850
1960	54,189	712	2,926	16,796	4,004	11,391	3,143	8,248	2,629	7,378	8,353	2,270	6,083
1961	53,999	672	2,859	16,326	3,903	11,337	3,133	8,204	2,688	7,620	8,594	2,279	6,315
1962	55,549	650	2,948	16,853	3,906	11,566	3,198	8,368	2,754	7,982	8,890	2,340	6,550
1963	56,653	635	3,010	16,995	3,903	11,778	3,248	8,530	2,830	8,277	9,225	2,358	6,868
1964	58,283	634	3,097	17,274	3,951	12,160	3,337	8,823	2,911	8,660	9,596	2,348	7,248
1965	60,765	632	3,232	18,062	4,036	12,716	3,466	9,250	2,977	9,036	10,074	2,378	7,696
1966	63,901	627	3,317	19,214	4,158	13,245	3,597	9,648	3,058	9,498	10,784	2,564	8,220
1967	65,803	613	3,248	19,447	4,268	13,606	3,689	9,917	3,185	10,045	11,391	2,719	8,672
1968	67,897	606	3,350	19,781	4,318	14,099	3,779	10,320	3,337	10,567	11,839	2,737	9,102
1969	70,384	619	3,575	20,167	4,442	14,705	3,907	10,798	3,512	11,169	12,195	2,758	9,437
1970	70,880	623	3,588	19,367	4,515	15,040	3,993	11,047	3,645	11,548	12,554	2,731	9,823
1971	71,214	609	3,704	18,623	4,476	15,352	4,001	11,351	3,772	11,797	12,881	2,696	10,185
1972	73,675	628	3,889	19,151	4,541	15,949	4,113	11,836	3,908	12,276	13,334	2,684	10,649
1973	76,790	642	4,097	20,154	4,656	16,607	4,277	12,329	4,046	12,857	13,732	2,663	11,068
1974	78,265	697	4,020	20,077	4,725	16,987	4,433	12,554	4,148	13,441	14,170	2,724	11,446
1975	76,945	752	3,525	18,323	4,542	17,060	4,415	12,645	4,165	13,892	14,686	2,748	11,937
1976	79,382	779	3,576	18,997	4,582	17,755	4,546	13,209	4,271	14,551	14,871	2,733	12,138
1977	82,471	813	3,851	19,682	4,713	18,516	4,708	13,808	4,467	15,303	15,127	2,727	12,399
1978	86,697	851	4,229	20,505	4,923	19,542	4,969	14,573	4,724	16,252	15,672	2,753	12,919
1979	89,886	960	4,483	21,062	5,141	20,269	5,204	15,065	4,974	17,078	15,920	2,773	13,147

[1] Data include Alaska and Hawaii beginning in 1959.

9. Employment by State

[Nonagricultural payroll data, in thousands]

State	July 1979	June 1980	July 1980	State	July 1979	June 1980	July 1980
Alabama	1,369.6	1,345.2	1,332.1	Montana	291.9	292.8	281.9
Alaska	180.8	173.7		Nebraska	630.5	632.9	622.2
Arizona	952.3	981.1	964.4	Nevada	388.0	400.3	403.3
Arkansas	748.0	744.8	737.5	New Hampshire	382.8	388.1	384.7
California	9,602.5	9,820.5	9,673.0	New Jersey	3,077.1	3,089.7	3,076.6
Colorado	1,219.2	1,258.8	1,249.8	New Mexico	465.4	477.2	475.4
Connecticut	1,400.4	1,417.8	1,395.8	New York	7,220.4	7,240.3	7,183.8
Delaware	261.1	258.2	256.3	North Carolina	2,355.4	2,429.9	
District of Columbia	635.5	622.1		North Dakota	248.0	250.0	247.9
Florida	3,339.0	3,515.3	3,474.0	Ohio	4,511.1	4,436.6	4,363.1
Georgia	2,106.0	2,127.1	2,125.8	Oklahoma	1,094.7	1,142.2	1,136.0
Hawaii	403.7	410.4	415.8	Oregon	1,053.7	1,043.2	1,019.4
Idaho	338.5	330.7	326.0	Pennsylvania	4,852.6	4,831.1	
Illinois	4,930.8	4,831.2	4,819.3	Rhode Island	387.1	385.0	
Indiana	2,280.2	2,217.0	2,201.3	South Carolina	1,177.4	1,168.5	1,164.0
Iowa	1,125.0	1,109.1	1,090.3	South Dakota	244.5	245.9	241.1
Kansas	941.4	953.6	936.7	Tennessee	1,787.9	1,765.7	1,740.7
Kentucky	1,244.0	1,203.6	1,189.4	Texas	5,628.0	5,775.6	5,777.0
Louisiana	1,494.7	1,534.3	1,541.4	Utah[1]	560.5	568.8	564.5
Maine	427.1	425.2	414.3	Vermont	197.8	198.6	195.4
Maryland	1,635.7	1,639.8	1,642.3	Virginia	2,116.3	2,132.7	2,113.0
Massachusetts	2,612.4	2,680.6	2,705.8	Washington	1,582.5	1,632.1	1,619.7
Michigan	3,614.6	3,431.6	3,327.7	West Virginia	650.9	634.3	636.2
Minnesota	1,790.9	1,814.8	1,793.1	Wisconsin	1,979.5	1,991.6	1,974.4
Mississippi	841.6	820.2	813.5	Wyoming	207.0	219.7	219.8
Missouri	2,011.4	1,983.8	1,984.5				
				Virgin Islands	35.9	36.7	36.2

[1] Revised series, not strictly comparable with previously published data.

10. Employment by industry division and major manufacturing group

[Nonagricultural payroll data, in thousands]

Industry division and group	Annual average		1979					1980							
	1978	1979	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July ᵖ	Aug. ᵖ
TOTAL	86,697	89,886	90,083	90,629	91,062	91,288	91,394	89,630	89,781	90,316	90,761	90,849	91,049	89,815	90,009
MINING	851	960	979	983	984	986	985	982	987	996	1,006	1,024	1,049	1,028	1,033
CONSTRUCTION	4,229	4,463	4,863	4,801	4,792	4,698	4,536	4,194	4,109	4,150	4,311	4,471	4,611	4,630	4,708
MANUFACTURING	20,505	21,062	21,096	21,295	21,193	21,055	20,987	20,777	20,730	20,793	20,533	20,250	20,201	19,737	20,021
Production workers	14,734	15,085	15,048	15,265	15,170	15,034	14,964	14,738	14,678	14,727	14,466	14,172	14,093	13,653	1,939
Durable goods	12,274	12,772	12,683	12,891	12,824	12,744	12,733	12,600	12,599	12,647	12,414	12,150	12,065	11,761	11,811
Production workers	8,805	9,120	8,979	9,190	9,131	9,054	9,040	8,885	8,869	8,909	8,672	8,409	8,307	8,022	8,072
Lumber and wood products	754.7	766.1	798.2	785.0	780.0	757.2	737.4	717.4	718.9	716.9	678.4	654.8	668.0	661.9	679.6
Furniture and fixtures	494.1	499.3	487.1	499.6	502.5	503.1	501.8	498.0	494.6	494.1	488.7	469.1	460.8	437.7	444.0
Stone, clay, and glass products	698.2	709.7	726.5	721.6	718.6	710.3	697.4	678.2	674.7	679.0	675.5	668.1	666.2	657.5	665.1
Primary metal industries	1,214.9	1,250.2	1,250.6	1,250.6	1,231.4	1,222.6	1,209.9	1,207.2	1,205.1	1,203.7	1,193.8	1,149.8	1,112.9	1,056.7	1,055.9
Fabricated metal products	1,672.6	1,723.7	1,711.7	1,731.4	1,733.8	1,733.3	1,725.2	1,696.8	1,699.4	1,703.8	1,671.4	1,619.8	1,598.6	1,535.2	1,565.2
Machinery, except electrical	2,325.5	2,481.6	2,489.7	2,513.8	2,465.1	2,458.7	2,471.6	2,538.5	2,536.5	2,539.9	2,523.5	2,509.3	2,486.1	2,440.3	2,425.6
Electric and electronic equipment	2,006.1	2,124.3	2,105.7	2,152.8	2,162.0	2,164.0	2,171.9	2,162.9	2,157.7	2,167.7	2,156.2	2,120.2	2,102.2	2,066.0	2,057.6
Transportation equipment	2,002.8	2,082.8	1,965.5	2,087.4	2,076.5	2,044.2	2,079.3	1,975.8	1,983.1	2,005.6	1,891.1	1,835.1	1,847.0	1,804.0	1,802.4
Instruments and related products	653.1	688.9	693.7	691.6	694.6	694.9	698.8	697.7	700.5	703.6	702.2	699.4	702.9	697.9	695.9
Miscellaneous manufacturing	451.5	445.6	454.5	457.1	459.7	455.5	439.4	427.7	428.8	432.9	433.0	424.6	420.1	403.9	419.4
Nondurable goods	8,231	8,290	8,413	8,404	8,369	8,311	8,254	8,177	8,131	8,146	8,119	8,100	8,136	7,976	8,210
Production workers	5,929	5,965	6,069	6,075	6,039	5,980	5,924	5,853	5,809	5,818	5,794	5,763	5,786	5,631	5,867
Food and kindred products	1,724.1	1,728.1	1,828.8	1,834.5	1,781.8	1,736.3	1,706.2	1,659.9	1,644.1	1,641.1	1,626.2	1,638.5	1,676.8	1,711.7	1,783.6
Tobacco manufactures	70.6	69.9	73.8	77.5	77.4	68.6	70.8	69.1	67.1	64.4	62.9	62.7	64.6	62.5	70.4
Textile mill products	899.1	888.5	886.8	885.0	886.1	890.4	889.7	884.0	884.6	886.9	882.1	870.6	853.2	819.5	854.1
Apparel and other textile products	1,332.3	1,312.5	1,308.1	1,308.8	1,317.3	1,305.8	1,287.1	1,282.0	1,305.8	1,318.4	1,304.2	1,299.0	1,310.5	1,234.9	1,307.7
Paper and allied products	698.7	706.7	715.6	710.5	709.3	707.8	705.9	703.5	701.9	701.8	698.8	692.4	695.0	682.3	689.2
Printing and publishing	1,192.0	1,239.5	1,242.5	1,243.0	1,251.4	1,262.0	1,268.5	1,266.3	1,270.4	1,272.1	1,270.4	1,267.8	1,271.3	1,263.4	1,262.0
Chemicals and allied products	1,095.5	1,110.7	1,119.0	1,112.7	1,113.7	1,113.9	1,114.2	1,113.1	1,112.1	1,118.1	1,120.6	1,119.5	1,122.2	1,109.8	1,105.3
Petroleum and coal products	207.7	210.0	214.1	213.7	213.5	212.6	210.6	208.6	155.9	153.1	173.6	203.4	209.1	211.0	211.4
Rubber and miscellaneous plastics products	754.5	775.6	774.1	770.2	770.8	765.9	755.6	750.3	746.3	746.5	737.2	702.4	688.5	659.5	682.7
Leather and leather products	256.8	248.0	250.4	247.9	247.9	247.6	245.2	240.3	242.6	243.4	243.3	243.2	244.7	220.9	243.2
TRANSPORTATION AND PUBLIC UTILITIES	4,923	5,141	5,197	5,229	5,233	5,243	5,240	5,136	5,130	5,143	5,147	5,167	5,185	5,141	5,136
WHOLESALE AND RETAIL TRADE	19,542	20,269	20,296	20,425	20,474	20,756	21,114	20,325	20,155	20,226	20,373	20,497	20,562	20,488	20,545
WHOLESALE TRADE	4,969	5,204	5,243	5,239	5,266	5,282	5,264	5,241	5,250	5,269	5,265	5,263	5,287	5,271	5,278
RETAIL TRADE	14,573	15,066	15,053	15,186	15,208	15,474	15,850	15,084	14,905	14,957	15,108	15,234	15,275	15,217	15,267
FINANCE, INSURANCE, AND REAL ESTATE	4,724	4,974	5,068	5,015	5,025	5,039	5,047	5,052	5,061	5,085	5,104	5,137	5,201	5,228	5,223
SERVICES	16,252	17,078	17,315	17,238	17,297	17,284	17,271	17,135	17,317	17,478	17,636	17,747	17,846	17,961	17,951
GOVERNMENT	15,672	15,920	15,269	15,643	16,064	16,227	16,214	16,029	16,292	16,445	16,651	16,556	16,394	15,602	15,392
Federal	2,753	2,773	2,844	2,751	2,756	2,760	2,770	2,763	2,803	2,869	3,103	2,963	2,995	2,949	2,874
State and local	12,919	13,147	12,425	12,892	13,308	13,467	13,444	13,266	13,489	13,576	13,548	13,593	13,399	12,653	12,518

11. Employment by industry division and major manufacturing group, seasonally adjusted

[Nonagricultural payroll data, in thousands]

Industry division and group	1979					1980							
	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July [p]	Aug. [p]
TOTAL	90,222	90,283	90,441	90,552	90,678	91,031	91,186	91,144	90,951	90,488	90,047	89,865	90,086
MINING	974	976	982	985	992	999	1,007	1,009	1,012	1,023	1,029	1,011	1,017
CONSTRUCTION	4,499	4,507	4,529	4,553	4,615	4,745	4,659	4,529	4,467	4,436	4,379	4,319	4,355
MANUFACTURING	21,055	21,071	21,043	20,966	20,983	20,971	20,957	20,938	20,642	20,286	20,014	19,812	19,903
Production workers	15,046	15,058	15,025	14,948	14,956	14,911	14,871	14,850	14,550	14,186	13,931	13,757	13,846
Durable goods	12,782	12,822	12,764	12,693	12,706	12,681	12,715	12,707	12,442	12,140	11,947	11,807	11,829
Production workers	9,103	9,129	9,069	9,001	9,000	8,953	8,967	8,961	8,686	8,386	8,205	8,082	8,101
Lumber and wood products	764	767	768	757	746	743	745	737	669	654	648	645	659
Furniture and fixtures	499	497	498	498	497	497	495	494	491	472	461	448	445
Stone, clay, and glass products	710	708	709	704	704	705	705	700	680	683	647	642	650
Primary metal industries	1,250	1,242	1,236	1,230	1,219	1,215	1,214	1,209	1,193	1,144	1,096	1,050	1,055
Fabricated metal products	1,713	1,723	1,723	1,722	1,718	1,707	1,711	1,711	1,676	1,620	1,584	1,548	1,567
Machinery, except electrical	2,509	2,518	2,478	2,460	2,459	2,532	2,529	2,530	2,518	2,517	2,476	2,448	2,445
Electric and electronic equipment	2,109	2,140	2,149	2,150	2,163	2,169	2,168	2,176	2,167	2,127	2,094	2,078	2,060
Transportation equipment	2,089	2,090	2,063	2,033	2,057	1,970	2,006	2,006	1,885	1,819	1,831	1,836	1,842
Instruments and related products	693	693	696	695	698	699	702	705	703	700	696	697	695
Miscellaneous manufacturing	446	444	444	444	445	444	440	439	438	424	414	415	411
Nondurable goods	8,273	8,249	8,279	8,273	8,277	8,290	8,242	8,231	8,200	8,146	8,067	8,005	8,074
Production workers	5,943	5,929	5,956	5,947	5,947	5,958	5,904	5,889	5,864	5,800	5,726	5,675	5,745
Food and kindred products	1,722	1,712	1,723	1,725	1,724	1,716	1,713	1,704	1,690	1,691	1,677	1,685	1,679
Tobacco manufactures	70	70	70	64	66	67	68	68	69	70	71	68	67
Textile mill products	883	881	885	887	869	888	886	866	864	869	843	832	851
Apparel and other textile products	1,305	1,296	1,302	1,294	1,296	1,305	1,313	1,316	1,302	1,291	1,287	1,274	1,304
Paper and allied products	708	708	709	708	708	710	709	708	702	692	685	680	682
Printing and publishing	1,244	1,245	1,251	1,259	1,261	1,269	1,273	1,274	1,272	1,268	1,269	1,265	1,263
Chemicals and allied products	1,110	1,110	1,114	1,116	1,118	1,121	1,121	1,123	1,123	1,120	1,112	1,101	1,097
Petroleum and coal products	209	211	212	212	213	214	161	157	175	203	205	206	207
Rubber and miscellaneous plastics products	774	767	766	762	756	755	751	749	740	703	681	663	683
Leather and leather products	248	247	247	246	246	245	245	244	243	239	237	231	241
TRANSPORTATION AND PUBLIC UTILITIES	5,182	5,185	5,203	5,216	5,212	5,202	5,198	5,202	5,178	5,167	5,134	5,110	5,121
WHOLESALE AND RETAIL TRADE	20,301	20,352	20,414	20,479	20,448	20,529	20,637	20,610	20,531	20,487	20,459	20,487	20,555
WHOLESALE TRADE	5,222	5,228	5,246	5,269	5,251	5,278	5,302	5,301	5,286	5,268	5,245	5,240	5,257
RETAIL TRADE	15,079	15,124	15,168	15,210	15,197	15,251	15,335	15,309	15,245	15,219	15,214	15,247	15,298
FINANCE, INSURANCE, AND REAL ESTATE	5,019	5,017	5,033	5,049	5,064	5,091	5,101	5,115	5,119	5,137	5,150	5,166	5,171
SERVICES	17,152	17,192	17,264	17,308	17,382	17,462	17,540	17,580	17,618	17,659	17,652	17,748	17,773
GOVERNMENT	16,040	15,983	15,973	15,996	16,002	16,032	16,087	16,161	16,384	16,273	16,230	16,212	16,171
Federal	2,811	2,762	2,769	2,773	2,773	2,791	2,826	2,886	3,115	2,960	2,951	2,893	2,840
State and local	13,229	13,221	13,204	13,223	13,229	13,241	13,261	13,275	13,269	13,313	13,279	13,319	13,331

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12. Labor turnover rates in manufacturing, 1977 to date

[Per 100 employees]

Year	Annual average	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
							Total accessions						
1977	4.0	3.7	3.7	4.0	3.8	4.6	4.9	4.3	5.3	4.6	3.9	3.1	2.4
1978	4.1	3.8	3.2	3.8	4.0	4.7	4.9	4.4	5.4	4.9	4.3	3.3	2.4
1979	4.0	4.0	3.4	3.8	3.9	4.7	4.8	4.3	5.0	4.5	4.1	3.0	2.2
1980	...	3.8	3.3	3.5	3.1	3.4	3.9	^{p}3.8	...	...	...	...	...
							New hires						
1977	2.8	2.2	2.1	2.6	2.7	3.5	3.7	3.0	4.0	3.5	3.0	2.2	1.6
1978	3.1	2.5	2.2	2.7	2.9	3.6	3.9	3.3	4.2	3.9	3.5	2.6	1.7
1979	2.9	2.8	2.5	2.8	2.9	3.6	3.8	3.1	3.7	3.4	3.1	2.2	1.5
1980	...	2.4	2.2	2.3	2.1	2.1	2.4	^{p}2.1	...	...	...	...	...
							Recalls						
1977	.9	1.2	1.3	1.1	.9	.8	.8	.9	1.0	.8	.6	.6	.6
1978	.7	1.0	.7	.8	.8	.8	.7	.8	.9	.7	.6	.5	.5
1979	.7	.9	.7	.7	.7	.8	.7	.9	.9	.8	.7	.5	.5
1980	...	1.1	.9	.9	.8	1.0	1.2	^{p}1.4	...	...	...	...	...
							Total separations						
1977	3.8	3.9	3.4	3.4	3.4	3.5	3.5	4.3	5.1	4.9	3.8	3.4	3.4
1978	3.9	3.6	3.1	3.5	3.6	3.7	3.8	4.1	5.3	4.9	4.1	3.5	3.4
1979	4.0	3.8	3.2	3.6	3.7	3.8	3.9	4.3	5.7	4.7	4.2	3.8	3.5
1980	...	4.1	3.5	3.7	4.7	4.8	4.4	^{p}4.2	...	...	...	...	...
							Quits						
1977	1.8	1.4	1.3	1.6	1.7	1.9	1.9	1.9	3.1	2.8	1.9	1.5	1.2
1978	2.1	1.5	1.4	1.8	2.0	2.1	2.2	2.1	3.5	3.1	2.3	1.7	1.3
1979	2.0	1.8	1.6	1.9	2.0	2.1	2.1	2.0	3.3	2.7	2.1	1.6	1.1
1980	...	1.6	1.5	1.6	1.5	1.5	1.4	^{p}1.4	...	...	...	...	...
							Layoffs						
1977	1.1	1.7	1.4	1.0	.9	.8	.8	1.5	1.0	1.1	1.1	1.1	1.5
1978	.9	1.2	.9	.9	.8	.7	.7	1.1	.8	.8	.9	1.0	1.4
1979	1.1	1.1	.8	.8	.9	.7	.9	1.4	1.3	1.1	1.2	1.5	1.7
1980	...	1.6	1.2	1.3	2.3	2.5	2.2	^{p}2.0	...	...	...	...	...

13. Labor turnover rates in manufacturing, by major industry group

[Per 100 employees]

Major industry group	Accession rates									Separation rates								
	Total			New hires			Recalls			Total			Quits			Layoffs		
	July 1979	June 1980	July 1980^{p}	July 1979	June 1980	July 1980^{p}	July 1979	June 1980	July 1980^{p}	July 1979	June 1980	July 1980^{p}	July 1979	June 1980	July 1980^{p}	July 1979	June 1980	July 1980^{p}
MANUFACTURING	4.3	3.9	3.8	3.1	2.4	2.1	0.9	1.2	1.4	4.3	4.4	4.2	2.0	1.4	1.4	1.4	2.2	2.0
Seasonally adjusted	3.9	3.3	3.4	2.8	1.6	1.9	...	...	...	3.9	5.1	3.8	1.9	1.4	1.3	1.3	2.9	1.7
Durable goods	3.7	3.5	3.2	2.7	1.9	1.6	.7	1.2	1.4	4.0	4.5	4.0	1.7	1.1	1.1	1.1	2.6	2.1
Lumber and wood products	5.7	6.6	6.3	5.0	3.1	3.3	.6	3.3	2.7	5.5	5.4	5.0	3.6	2.1	2.3	.7	2.4	1.8
Furniture and fixtures	5.8	3.2	3.8	4.4	2.0	2.1	1.3	1.0	1.5	5.9	4.6	5.5	3.2	1.7	1.7	1.5	2.2	2.9
Stone, clay, and glass products	4.3	4.2	4.1	3.4	2.2	2.0	.8	1.6	1.8	3.8	4.9	3.8	2.1	1.2	1.2	.8	2.7	1.8
Primary metal industries	2.5	2.9	3.3	1.7	.8	.6	.5	1.9	2.4	3.1	6.7	5.2	1.0	.5	.5	1.1	5.4	3.7
Fabricated metal products	4.1	3.9	3.9	3.1	2.1	1.9	.8	1.5	1.8	4.5	5.1	4.4	2.1	1.2	1.3	1.5	3.0	2.4
Machinery, except electrical	3.0	2.6	2.2	2.3	1.8	1.3	.4	.5	.6	2.8	3.5	3.1	1.3	.9	.9	.7	1.8	1.5
Electric and electronic equipment	3.5	2.9	2.6	2.5	1.9	1.3	.6	.5	.9	3.7	4.0	3.3	1.6	1.1	1.0	1.1	2.0	1.6
Transportation equipment	3.3	3.9	3.1	1.9	1.5	1.4	.9	1.8	1.3	5.0	4.9	4.4	1.2	.8	.8	2.9	3.2	2.9
Instruments and related products	2.7	3.5	2.4	2.2	2.9	1.8	.3	.3	.5	2.3	2.7	2.6	1.3	1.1	1.1	.4	.8	.9
Miscellaneous manufacturing	6.2	4.7	5.3	4.4	3.0	3.0	1.5	1.5	2.2	6.1	5.0	5.5	2.6	1.7	1.9	2.2	2.4	2.5
Nondurable goods	5.2	4.5	4.5	3.8	3.1	2.8	1.2	1.2	1.5	4.8	4.2	4.6	2.5	1.8	1.8	1.4	1.6	1.9
Food and kindred products	8.2	7.9	7.6	6.5	5.2	4.8	2.5	2.4	2.7	6.0	5.0	5.8	3.3	2.3	2.4	1.8	1.9	2.6
Tobacco manufacturers	4.2	2.8	5.2	.9	1.1	1.2	2.1	.8	2.1	2.3	2.1	2.2	.6	.3	.5	1.2	1.0	.9
Textile mill products	5.1	3.5	4.1	3.8	2.6	2.6	1.0	.6	1.0	5.5	4.2	5.4	3.1	2.0	2.1	1.3	1.2	1.8
Apparel and other products	6.0	4.9	5.4	3.9	3.3	3.3	1.8	1.4	1.9	7.1	5.4	6.3	3.4	2.6	2.7	2.7	2.0	2.6
Paper and allied products	2.8	3.0	2.9	2.2	1.8	1.3	.5	1.0	1.4	2.7	3.4	3.1	1.3	.8	.8	.6	1.9	1.5
Printing and publishing	3.5	3.5	2.9	2.9	2.9	2.3	.4	.5	.5	3.3	3.3	3.1	2.1	1.8	1.7	.6	.9	.8
Chemicals and allied products	1.9	2.2	1.5	1.5	1.7	1.1	.2	.3	.3	1.6	2.0	1.9	.8	.6	.6	.3	.8	.8
Petroleum and coal products	2.5	2.7	2.6	2.3	2.9	2.0	.1	.7	.4	1.8	1.8	1.9	.8	.6	.7	.4	.7	.5
Rubber and miscellaneous plastics products	5.2	4.0	4.7	4.0	2.2	2.0	.9	1.4	2.3	5.5	6.2	5.4	2.9	1.7	1.6	1.3	3.5	2.7
Leather and leather products	7.7	5.8	7.8	4.7	4.3	4.4	2.6	1.2	3.1	11.4	5.7	9.0	4.2	2.9	3.3	5.9	1.9	4.7

14. Hours and earnings, by industry division, 1949–79

[Gross averages, production or nonsupervisory workers on nonagricultural payrolls]

Year	Average weekly earnings	Average weekly hours	Average hourly earnings	Average weekly earnings	Average weekly hours	Average hourly earnings	Average weekly earnings	Average weekly hours	Average hourly earnings	Average weekly earnings	Average weekly hours	Average hourly earnings
	Total private			Mining			Construction			Manufacturing		
1949	$50.24	39.4	$1.275	$62.33	36.3	$1.717	$67.56	37.7	$1.792	$53.88	39.1	$1.378
1950	53.13	39.8	1.335	67.16	37.9	1.772	69.68	37.4	1.863	58.32	40.5	1.440
1951	57.86	39.9	1.45	74.11	38.4	1.93	76.96	38.1	2.02	63.34	40.6	1.56
1952	60.65	39.9	1.52	77.59	38.6	2.01	82.86	38.9	2.13	66.75	40.7	1.64
1953	63.76	39.6	1.61	83.03	38.8	2.14	86.41	37.9	2.28	70.47	40.5	1.74
1954	64.52	39.1	1.65	82.60	38.6	2.14	88.91	37.2	2.39	70.49	39.6	1.78
1955	67.72	39.6	1.71	89.54	40.7	2.20	90.90	37.1	2.45	75.30	40.7	1.85
1956	70.74	39.3	1.80	95.06	40.8	2.33	96.38	37.5	2.57	78.78	40.4	1.95
1957	73.33	38.8	1.89	98.25	40.1	2.45	100.27	37.0	2.71	81.19	39.8	2.04
1958	75.08	38.5	1.95	96.08	38.9	2.47	103.78	36.8	2.82	82.32	39.2	2.10
1959[1]	78.78	39.0	2.02	103.68	40.5	2.56	108.41	37.0	2.93	88.26	40.3	2.19
1960	80.67	38.6	2.09	105.04	40.4	2.60	112.67	36.7	3.07	89.72	39.7	2.26
1961	82.60	38.6	2.14	106.92	40.5	2.64	118.08	36.9	3.20	92.34	39.8	2.32
1962	85.91	38.7	2.22	110.70	41.0	2.70	122.47	37.0	3.31	96.56	40.4	2.39
1963	88.46	38.8	2.28	114.40	41.6	2.75	127.19	37.3	3.41	99.23	40.5	2.45
1964	91.33	38.7	2.36	117.74	41.9	2.81	132.06	37.2	3.55	102.97	40.7	2.53
1965	95.45	38.8	2.46	123.52	42.3	2.92	138.38	37.4	3.70	107.53	41.2	2.61
1966	98.82	38.6	2.56	130.24	42.7	3.05	146.26	37.6	3.89	112.19	41.4	2.71
1967	101.84	38.0	2.68	135.89	42.6	3.19	154.95	37.7	4.11	114.49	40.6	2.82
1968	107.73	37.8	2.85	142.71	42.6	3.35	164.49	37.3	4.41	122.51	40.7	3.01
1969	114.61	37.7	3.04	154.80	43.0	3.60	181.54	37.9	4.79	129.51	40.6	3.19
1970	119.83	37.1	3.23	164.40	42.7	3.85	195.45	37.3	5.24	133.33	39.8	3.35
1971	127.31	36.9	3.45	172.14	42.4	4.06	211.67	37.2	5.69	142.44	39.9	3.57
1972	136.90	37.0	3.70	189.14	42.6	4.44	221.19	36.5	6.06	154.71	40.5	3.82
1973	145.39	36.9	3.94	201.40	42.4	4.75	235.89	36.8	6.41	166.46	40.7	4.09
1974	154.76	36.5	4.24	219.14	41.9	5.23	249.25	36.6	6.81	176.80	40.0	4.42
1975	163.53	36.1	4.53	249.31	41.9	5.95	266.08	36.4	7.31	190.79	39.5	4.83
1976	175.45	36.1	4.86	273.90	42.4	6.46	283.73	36.8	7.71	209.32	40.1	5.22
1977	189.00	36.0	5.25	301.20	43.4	6.94	295.65	36.5	8.10	228.90	40.3	5.68
1978	203.70	35.8	5.69	332.88	43.4	7.67	318.69	36.8	8.66	249.27	40.4	6.17
1979	219.30	35.6	6.16	365.50	43.0	8.50	342.99	37.0	9.27	268.94	40.2	6.69
	Transportation and public utilities			Wholesale and retail trade			Finance, insurance, and real estate			Services		
1949	....	....	....	$42.93	40.5	$1.060	$47.63	37.8	$1.260	....	....	....
1950	....	....	....	44.55	40.5	1.100	50.52	37.7	1.340	....	....	....
1951	....	....	....	47.79	40.5	1.18	54.67	37.7	1.45	....	....	....
1952	....	....	....	49.20	40.0	1.23	57.08	37.8	1.51	....	....	....
1953	....	....	....	51.35	39.5	1.30	59.57	37.7	1.58	....	....	....
1954	....	....	....	53.33	39.5	1.35	62.04	37.6	1.65	....	....	....
1955	....	....	....	55.16	39.4	1.40	63.92	37.6	1.70	....	....	....
1956	....	....	....	57.48	39.1	1.47	65.68	36.9	1.78	....	....	....
1957	....	....	....	59.60	38.7	1.54	67.53	36.7	1.84	....	....	....
1958	....	....	....	61.76	38.6	1.60	70.12	37.1	1.89	....	....	....
1959[1]	....	....	....	64.41	38.8	1.66	72.74	37.3	1.95	....	....	....
1960	....	....	....	66.01	38.6	1.71	75.14	37.2	2.02	....	....	....
1961	....	....	....	67.41	38.3	1.76	77.12	36.9	2.09	....	....	....
1962	....	....	....	69.91	38.2	1.83	80.94	37.3	2.17	....	....	....
1963	....	....	....	72.01	38.1	1.89	84.38	37.5	2.25	....	....	....
1964	$118.78	41.1	$2.89	74.66	37.9	1.97	85.79	37.3	2.30	$70.03	36.1	$1.94
1965	125.14	41.3	3.03	76.91	37.7	2.04	88.91	37.2	2.39	73.60	35.9	2.05
1966	128.13	41.2	3.11	79.39	37.1	2.14	92.13	37.3	2.47	77.04	35.5	2.17
1967	130.82	40.5	3.23	82.35	36.6	2.25	95.72	37.1	2.58	80.38	35.1	2.29
1968	138.85	40.6	3.42	87.00	36.1	2.41	101.75	37.0	2.75	83.97	34.7	2.42
1969	147.74	40.7	3.63	91.39	35.7	2.56	108.70	37.1	2.93	90.57	34.7	2.61
1970	155.93	40.5	3.85	96.02	35.3	2.72	112.67	36.7	3.07	96.66	34.4	2.81
1971	168.82	40.1	4.21	101.09	35.1	2.88	117.85	36.6	3.22	103.06	33.9	3.04
1972	187.86	40.4	4.65	106.45	34.9	3.05	122.98	36.6	3.36	110.85	33.9	3.27
1973	203.31	40.5	5.02	111.76	34.6	3.23	129.20	36.6	3.53	117.29	33.8	3.47
1974	217.48	40.2	5.41	119.02	34.2	3.48	137.61	36.5	3.77	126.00	33.6	3.75
1975	233.44	39.7	5.88	126.45	33.9	3.73	148.19	36.5	4.06	134.67	33.5	4.02
1976	256.71	39.8	6.45	133.79	33.7	3.97	155.43	36.4	4.27	143.52	33.3	4.31
1977	278.90	39.9	6.99	142.52	33.3	4.28	165.26	36.4	4.54	153.45	33.0	4.65
1978	302.80	40.0	7.57	153.64	32.9	4.67	178.00	36.4	4.89	163.67	32.8	4.99
1979	325.98	39.9	8.17	164.96	32.6	5.06	190.77	36.2	5.27	175.27	32.7	5.36

[1] Data include Alaska and Hawaii beginning in 1959.

15. Weekly hours, by industry division and major manufacturing group

[Gross averages, production or nonsupervisory workers on private nonagricultural payrolls]

Industry division and group	Annual average		1979					1980							
	1978	1979	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July p	Aug. p
TOTAL PRIVATE	35.8	35.6	36.0	35.8	35.7	35.6	35.9	35.1	35.1	35.2	35.0	35.0	35.3	35.3	35.5
MINING	43.4	43.0	43.1	43.4	43.7	43.6	43.9	43.4	43.2	43.4	42.8	42.7	43.2	41.6	41.4
CONSTRUCTION	36.8	37.0	38.1	38.0	37.7	36.6	37.2	35.3	35.7	36.2	36.7	36.9	37.9	37.7	37.2
MANUFACTURING	40.4	40.2	40.0	40.3	40.2	40.3	40.9	39.8	39.8	39.8	39.4	39.3	39.4	38.9	39.5
Overtime hours	3.6	3.3	3.3	3.6	3.4	3.4	3.4	3.0	2.9	3.0	2.7	2.5	2.5	2.4	2.8
Durable goods	41.1	40.8	40.4	40.8	40.8	40.8	41.6	40.3	40.3	40.3	39.9	39.7	39.8	39.1	39.9
Overtime hours	3.8	3.5	3.4	3.6	3.5	3.4	3.5	3.1	3.0	3.1	2.7	2.5	2.4	2.3	2.8
Lumber and wood products	39.8	39.4	39.9	40.1	39.8	38.8	39.2	38.1	38.5	38.3	37.1	37.6	38.4	38.1	39.5
Furniture and fixtures	39.3	38.7	38.8	39.0	39.3	39.3	39.9	38.4	38.4	38.5	37.9	37.3	37.3	36.5	38.1
Stone, clay, and glass products	41.6	41.5	41.8	41.7	41.7	41.7	41.8	40.1	40.1	40.7	40.4	40.6	41.0	40.3	40.5
Primary metal industries	41.8	41.4	40.8	41.3	40.9	40.7	40.9	40.7	40.7	40.7	40.6	39.3	39.1	38.6	39.6
Fabricated metal products	41.0	40.7	40.5	40.8	40.9	41.0	41.9	40.6	40.4	40.6	40.2	39.9	40.1	39.2	40.0
Machinery except electrical	42.1	41.8	41.2	41.8	41.5	41.8	42.7	41.5	41.5	41.5	41.1	40.8	40.8	40.0	40.5
Electric and electronic equipment	40.3	40.3	39.7	40.5	40.3	40.8	41.3	40.2	40.2	40.0	39.6	39.3	39.4	38.7	39.5
Transportation equipment	42.2	41.1	40.5	40.7	41.3	40.8	42.7	43.0	40.4	40.4	39.8	39.9	39.9	39.4	40.2
Instruments and related products	40.9	40.8	40.4	40.7	40.8	41.4	41.7	41.0	40.8	40.6	40.4	40.3	40.5	39.5	40.4
Miscellaneous manufacturing	38.8	38.8	38.8	39.2	39.1	39.4	39.5	38.8	38.6	38.8	38.4	38.2	38.3	37.9	38.5
Nondurable goods	39.4	39.3	39.4	39.6	39.4	39.6	39.9	39.0	38.9	38.9	38.7	38.7	38.8	38.6	38.9
Overtime hours	3.2	3.1	3.2	3.5	3.2	3.3	3.2	2.9	2.8	2.9	2.7	2.5	2.5	2.6	2.8
Food and kindred products	39.7	39.9	40.3	40.6	40.0	40.2	40.4	39.5	39.1	39.0	38.9	39.7	39.6	40.0	40.4
Tobacco manufactures	38.1	38.0	37.6	39.2	38.9	38.8	39.4	37.3	38.9	37.7	38.2	38.7	38.3	38.7	37.2
Textile mill products	40.4	40.4	40.3	40.8	40.8	41.3	41.5	40.9	40.8	40.9	39.9	39.8	39.6	38.7	39.1
Apparel and other textile products	35.6	35.3	35.6	35.3	35.5	35.6	35.9	35.2	35.4	35.4	35.3	35.3	35.6	35.3	35.5
Paper and allied products	42.9	42.6	42.6	42.7	42.7	42.9	43.5	42.7	42.4	42.4	42.2	41.6	41.7	41.5	41.8
Printing and publishing	37.6	37.5	37.9	37.9	37.5	37.9	38.1	37.2	37.0	37.2	36.8	36.9	36.7	36.8	37.1
Chemicals and allied products	41.9	41.9	41.8	41.8	41.7	42.2	42.2	41.7	41.6	41.7	41.6	41.3	41.2	40.7	40.9
Petroleum and coal products	43.6	43.8	43.6	44.7	44.1	44.8	43.5	36.2	39.7	39.4	41.1	42.3	42.3	42.8	42.3
Rubber and miscellaneous plastics products	40.9	40.5	40.0	40.5	40.5	40.3	40.7	40.3	39.9	40.0	39.7	39.0	39.3	38.8	40.0
Leather and leather products	37.1	36.5	36.6	36.8	36.5	36.8	37.3	36.7	36.8	36.4	36.7	37.0	37.4	36.1	36.8
TRANSPORTATION AND PUBLIC UTILITIES	40.0	39.9	40.3	39.9	40.0	40.2	40.0	39.5	39.4	39.5	39.5	39.3	39.6	39.9	40.1
WHOLESALE AND RETAIL TRADE	32.9	32.6	33.2	32.6	32.4	32.4	32.9	31.9	31.9	32.0	31.8	31.9	32.3	32.5	32.6
WHOLESALE TRADE	38.8	38.8	39.0	38.8	38.9	38.9	39.1	38.5	38.4	38.1	38.4	38.5	38.2	38.2	38.2
RETAIL TRADE	31.0	30.6	31.4	30.6	30.4	30.4	31.0	29.8	29.8	29.9	29.7	29.9	30.4	30.7	30.8
FINANCE, INSURANCE, AND REAL ESTATE	36.4	36.2	36.1	36.1	36.2	36.3	36.4	36.2	36.3	36.3	36.2	36.1	36.4	36.2	36.4
SERVICES	32.8	32.7	33.2	32.7	32.6	32.6	32.8	32.5	32.5	32.5	32.4	32.3	32.8	33.0	33.0

16. Weekly hours, by industry division and major manufacturing group, seasonally adjusted

[Gross averages, production or nonsupervisory workers on private nonagricultural payrolls]

Industry division and group	1979					1980							
	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July^{p}	Aug.^{p}
TOTAL PRIVATE	35.7	35.6	35.6	35.6	35.7	35.6	35.5	35.4	35.3	35.1	35.0	34.9	35.1
MINING	43.1	43.4	43.7	43.6	43.9	43.4	43.2	43.4	42.8	42.7	43.2	41.6	41.4
CONSTRUCTION	37.3	37.5	36.8	37.0	37.2	37.3	37.1	36.6	36.7	36.8	37.1	36.8	36.4
MANUFACTURING	40.1	40.1	40.1	40.1	40.2	40.3	40.1	39.8	39.8	39.3	39.1	39.1	39.6
Overtime hours	3.3	3.2	3.2	3.3	3.2	3.2	3.0	3.1	3.0	2.6	2.4	2.5	2.8
Durable goods	40.7	40.7	40.7	40.6	40.7	40.8	40.6	40.3	40.3	39.7	39.5	39.4	40.1
Overtime hours	3.4	3.3	3.3	3.3	3.2	3.3	3.1	3.2	3.0	2.5	2.4	2.4	2.8
Lumber and wood products	39.6	39.6	39.2	38.9	39.0	39.4	39.1	38.7	37.3	37.5	37.6	38.0	39.2
Furniture and fixtures	38.6	38.7	38.8	38.9	38.9	38.2	38.0	38.5	38.5	37.6	37.0	38.9	37.9
Stone, clay, and glass products	41.4	41.5	41.3	41.4	41.5	41.4	41.2	40.9	40.6	40.3	40.4	40.2	40.1
Primary metal industries	41.0	41.1	41.1	40.8	40.7	40.8	40.8	40.7	40.6	39.2	38.8	38.6	39.8
Fabricated metal products	40.6	40.7	40.8	40.7	40.9	40.9	40.8	40.7	40.8	39.9	39.7	39.6	40.1
Machinery, except electrical	41.6	41.7	41.5	41.5	41.5	41.6	41.5	41.3	41.5	41.0	40.7	40.6	40.9
Electric and electronic equipment	39.9	40.3	40.3	40.4	40.5	40.5	40.3	40.0	39.9	39.5	39.2	39.2	39.7
Transportation equipment	41.5	40.6	41.0	40.5	40.9	40.9	40.8	40.4	40.5	39.7	39.5	39.5	41.1
Instruments and related products	40.6	40.7	40.7	41.0	41.0	41.4	40.9	40.4	40.7	40.3	40.4	40.0	40.6
Miscellaneous manufacturing	38.9	39.0	38.9	38.9	39.0	39.2	39.1	38.6	38.5	38.3	38.2	38.4	38.6
Nondurable goods	39.3	39.3	39.3	39.4	39.4	39.5	39.4	39.0	39.1	38.9	38.6	38.6	38.8
Overtime hours	3.1	3.1	3.1	3.2	3.1	3.1	2.9	3.0	3.0	2.6	2.5	2.6	2.7
Food and kindred products	39.8	40.0	39.9	39.8	39.9	39.8	39.7	39.3	39.6	39.9	39.6	39.8	39.9
Tobacco manufactures	38.1	38.4	38.3	37.8	38.5	38.5	37.9	37.7	38.2	38.2	37.3	38.8	37.7
Textile mill products	40.3	40.7	40.8	41.0	41.0	41.5	41.1	40.8	40.3	39.7	39.1	39.1	39.1
Apparel and other textile products	35.3	35.2	35.4	35.3	35.6	36.0	35.9	35.3	35.8	35.3	35.2	35.1	35.2
Paper and allied products	42.6	42.5	42.6	42.7	42.8	43.0	42.9	42.6	42.5	41.7	41.4	41.5	41.8
Printing and publishing	37.8	37.5	37.4	37.5	37.4	37.8	37.4	37.2	37.2	37.1	36.8	36.9	37.0
Chemicals and allied products	41.9	41.8	41.7	42.0	41.8	42.0	41.9	41.8	41.5	41.3	41.1	40.8	41.0
Petroleum and coal products	43.6	44.0	43.5	44.4	43.4	36.9	40.7	39.7	41.1	42.5	42.3	42.3	42.3
Rubber and miscellaneous plastics products	40.2	40.3	40.2	40.0	40.0	40.7	40.0	39.9	40.1	39.3	39.2	39.2	40.2
Leather and leather products	36.5	36.8	36.5	36.6	37.0	37.2	37.2	36.9	37.3	36.7	36.7	35.8	36.7
TRANSPORTATION AND PUBLIC UTILITIES	40.3	39.9	40.0	40.2	40.0	39.5	39.4	39.5	39.5	39.3	39.6	39.9	40.1
WHOLESALE AND RETAIL TRADE	32.6	32.6	32.6	32.6	32.6	32.6	32.4	32.3	32.0	32.1	31.9	31.8	31.9
WHOLESALE TRADE	38.8	38.8	38.8	38.9	38.9	38.9	38.6	38.5	38.5	38.6	38.0	38.0	38.0
RETAIL TRADE	30.6	30.6	30.6	30.6	30.6	30.6	30.4	30.3	30.0	30.1	30.0	29.8	30.0
FINANCE, INSURANCE, AND REAL ESTATE	36.1	36.1	36.2	36.3	36.4	36.2	36.3	36.3	36.2	36.1	36.4	36.2	36.4
SERVICES	32.7	32.7	32.8	32.7	32.8	32.7	32.7	32.7	32.6	32.5	32.6	32.5	32.5

17. Hourly earnings, by industry division and major manufacturing group

[Gross averages, production or nonsupervisory workers on private nonagricultural payrolls]

Industry division and group	Annual average		1979					1980							
	1978	1979	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July^{p}	Aug.^{p}
TOTAL PRIVATE	$5.69	$6.16	$6.18	$6.30	$6.31	$6.34	$6.38	$6.42	$6.46	$6.51	$6.53	$6.57	$6.61	$6.64	$6.66
MINING	7.67	8.50	8.50	8.59	8.59	8.73	8.75	8.88	8.90	8.95	9.10	9.08	9.16	9.12	9.15
CONSTRUCTION	8.66	9.27	9.34	9.52	9.50	9.52	9.58	9.49	9.61	9.68	9.69	9.77	9.81	9.92	10.01
MANUFACTURING	6.17	6.69	6.70	6.80	6.82	6.87	6.97	6.98	7.00	7.08	7.09	7.13	7.20	7.29	7.31
Durable goods	6.58	7.13	7.13	7.24	7.25	7.29	7.42	7.39	7.46	7.54	7.56	7.60	7.69	1.76	7.80
Lumber and wood products	5.60	6.08	6.22	6.30	6.23	6.22	6.24	6.21	6.33	6.35	6.28	6.40	6.56	6.68	6.72
Furniture and fixtures	4.68	5.06	5.09	5.18	5.19	5.21	5.26	5.27	5.32	5.37	5.39	5.42	5.49	5.52	5.56
Stone, clay, and glass products	6.33	6.85	6.90	6.99	7.01	7.08	7.11	7.08	7.14	7.27	7.34	7.45	7.53	7.59	7.61
Primary metal industries	8.20	8.97	9.10	9.16	9.11	9.26	9.28	9.30	9.44	9.45	9.53	9.61	9.65	9.81	9.86
Fabricated metal products	6.35	6.84	6.85	6.95	6.98	7.01	7.14	7.09	7.14	7.24	7.27	7.32	7.42	7.43	7.50
Machinery, except electrical	6.78	7.32	7.35	7.48	7.44	7.50	7.63	7.66	7.69	7.76	7.81	7.91	7.97	8.04	8.08
Electric and electronic equipment	5.82	6.32	6.37	6.47	6.49	6.52	6.64	6.67	6.71	6.78	6.79	6.78	6.87	6.96	7.01
Transportation equipment	7.91	8.54	8.45	8.59	8.70	8.72	8.93	8.81	8.86	9.04	9.04	9.06	9.24	9.34	9.39
Instruments and related products	5.71	6.17	6.15	6.21	6.32	6.39	6.50	6.57	6.59	6.63	6.63	6.72	6.80	6.87	6.91
Miscellaneous manufacturing	4.69	5.03	5.02	5.06	5.10	5.13	5.20	5.28	5.30	5.34	5.37	5.40	5.42	5.47	5.49
Nondurable goods	5.53	6.00	6.04	6.11	6.14	6.21	6.26	6.28	6.27	6.30	6.36	6.42	6.48	6.60	6.62
Food and kindred products	5.80	6.27	6.28	6.32	6.35	6.50	6.55	6.61	6.64	6.68	6.75	6.82	6.84	6.90	6.89
Tobacco manufactures	6.13	6.65	6.51	6.43	6.33	6.97	6.98	7.08	7.36	7.57	7.79	7.64	7.97	8.11	7.80
Textile mill products	4.30	4.66	4.77	4.82	4.83	4.86	4.87	4.90	4.90	4.92	4.91	4.90	4.93	5.05	5.18
Apparel and other textile products	3.94	4.23	4.21	4.27	4.31	4.32	4.38	4.44	4.45	4.49	4.46	4.45	4.51	4.49	4.60
Paper and allied products	6.52	7.13	7.24	7.33	7.36	7.43	7.50	7.49	7.52	7.55	7.63	7.65	7.79	7.98	7.98
Printing and publishing	6.51	6.95	6.98	7.08	7.10	7.13	7.21	7.24	7.29	7.34	7.34	7.44	7.46	7.54	7.63
Chemicals and allied products	7.02	7.60	7.66	7.74	7.83	7.88	7.92	7.97	8.01	8.05	8.12	8.17	8.24	8.35	8.39
Petroleum and coal products	8.63	9.38	9.34	9.50	9.48	9.56	9.48	9.46	9.37	9.29	9.83	10.07	10.22	10.32	10.32
Rubber and miscellaneous plastics products	5.52	5.98	5.94	6.03	6.12	6.14	6.21	6.25	6.25	6.27	6.30	6.34	6.39	6.50	6.56
Leather and leather products	3.89	4.22	4.21	4.29	4.31	4.33	4.35	4.45	4.47	4.51	4.52	4.53	4.54	4.56	4.56
TRANSPORTATION AND PUBLIC UTILITIES	7.57	8.17	8.31	8.44	8.43	8.51	8.54	8.55	8.58	8.62	8.71	8.72	8.75	8.83	8.86
WHOLESALE AND RETAIL TRADE	4.67	5.06	5.06	5.13	5.15	5.18	5.18	5.34	5.36	5.40	5.40	5.42	5.43	5.46	5.46
WHOLESALE TRADE	5.88	6.39	6.42	6.52	6.52	6.58	6.69	6.72	6.77	6.83	6.87	6.89	6.95	6.98	6.98
RETAIL TRADE	4.20	4.53	4.52	4.57	4.59	4.62	4.61	4.78	4.78	4.81	4.80	4.82	4.83	4.86	4.86
FINANCE, INSURANCE, AND REAL ESTATE	4.89	5.27	5.28	5.37	5.35	5.41	5.48	5.53	5.60	5.68	5.68	5.70	5.77	5.77	5.77
SERVICES	4.99	5.36	5.31	5.45	5.48	5.55	5.61	5.65	5.70	5.75	5.75	5.79	5.81	5.80	5.81

18. Hourly Earnings Index for production or nonsupervisory workers on private nonagricultural payrolls, by industry division

[Seasonally adjusted data: 1967 = 100]

Industry	1979					1980								July 1980 to Aug. 1980	Aug. 1979 to Aug. 1980
	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July^{p}	Aug.^{p}		
TOTAL PRIVATE (in current dollars)	232.3	234.3	235.0	237.3	239.4	240.3	242.4	245.2	246.2	248.3	250.9	251.7	253.1	0.6	9.0
Mining	264.7	265.6	267.7	272.0	274.6	277.0	278.5	280.9	283.7	284.2	286.3	286.1	288.4	.8	9.0
Construction	223.2	224.5	224.7	226.5	228.1	225.8	229.8	232.2	233.0	234.2	235.3	236.8	237.9	.5	6.6
Manufacturing	237.0	238.6	239.9	241.9	244.1	245.2	247.8	250.2	252.4	255.0	258.3	260.4	262.1	.7	10.6
Transportation and public utilities	252.4	255.1	255.8	258.7	260.1	260.8	262.4	265.9	267.2	268.7	270.6	270.5	270.2	−.1	7.1
Wholesale and retail trade	225.5	227.2	227.6	229.7	231.4	234.2	235.2	237.8	238.0	239.0	241.8	242.9	244.2	.5	8.3
Finance, insurance, and real estate	211.4	244.0	212.9	215.7	217.9	218.4	221.1	225.7	224.9	226.3	230.2	228.8	230.8	.9	9.2
Services	228.7	231.6	232.3	234.9	237.8	237.7	239.7	242.7	243.0	245.7	248.4	248.0	249.8	.7	9.2
TOTAL PRIVATE (in constant dollars)	105.1	104.9	104.1	104.1	103.8	102.7	102.2	102.0	101.4	101.4	101.5	101.8	(2)	(2)	(2)

19. Weekly earnings, by industry division and major manufacturing group

[Gross averages, production or nonsupervisory workers on private nonagricultural payrolls]

Industry division and group	Annual average		1979					1980							
	1978	1979	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July p	Aug. p
TOTAL PRIVATE	$203.70	$219.30	$222.48	$225.54	$225.27	$225.70	$229.04	$225.34	$226.75	$229.15	$228.55	$229.95	$233.33	$234.39	$236.43
MINING	332.88	365.50	366.35	372.81	375.38	380.63	384.13	385.39	384.48	388.43	389.48	387.72	395.71	379.39	378.81
CONSTRUCTION	318.69	342.99	355.85	361.76	358.15	348.43	356.38	335.00	343.08	350.42	355.62	360.51	371.80	373.98	372.37
MANUFACTURING	249.27	268.94	268.00	274.04	274.16	276.86	285.07	277.01	278.60	280.99	279.35	280.21	283.68	283.58	288.75
Durable goods	270.44	290.90	288.05	295.39	295.80	297.43	308.67	297.82	300.64	303.86	301.64	301.72	306.06	303.42	311.22
Lumber and wood products	222.88	239.55	248.18	252.63	247.95	241.34	244.81	236.60	243.71	243.21	232.99	240.64	251.90	254.51	265.44
Furniture and fixtures	183.92	195.82	197.49	202.02	203.97	204.75	209.87	202.37	204.29	206.75	204.28	202.17	204.78	201.48	211.84
Stone, clay, and glass products	263.33	284.28	288.42	291.48	292.32	295.24	297.20	283.11	286.31	295.89	296.54	302.47	308.73	305.88	308.21
Primary metal industries	342.76	371.36	371.28	378.31	372.60	376.88	379.55	378.51	384.21	384.62	386.92	377.67	377.32	378.67	390.46
Fabricated metal products	260.35	278.39	277.43	283.56	285.48	287.41	299.17	287.65	288.46	293.94	292.25	292.07	297.54	291.28	300.00
Machinery except electrical	285.44	305.98	302.82	312.66	308.76	313.50	325.80	317.69	319.14	322.04	320.21	322.73	325.18	321.60	327.24
Electric and electronic equipment	234.55	254.70	252.89	262.04	261.55	266.02	274.23	268.13	269.74	271.20	268.88	266.45	270.68	269.35	276.90
Transportation equipment	333.80	350.99	342.23	349.61	359.31	355.78	381.31	352.40	357.94	365.22	359.79	361.49	368.68	368.00	377.48
Instruments and related products	233.54	251.74	248.46	252.75	257.86	264.55	271.05	269.37	268.87	269.18	267.85	270.82	275.40	271.37	279.16
Miscellaneous manufacturing	181.97	195.16	194.78	198.35	199.41	202.12	205.40	204.86	204.58	207.19	206.21	206.28	207.59	207.31	211.37
Nondurable goods	217.88	235.80	237.98	241.96	241.92	245.92	249.77	244.92	243.90	245.07	246.13	248.45	251.42	254.76	257.52
Food and kindred products	230.26	250.17	253.08	256.59	254.00	261.30	264.62	261.10	259.62	260.52	262.58	270.75	270.86	276.00	278.36
Tobacco manufactures	238.55	252.70	244.78	252.06	246.24	270.44	275.01	264.08	271.58	285.39	297.58	295.67	305.25	297.64	290.16
Textile mill products	173.72	188.26	192.23	196.66	197.06	200.72	202.11	200.41	199.92	201.23	195.91	195.02	195.23	195.44	202.54
Apparel and other textile products	140.26	149.32	149.88	150.73	153.01	153.79	157.24	156.29	157.53	158.95	157.44	157.09	160.56	158.50	163.30
Paper and allied products	279.71	303.74	308.42	312.99	314.27	318.75	326.25	319.82	318.65	320.12	321.99	318.24	324.84	331.17	333.56
Printing and publishing	244.78	260.63	264.54	268.33	266.25	270.23	274.70	269.33	269.73	273.06	270.11	274.54	273.78	277.47	283.07
Chemicals and allied products	294.14	318.44	320.19	323.53	326.51	332.54	334.22	332.35	333.22	335.69	337.79	337.42	339.49	339.85	343.15
Petroleum and coal products	376.27	409.97	407.22	424.65	418.07	428.29	412.38	342.45	371.99	366.03	404.01	425.96	432.31	441.70	436.54
Rubber and miscellaneous plastics products	225.77	241.38	237.60	244.22	247.86	247.44	252.75	251.88	249.38	250.60	250.11	247.26	251.13	252.20	262.40
Leather and leather products	144.32	154.03	154.09	157.87	157.32	159.34	162.26	163.32	164.50	164.16	165.88	167.61	169.60	164.62	167.61
TRANSPORTATION AND PUBLIC UTILITIES	302.80	325.98	334.89	336.76	337.20	342.10	341.60	337.73	338.05	340.49	344.05	342.70	348.50	352.32	355.29
WHOLESALE AND RETAIL TRADE	153.64	164.96	167.99	167.24	166.86	167.83	170.42	170.35	170.98	172.80	171.72	172.90	175.39	177.45	178.00
WHOLESALE TRADE	228.14	247.93	250.38	252.98	253.63	255.96	261.58	258.72	259.97	262.27	263.81	265.27	265.49	266.64	266.64
RETAIL TRADE	130.20	138.62	141.93	139.84	139.54	140.45	142.91	142.44	142.44	143.82	142.56	144.12	146.83	149.20	149.69
FINANCE, INSURANCE, AND REAL ESTATE	178.00	190.77	190.61	193.86	193.67	196.38	199.47	200.19	203.28	206.18	205.62	205.77	210.03	208.87	210.03
SERVICES	163.67	175.27	176.29	178.22	178.65	180.93	184.01	183.63	185.25	186.88	186.30	187.02	190.57	191.40	191.73

20. Gross and spendable weekly earnings, in current and 1967 dollars, 1960 to date

[Averages for production or nonsupervisory workers on private nonagricultural payrolls]

Year and month	Private nonagricultural workers						Manufacturing workers					
	Gross average weekly earnings		Spendable average weekly earnings				Gross average weekly earnings		Spendable average weekly earnings			
			Worker with no dependents		Married worker with 3 dependents				Worker with no dependents		Married worker with 3 dependents	
	Current dollars	1967 dollars	Current dollars	1967 dollars	Current dollars	1967 dollars	Current dollars	1967 dollars	Current dollars	1967 dollars	Current dollars	1967 dollars
1960	$80.67	$90.95	$65.59	$73.95	$72.96	$82.25	$89.72	$101.15	$72.57	$81.82	$80.11	$90.32
1961	82.60	92.19	67.08	74.87	74.48	83.13	92.34	103.06	74.60	83.26	82.18	91.72
1962	85.91	94.82	69.56	76.78	76.99	84.98	96.56	106.58	77.86	85.94	85.53	94.40
1963	88.46	96.47	71.05	77.48	78.56	85.67	99.23	108.21	79.51	86.71	87.25	95.15
1964	91.33	98.31	75.04	80.78	82.57	88.88	102.97	110.84	84.40	90.85	92.18	99.22
1965	95.45	101.01	79.32	83.94	86.63	91.67	107.53	113.79	89.08	94.26	96.78	102.41
1966	98.82	101.67	81.29	83.63	88.66	91.21	112.19	115.42	91.45	94.08	99.33	102.19
1967	101.84	101.84	83.38	83.38	90.86	90.86	114.49	114.49	92.97	92.97	100.93	100.93
1968	107.73	103.39	86.71	83.21	95.28	91.44	122.51	117.57	97.70	93.76	106.75	102.45
1969	114.61	104.38	90.96	82.84	99.99	91.07	129.51	117.95	101.90	92.81	111.44	101.49
1970	119.83	103.04	96.21	82.73	104.90	90.20	133.33	114.64	106.32	91.42	115.58	99.38
1971	127.31	104.95	103.80	85.57	112.43	92.69	142.44	117.43	114.97	94.78	124.24	102.42
1972	136.90	109.26	112.19	89.54	121.68	97.11	154.71	123.47	125.34	100.03	135.57	108.20
1973	145.39	109.23	117.51	88.29	127.38	95.70	166.46	125.06	132.57	99.60	143.50	107.81
1974	154.76	104.78	124.37	84.20	134.61	91.14	176.80	119.70	140.19	94.92	151.56	102.61
1975	163.53	101.45	132.49	82.19	145.65	90.35	190.79	118.36	151.61	94.05	166.29	103.16
1976	175.45	102.90	143.30	84.05	155.87	91.42	209.32	122.77	167.83	98.43	181.32	106.35
1977	189.00	104.13	155.19	85.50	169.93	93.63	228.90	126.12	183.80	101.27	200.06	110.23
1978	203.70	104.30	165.39	84.69	180.71	92.53	249.27	127.63	197.40	101.08	214.87	110.02
1979	219.30	100.73	177.55	81.56	194.35	89.27	268.94	123.54	212.43	97.58	232.07	106.60
1979: August	222.48	100.44	179.87	81.21	196.83	88.86	268.00	120.99	211.79	95.62	231.36	104.45
September	225.54	100.82	182.10	81.40	199.15	89.03	274.04	122.50	215.89	96.51	235.94	105.47
October	225.27	99.85	181.90	80.63	198.94	88.18	274.16	121.52	215.97	95.73	236.04	104.63
November	225.70	99.17	182.22	80.06	199.27	87.55	276.86	121.64	217.80	95.69	238.08	104.60
December	229.04	9.58	184.59	80.26	201.80	87.74	285.07	123.94	223.38	97.12	244.31	106.22
1980: January	225.34	96.59	181.96	77.99	199.00	85.30	277.01	118.74	217.91	93.40	238.20	102.10
February	226.75	95.88	182.98	77.37	200.07	84.60	278.60	117.80	218.99	92.60	239.40	101.23
March	229.15	95.52	184.67	76.98	201.89	84.16	280.99	117.13	220.61	91.96	241.22	100.55
April	228.55	94.21	184.25	75.95	201.43	83.03	279.35	115.15	219.49	90.47	239.97	98.92
May	229.95	93.82	185.23	75.57	202.49	82.62	280.21	114.32	220.08	89.79	240.63	98.18
June	233.33	94.16	187.59	75.70	205.06	82.75	283.68	114.48	222.43	89.76	243.26	98.17
July[p]	234.39	94.51	188.33	75.94	205.86	83.01	283.58	114.35	222.37	89.67	243.18	98.06
Aug.[p]	236.43	(1)	189.75	(1)	207.41	(1)	288.75	(1)	225.87	(1)	247.10	(1)

[1] Not available.

NOTE: The earnings expressed in 1967 dollars have been adjusted for changes in price level as measured by the Bureau's Consumer Price Index for Urban Wage Earners and Clerical Workers. These series are described in "The Spendable Earnings Series: A Technical Note on its Calculation," **Employment and Earnings and Monthly Report on the Labor Force**, February 1969, pp. 6–13. See also "Spendable Earnings Formulas, 1978–80," **Employment and Earnings**, March 1980, pp. 10–11.

UNEMPLOYMENT INSURANCE DATA

UNEMPLOYMENT INSURANCE DATA are compiled monthly by the Employment and Training Administration of the U.S. Department of Labor from records of State and Federal unemployment insurance claims filed and benefits paid. Railroad unemployment insurance data are prepared by the U.S. Railroad Retirement Board.

Definitions

Data for **all programs** represent an unduplicated count of insured unemployment under State programs, Unemployment Compensation for Ex-Servicemen, and Unemployment Compensation for Federal Employees, and the Railroad Insurance Act.

Under both State and Federal unemployment insurance programs for civilian employees, insured workers must report the completion of at least 1 week of unemployment before they are defined as unemployed. Persons not covered by unemployment insurance (about one-third of the labor force) and those who have exhausted or not yet earned benefit rights are excluded from the scope of the survey. **Initial claims** are notices filed by persons in unemployment insurance programs to indicate they are out of work and wish to begin receiving compensation. A claimant who continued to be unemployed a full week is then counted in the insured unemployment figure. The **rate of insured unemployment** expresses the number of insured unemployed as a percent of the average insured employment in a 12-month period.

An **application** for benefits is filed by a railroad worker at the beginning of his first period of unemployment in a benefit year; no application is required for subsequent periods in the same year. **Number of payments** are payments made in 14-day registration periods. The **average amount of benefit payment** is an average for all compensable periods, not adjusted for recovery of overpayments or settlement of underpayments. However, **total benefits** paid have been adjusted.

21. Unemployment insurance and employment service operations

[All items except average benefits amounts are in thousands]

Item	1979						1980						
	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July
All programs:													
Insured unemployment	2,429	2,377	2,164	2,236	2,559	3,047	3,740	3,730	3,652	3,627	3,680	3,790	4,140
State unemployment insurance program:[1]													
Initial claims[2]	1,976	1,545	1,219	1,641	1,827	2,263	2,837	1,818	1,705	2,192	p 2,249	....	....
Insured unemployment (average weekly volume)	2,300	2,245	2,024	2,057	2,384	2,864	3,537	3,518	3,356	3,278	3,343	3,456	3,692
Rate of insured unemployment	2.8	2.7	2.4	2.4	2.8	3.4	4.1	4.1	3.9	3.8	3.9	4.0	4.3
Weeks of unemployment compensated	7,869	8,830	6,093	7,638	8,107	9,171	13,792	12,801	13,170	12,689	p 12,302	....	....
Average weekly benefit amount for total unemployment	$86.40	$88.56	$89.07	$90.50	$92.39	$94.54	$96.41	$98.39	$99.15	$99.52	p $99.74	....	....
Total benefits paid	$665,687	$767,025	$606,095	$673,965	$728,370	$843,669	$1,283,946	$1,229,877	$1,218,231	$1,232,173	$1,196,836	....	....
Unemployment compensation for ex-servicemen:[3]													
Initial claims[1]	26	28	23	26	24	24	25	21	21	21	p 20	....	....
Insured unemployment (average weekly volume)	51	52	52	52	54	56	60	58	63	52	50	45	58
Weeks of unemployment compensated	216	234	211	236	232	233	299	255	249	246	p 220	....	....
Total benefits paid	$20,965	$23,861	$19,634	$23,325	$23,093	$23,093	$29,635	$25,308	$24,928	$24,516	$22,025	....	....
Unemployment compensation for Federal civilian employees:[4]													
Initial claims	16	13	13	18	15	15	19	11	12	11	p 12	....	....
Insured unemployment (average weekly volume)	25	25	25	28	29	31	34	32	30	25	22	20	26
Weeks of unemployment compensated	96	107	91	109	118	118	150	129	123	106	p 88	....	....
Total benefits paid	$8,802	$9,829	$8,453	$10,093	$11,093	$11,047	$14,118	$12,226	$11,901	$10,323	$8,290	....	....
Railroad unemployment insurance:													
Applications	15	8	13	11	10	11	22	7	5	4	6	24	....
Insured unemployment (average weekly volume)	11	12	21	18	20	19	40	39	30	27	23	27	....
Number of payments	20	26	32	51	36	41	80	71	66	62	54	55	....
Average amount of benefit payment	$190.10	$195.61	$189.06	$189.61	$183.36	$197.22	$199.01	$208.73	$210.79	$201.67	$193.44	$199.06	....
Total benefits paid	$3,699	$3,767	$5,747	$8,003	$6,482	$8,086	$14,967	$14,573	$13,884	$13,002	$9,953	$10,140	....
Employment service:[5]													
New applications and renewals	13,186	14,479	15,525	1,856	3,183	4,378	5,990	7,285	8,708	10,021	11,318	....	....
Nonfarm placements	3,482	3,935	4,349	458	766	1,044	1,314	1,561	1,853	2,143	2,383	....	....

[1] Initial claims and State insured unemployment include data under the program for Puerto Rican sugarcane workers.

[2] Includes interstate claims for the Virgin Islands. Excludes transition claims under State programs.

[3] Excludes data on claims and payments made jointly with other programs.

[4] Includes the Virgin Islands. Excludes data on claims and payments made jointly with State programs.

[5] Cumulative total for fiscal year (October 1 - ps.6 September 30).

NOTE: Data for Puerto Rico included. Dashes indicate data not available.

PRICE DATA

PRICE DATA are gathered by the Bureau of Labor Statistics from retail and primary markets in the United States. Price indexes are given in relation to a base period (1967 = 100, unless otherwise noted).

Definitions

The **Consumer Price Index** is a monthly statistical measure of the average change in prices in a fixed market basket of goods and services. Effective with the January 1978 index, the Bureau of Labor Statistics began publishing CPI's for two groups of the population. One index, a new CPI for All Urban Consumers, covers 80 percent of the total noninstitutional population; and the other index, a revised CPI for Urban Wage Earners and Clerical Workers, covers about half the new index population. The All Urban Consumers index includes, in addition to wage earners and clerical workers, professional, managerial, and technical workers, the self-employed, short-term workers, the unemployed, retirees, and others not in the labor force.

The CPI is based on prices of food, clothing, shelter, fuel, drugs, transportation fares, doctor's and dentist's fees, and other goods and services that people buy for day-to-day living. The quantity and quality of these items is kept essentially unchanged between major revisions so that only price changes will be measured. Prices are collected from over 18,000 tenants, 24,000 retail establishments, and 18,000 housing units for property taxes in 85 urban areas across the country. All taxes directly associated with the purchase and use of items are included in the index. Because the CPI's are based on the expenditures of two population groups in 1972–73, they may not accurately reflect the experience of individual families and single persons with different buying habits.

Though the CPI is often called the "Cost-of-Living Index," it measures only price change, which is just one of several important factors affecting living costs. Area indexes do not measure differences in the level of prices among cities. They only measure the average change in prices for each area since the base period.

Producer Price Indexes measure average changes in prices received in primary markets of the United States by producers of commodities in all stages of processing. The sample used for calculating these indexes contains about 2,800 commodities and about 10,000 quotations per month selected to represent the movement of prices of all commodities produced in the manufacturing, agriculture, forestry, fishing, mining, gas and electricity, and public utilities sectors. The universe includes all commodities produced or imported for sale in commercial transactions in primary markets in the United States.

Producer Price Indexes can be organized by stage of processing or by commodity. The stage of processing structure organizes products by degree of fabrication (that is, finished goods, intermediate or semifinished goods, and crude materials). The commodity structure organizes products by similarity of end-use or material composition.

To the extent possible, prices used in calculating Producer Price Indexes apply to the first significant commercial transaction in the United States, from the production or central marketing point. Price data are generally collected monthly, primarily by mail questionnaire. Most prices are obtained directly from producing companies on a voluntary and confidential basis. Prices generally are reported for the Tuesday of the week containing the 13th day of the month.

In calculating Producer Price Indexes, price changes for the various commodities are averaged together with implicit quantity weights representing their importance in the total net selling value of all commodities as of 1972. The detailed data are aggregated to obtain indexes for stage of processing groupings, commodity groupings, durability of product groupings, and a number of special composite groupings.

Price indexes for the output of selected SIC industries measure average price changes in commodities produced by particular industries, as defined in the *Standard Industrial Classification Manual 1972* (Washington, U.S. Office of Management and Budget, 1972). These indexes are derived from several price series, combined to match the economic activity of the specified industry and weighted by the value of shipments in the industry. They use data from comprehensive industrial censuses conducted by the U.S. Bureau of the Census and the U.S. Department of Agriculture.

Notes on the data

Beginning with the May 1978 issue of the *Review*, regional CPI's cross classified by population size, were introduced. These indexes will enable users in local areas for which an index is not published to get a better approximation of the CPI for their area by using the appropriate population size class measure for their region. The cross-classified indexes will be published bimonthly. (See table 24.)

For further details about the new and the revised indexes and a comparison of various aspects of these indexes with the old unrevised CPI, see *Facts About the Revised Consumer Price Index*, a pamphlet in the Consumer Price Index Revision 1978 series. See also *The Consumer Price Index: Concepts and Content Over the Years*, Report 517, revised edition (Bureau of Labor Statistics, May 1978).

For interarea comparisons of living costs at three hypothetical standards of living, see the family budget data published in the *Handbook of Labor Statistics, 1977*, Bulletin 1966 (Bureau of Labor Statistics, 1977), tables 122–133. Additional data and analysis on price changes are provided in the *CPI Detailed Report* and *Producer Prices and Price Indexes*, both monthly publications of the Bureau.

As of January 1976, the Wholesale Price Index (as it was then called) incorporated a revised weighting structure reflecting 1972 values of shipments. From January 1967 through December 1975, 1963 values of shipments were used as weights.

For a discussion of the general method of computing consumer, producer, and industry price indexes, see *BLS Handbook of Methods for Surveys and Studies*, Bulletin 1910 (Bureau of Labor Statistics, 1976), chapters 13–15. See also John F. Early, "Improving the measurement of producer price change," *Monthly Labor Review*, April 1978, pp. 7–15. For industry prices, see also Bennett R. Moss, "Industry and Sector Price Indexes," *Monthly Labor Review*, August 1965, pp. 974–82.

22. Consumer Price Index for Urban Wage Earners and Clerical Workers, annual averages and changes, 1967–79

[1967 = 100]

Year	All items		Food and beverages		Housing		Apparel and upkeep		Transportation		Medical care		Entertainment		Other goods and services	
	Index	Percent change	Index	Percent change	Index	Percent change	Index	Percent change	Index	Percent change	Index	Percent change	Index	Percent change	Index	Percent change
1967	100.0	...	100.0	...	100.0	...	100.0	...	100.0	...	100.0	...	100.0	...	100.0	...
1968	104.2	4.2	103.6	3.6	104.0	4.0	105.4	5.4	103.2	3.2	106.1	6.1	105.7	5.7	105.2	5.2
1969	109.8	5.4	108.8	5.0	110.4	6.2	111.5	5.8	107.2	3.9	113.4	6.9	111.0	5.0	110.4	4.9
1970	116.3	5.9	114.7	5.4	118.2	7.1	116.1	4.1	112.7	5.1	120.6	6.3	116.7	5.1	116.8	5.8
1971	121.3	4.3	118.3	3.1	123.4	4.4	119.8	3.2	118.6	5.2	128.4	6.5	122.9	5.3	122.4	4.8
1972	125.3	3.3	123.2	4.1	128.1	3.8	122.3	2.1	119.9	1.1	132.5	3.2	126.5	2.9	127.5	4.2
1973	133.1	6.2	139.5	13.2	133.7	4.4	126.8	3.7	123.8	3.3	137.7	3.9	130.0	2.8	132.5	3.9
1974	147.7	11.0	158.7	13.8	148.8	11.3	136.2	7.4	137.7	11.2	150.5	9.3	139.8	7.5	142.0	7.2
1975	161.2	9.1	172.1	8.4	164.5	10.6	142.3	4.5	150.6	9.4	168.6	12.0	152.2	8.9	153.9	8.4
1976	170.5	5.8	177.4	3.1	174.6	6.1	147.6	3.7	165.5	9.9	184.7	9.5	159.8	5.0	162.7	5.7
1977	181.5	6.5	188.0	6.0	186.5	6.8	154.2	4.5	177.2	7.1	202.4	9.6	167.7	4.9	172.2	5.8
1978	195.3	7.6	206.2	9.7	202.6	8.6	159.5	3.4	185.8	4.9	219.4	8.4	176.2	5.1	183.2	6.4
1979	217.7	11.5	228.7	10.9	227.5	12.3	166.4	4.3	212.8	14.5	240.1	9.4	187.6	6.5	196.3	7.2

23. Consumer Price Index for All Urban Consumers and revised CPI for Urban Wage Earners and Clerical Workers, U.S. city average—general summary and groups, subgroups, and selected items

[1967 = 100 unless otherwise specified]

General summary	All Urban Consumers							Urban Wage Earners and Clerical Workers (revised)						
	1979	1980						1979	1980					
	July	Feb.	Mar.	Apr.	May	June	July	July	Feb.	Mar.	Apr.	May	June	July
All items	218.9	236.4	239.8	242.5	244.9	247.6	247.8	219.4	236.5	239.9	242.6	245.1	247.8	248.0
Food and beverages	230.7	238.6	241.0	242.8	244.1	245.7	248.3	230.9	239.0	241.2	243.2	244.7	246.4	249.1
Housing	228.4	250.5	254.5	257.9	261.7	266.7	265.1	228.4	250.5	254.4	257.8	261.7	266.9	265.1
Apparel and upkeep	164.3	171.9	176.0	177.3	177.5	177.2	176.2	164.5	171.5	175.1	176.1	176.8	176.0	175.4
Transportation	216.6	239.6	243.7	246.8	249.0	249.7	251.0	217.8	240.2	244.3	247.7	249.9	250.6	251.9
Medical care	239.9	257.9	260.2	262.0	263.4	264.7	266.6	240.5	258.7	260.9	263.1	264.9	265.9	267.8
Entertainment	189.1	197.8	200.6	202.5	204.0	205.3	206.6	188.6	196.2	199.5	201.3	202.4	204.0	204.4
Other goods and services	195.2	208.1	208.9	209.8	211.2	212.5	213.5	195.1	207.7	208.3	209.2	210.6	212.1	212.9
Commodities	210.5	225.2	228.0	229.9	231.4	232.8	234.1	211.0	225.3	228.1	230.1	231.7	233.0	234.4
Commodities less food and beverages	198.4	215.5	218.4	220.4	222.0	223.2	224.0	198.8	215.7	218.7	220.6	222.3	223.4	224.2
Nondurables less food and beverages	204.2	231.8	237.5	239.5	240.3	241.1	241.4	205.6	234.1	239.8	241.7	242.6	243.2	243.5
Durables	192.6	202.1	203.0	204.9	207.1	208.6	209.8	192.2	200.3	201.2	203.3	205.4	206.8	208.0
Services	234.7	256.8	261.3	265.3	269.2	274.2	272.4	235.1	257.3	261.7	265.8	269.9	275.1	273.1
Rent, residential	175.9	185.6	186.6	187.0	188.9	191.1	192.1	175.8	185.5	186.4	186.9	188.7	190.8	191.8
Household services less rent	268.6	300.2	307.3	313.4	319.6	328.8	323.3	269.8	302.4	309.6	315.8	322.2	331.9	325.9
Transportation services	212.6	229.6	233.4	238.1	241.5	242.6	243.8	213.3	229.3	232.7	238.0	241.5	242.7	243.9
Medical care services	258.5	279.0	281.5	283.4	284.7	285.9	288.0	258.8	279.8	282.2	284.5	286.3	287.3	289.3
Other services	199.3	211.1	212.9	214.5	215.9	216.9	218.1	200.1	211.4	213.5	214.6	216.5	217.9	218.6
Special indexes:														
All items less food	214.2	233.5	237.1	239.9	242.6	245.5	245.1	214.6	233.7	237.3	240.2	242.9	245.7	245.3
All items less mortgage interest costs	213.0	227.1	229.8	231.8	233.7	235.4	236.8	213.7	227.6	230.2	232.4	234.2	235.7	237.2
Commodities less food	197.0	213.8	216.7	218.6	220.2	221.4	222.2	197.4	214.0	216.9	218.9	220.5	221.6	222.4
Nondurables less food	201.1	227.3	232.6	234.6	235.5	236.3	236.6	202.5	229.4	234.8	236.7	237.7	238.3	238.7
Nondurables less food and apparel	222.8	258.2	264.1	266.5	267.9	269.3	270.3	223.9	260.1	266.3	266.7	270.0	271.4	272.2
Nondurables	218.3	236.3	240.3	242.2	243.2	244.5	245.9	219.2	237.4	241.4	243.3	244.6	245.7	247.2
Services less rent	245.6	270.2	275.4	280.0	284.4	290.0	287.6	246.1	270.8	275.9	280.8	285.4	291.2	288.6
Services less medical care	230.6	252.7	257.4	261.5	265.7	271.0	268.9	231.0	253.1	257.7	261.9	266.3	271.8	269.4
Domestically produced farm foods	225.9	229.1	231.2	232.7	233.6	234.8	238.5	225.8	229.2	231.0	232.4	233.4	234.7	238.4
Selected beef cuts	267.8	267.2	270.2	268.0	265.6	264.8	269.2	270.1	270.3	272.3	269.5	267.5	267.1	271.2
Energy	287.1	344.6	355.0	358.8	363.2	367.8	370.4	289.2	348.7	359.6	363.3	367.3	371.8	373.9
All items less energy	213.8	228.0	230.8	233.4	235.7	238.3	238.3	213.9	227.3	230.0	232.7	235.1	237.6	237.6
All items less food and energy	207.3	222.8	225.7	228.5	231.0	233.7	233.1	207.2	221.8	224.6	227.5	230.0	232.7	232.1
Commodities less food and energy	185.6	194.9	196.5	198.2	199.9	201.2	202.0	185.4	193.5	195.1	196.9	198.6	199.8	200.6
Energy commodities	300.8	385.0	398.5	402.3	403.0	404.1	404.8	301.9	386.4	400.3	404.0	404.7	405.6	406.1
Services less energy	232.4	256.2	259.6	263.5	267.0	271.5	269.1	232.7	256.7	260.0	264.2	267.8	272.5	269.8
Purchasing power of the consumer dollar, 1967 = $1	$0.462	$0.423	$0.417	$0.412	$0.408	$0.404	$0.404	$0.456	$0.423	$0.417	$0.412	$0.408	$0.404	$0.403

23. Continued—Consumer Price Index—U.S. city average

[1967 = 100 unless otherwise specified]

General summary	All Urban Consumers							Urban Wage Earners and Clerical Workers (revised)						
	1979	1980						1979	1980					
	July	Feb.	Mar.	Apr.	May	June	July	July	Feb.	Mar.	Apr.	May	June	July
FOOD AND BEVERAGES	230.7	238.6	241.0	242.8	244.1	245.7	248.3	230.9	239.0	241.2	243.2	244.7	246.4	249.1
Food	236.9	244.9	247.3	249.1	250.4	252.0	254.6	237.1	245.2	247.5	249.5	251.0	252.7	255.5
Food at home	235.5	241.3	243.6	245.3	246.5	248.0	251.5	235.0	241.1	243.1	245.0	246.1	247.7	251.1
Cereals and bakery products	220.1	236.8	238.6	242.0	244.5	245.9	247.8	221.1	237.4	239.3	242.2	244.4	245.7	248.0
Cereals and cereal products (12/77 = 100)	116.6	125.8	126.6	129.4	131.5	133.1	136.0	117.0	127.2	127.7	130.1	132.4	133.9	135.5
Flour and prepared flour mixes (12/77 = 100)	119.4	125.7	126.6	127.8	129.0	131.1	132.9	120.3	127.3	127.5	128.9	129.9	131.4	132.8
Cereal (12/77 = 100)	117.0	124.9	126.0	129.4	131.5	133.0	135.5	117.4	125.5	126.6	129.7	132.0	133.3	135.5
Rice, pasta, and cornmeal (12/77 = 100)	113.6	127.4	127.6	130.8	133.8	135.2	136.2	113.4	129.2	129.4	131.9	135.2	137.0	137.9
Bakery products (12/77 = 100)	116.4	125.1	126.1	127.6	128.7	129.1	129.8	117.0	125.1	126.2	127.5	128.3	126.8	129.8
White bread	194.2	210.7	212.0	215.1	216.7	216.9	218.4	194.3	209.7	212.1	215.1	216.0	215.4	217.5
Other breads (12/77 = 100)	116.2	124.6	125.6	127.0	128.3	128.1	129.4	118.5	127.5	129.3	129.3	130.6	130.8	132.3
Fresh biscuits, rolls, and muffins (12/77 = 100)	116.1	126.2	127.0	126.9	127.8	129.5	129.2	115.8	124.3	124.9	125.3	126.4	127.9	128.1
Fresh cakes and cupcakes (12/77 = 100)	114.8	122.8	124.4	126.5	127.4	127.6	127.9	115.9	122.2	123.2	125.4	126.5	126.9	127.3
Cookies (12/77 = 100)	114.8	122.8	124.4	125.3	126.1	126.3	127.1	117.2	124.0	125.6	126.3	126.8	126.9	128.3
Crackers and bread and cracker products (12/77 = 100)	112.7	119.9	120.2	122.0	122.2	123.6	125.5	112.9	121.0	121.8	122.2	123.0	124.5	125.7
Fresh sweetrolls, coffeecake, and donuts (12/77 = 100)	116.0	123.8	125.0	126.6	128.4	129.1	129.5	117.8	125.4	126.2	128.0	129.2	130.0	130.0
Frozen and refrigerated bakery products and fresh pies, tarts, and turnovers (12/77 = 100)	119.8	127.2	127.9	129.7	131.0	131.2	131.5	116.5	123.8	124.0	125.3	126.0	127.2	129.6
Meats, poultry, fish, and eggs	239.0	236.2	237.8	235.1	231.5	231.2	236.7	238.3	236.4	237.1	234.3	230.7	230.4	236.1
Meats, poultry, and fish	245.0	242.6	243.8	241.1	238.2	237.9	243.4	244.2	242.8	243.0	240.2	237.2	237.1	242.8
Meats	248.0	244.1	245.7	242.6	239.2	238.1	243.3	247.4	244.3	245.0	241.3	238.1	237.5	242.8
Beef and veal	268.4	268.2	269.1	267.0	264.8	263.8	267.9	268.4	268.9	270.8	268.2	266.3	265.6	269.6
Ground beef other than canned	274.5	273.3	275.3	272.9	269.4	266.9	266.6	274.7	276.2	278.7	274.7	270.6	269.0	268.7
Chuck roast	280.5	277.7	286.2	277.9	273.0	268.6	277.7	288.7	288.7	293.4	286.1	280.0	275.0	285.3
Round roast	239.1	244.5	244.2	242.7	243.4	240.9	243.2	242.7	245.8	244.5	242.1	245.5	243.8	246.2
Round steak	248.1	252.3	254.2	253.5	250.6	247.4	253.2	246.4	250.5	251.1	249.6	250.2	247.3	253.6
Sirloin steak	260.7	251.1	254.3	256.1	256.2	264.8	270.2	260.7	253.0	256.0	257.8	257.5	268.3	274.2
Other beef and veal (12/77 = 100)	151.8	152.2	153.8	153.3	152.4	152.5	155.9	152.8	152.8	153.7	153.1	152.2	152.4	155.2
Pork	215.1	202.8	202.6	197.1	191.8	190.4	200.3	214.9	204.1	203.0	196.7	191.8	190.5	200.7
Bacon	200.0	190.1	187.6	182.1	177.4	173.1	186.3	201.6	193.8	189.4	183.9	177.7	175.6	189.1
Pork chops	207.7	189.7	190.7	187.0	182.4	182.7	193.1	209.2	191.0	190.5	184.7	180.9	180.6	193.3
Ham other than canned (12/77 = 100)	97.2	95.7	95.8	90.6	87.4	87.8	92.1	96.1	95.2	94.7	86.7	85.4	86.1	90.5
Sausage	270.4	255.1	257.6	255.1	250.2	246.2	249.2	269.5	257.0	259.8	258.0	253.9	249.6	252.0
Canned ham	224.4	219.5	219.3	213.5	210.0	208.1	208.6	222.3	218.9	217.4	214.5	213.0	210.1	207.6
Other pork (12/77 = 100)	124.2	114.3	113.6	110.7	107.1	108.3	115.1	123.2	114.6	113.7	110.0	108.5	105.9	114.9
Other meats	245.1	244.7	245.8	243.9	240.2	239.4	239.1	241.0	240.9	241.5	239.0	235.6	235.9	236.5
Frankfurters	243.2	242.7	244.6	240.6	234.8	230.9	229.1	243.0	242.1	242.8	239.3	234.0	231.0	231.5
Bologna, liverwurst, and salami (12/77 = 100)	135.4	135.6	135.5	134.9	133.5	133.4	135.1	132.3	132.3	132.2	131.1	129.5	130.7	131.4
Other lunchmeats (12/77 = 100)	122.0	120.7	121.8	121.9	121.4	121.0	120.6	119.4	118.6	118.8	118.4	117.6	118.1	118.8
Lamb and organ meats (12/77 = 100)	141.0	142.4	142.3	140.1	136.3	137.6	137.2	141.1	143.4	144.3	141.3	138.4	139.3	138.2
Poultry	186.2	182.6	180.7	177.2	176.5	177.9	187.9	184.0	118.1	177.4	176.0	173.8	175.7	186.0
Fresh whole chicken	184.1	183.6	179.5	174.7	172.9	176.3	193.6	179.6	178.9	172.5	170.6	168.0	170.7	189.1
Fresh and frozen chicken parts (12/77 = 100)	119.4	116.8	116.8	114.5	114.4	115.7	120.9	119.1	117.0	116.3	114.7	112.7	115.6	120.8
Other poultry (12/77 = 100)	123.6	116.8	118.2	117.3	117.4	115.9	117.0	123.2	119.4	117.7	118.1	117.7	116.1	116.6
Fish and seafood	304.3	320.4	322.6	325.3	324.5	329.1	330.1	298.3	317.9	320.2	325.1	323.0	324.9	326.4
Canned fish and seafood (12/77 = 100)	111.4	120.3	120.4	122.9	125.4	127.3	129.2	110.2	119.7	119.5	121.8	124.0	125.7	127.3
Fresh and frozen fish and seafood (12/77 = 100)	118.6	123.0	124.3	124.5	122.5	124.2	123.7	115.7	122.0	123.5	125.1	122.4	122.6	122.5
Eggs	165.6	157.2	164.5	161.2	148.4	147.9	154.2	165.4	158.7	164.3	161.5	148.9	147.2	153.5
Dairy products	206.3	219.5	220.3	222.4	226.2	227.2	228.6	206.7	219.8	221.1	223.1	226.9	227.8	229.2
Fresh milk and cream (12/77 = 100)	116.1	123.7	124.1	124.7	127.0	127.1	127.7	116.3	123.6	124.2	124.9	127.2	127.4	128.0
Fresh whole milk	190.0	203.2	204.0	204.9	208.5	208.6	209.4	190.3	202.7	203.8	204.8	208.4	208.7	209.8
Other fresh milk and cream (12/77 = 100)	116.3	122.7	122.7	123.5	125.9	126.0	126.9	116.5	123.0	123.1	124.1	126.8	127.2	127.5
Processed dairy products (12/77 = 100)	117.3	124.5	125.1	127.0	129.1	130.4	131.4	117.6	125.1	126.2	128.0	129.9	130.7	131.9
Butter	200.6	218.3	218.3	219.9	222.2	225.0	226.9	202.6	220.9	220.9	222.7	225.3	227.2	229.7
Cheese (12/77 = 100)	117.7	124.2	124.9	126.2	127.8	128.8	130.0	117.4	124.4	125.5	126.8	128.5	129.0	130.1
Ice cream and related products (12/77 = 100)	117.0	124.6	125.1	128.6	131.9	133.7	134.6	118.4	125.6	127.2	130.4	132.9	133.8	135.5
Other dairy products (12/77 = 100)	114.5	120.9	121.6	124.0	126.1	127.3	127.5	114.3	121.3	121.9	123.6	125.7	127.4	127.7
Fruits and vegetables	238.1	228.3	232.4	240.9	246.6	250.1	253.9	236.6	225.9	230.1	239.8	245.5	250.2	253.0
Fresh fruits and vegetables	249.4	223.1	229.9	245.2	255.1	260.0	265.8	248.1	220.6	227.4	244.8	254.4	261.4	265.2
Fresh fruits	278.2	235.8	245.4	257.0	264.7	273.9	282.7	278.2	234.7	245.4	255.6	263.8	274.9	282.3
Apples	250.2	239.6	250.2	265.5	276.3	293.3	316.6	248.4	237.6	249.0	264.4	277.3	297.4	318.7
Bananas	221.0	238.5	243.9	242.8	249.7	242.6	232.6	218.5	234.6	240.8	243.5	244.5	237.7	228.7
Oranges	313.5	231.1	238.1	240.6	243.9	264.4	273.9	306.1	228.4	240.9	234.3	237.6	251.0	261.5
Other fresh fruits (12/77 = 100)	151.3	121.4	127.4	136.5	140.8	143.7	147.5	154.2	121.3	126.9	135.7	140.9	146.5	148.7
Fresh vegetables	222.4	211.2	215.5	234.2	246.2	247.0	250.1	221.0	207.9	211.3	235.2	246.0	249.4	249.6
Potatoes	225.7	203.3	203.3	201.7	210.1	246.3	310.5	227.9	199.8	200.3	198.2	205.6	244.4	309.4
Lettuce	200.0	198.7	208.3	271.9	279.9	238.8	205.9	185.9	191.7	203.8	281.9	288.6	241.7	200.6
Tomatoes	185.6	184.9	201.4	201.2	230.8	230.6	209.2	189.4	184.3	197.2	197.7	228.4	228.6	210.8
Other fresh vegetables (12/77 = 100)	132.1	125.1	125.4	134.6	140.1	140.2	137.1	130.2	123.9	123.0	135.3	138.7	143.4	138.0
Processed fruits and vegetables	227.8	236.2	237.2	238.4	239.4	241.4	243.0	225.8	233.9	235.0	236.2	237.6	239.7	241.5
Processed fruits (12/77 = 100)	118.5	123.4	123.9	125.0	125.4	126.4	126.6	118.1	123.6	123.9	124.9	125.7	126.7	126.8
Frozen fruit and fruit juices (12/77 = 100)	114.3	117.6	117.7	119.3	118.1	120.1	118.5	113.6	117.8	116.5	118.4	117.5	118.9	117.8
Fruit juices and other than frozen (12/77 = 100)	117.0	126.0	127.2	128.3	129.3	129.5	130.6	117.4	126.3	127.4	128.4	129.8	130.4	130.9
Canned and dried fruits (12/77 = 100)	123.8	125.5	125.5	126.3	127.5	128.3	129.0	122.7	125.3	125.9	126.4	127.8	128.9	129.5
Processed vegetables (12/77 = 100)	110.4	114.9	114.6	114.5	115.2	116.2	117.6	109.3	112.2	113.0	113.2	113.9	115.0	116.6
Frozen vegetables (12/77 = 100)	109.6	113.0	112.6	113.3	114.7	116.4	116.4	108.7	111.7	111.9	113.0	114.6	116.3	118.2

23. Continued—Consumer Price Index—U.S. city average

[1967=100 unless otherwise specified]

General summary	All Urban Consumers							Urban Wage Earners and Clerical Workers (revised)						
	1979	1980						1979	1980					
	July	Feb.	Mar.	Apr.	May	June	July	July	Feb.	Mar.	Apr.	May	June	July
FOOD AND BEVERAGES—Continued														
Food—Continued														
Food at home—Continued														
Fruits and vegetables—Continued														
Cut corn and canned beans except lima (12/77=100)	114.3	115.2	116.0	115.6	116.0	116.6	118.1	102.4	113.4	115.4	114.3	114.2	115.2	117.0
Other canned and dried vegetables (12/77=100)	108.8	113.9	114.8	114.7	115.1	115.9	117.0	107.5	111.9	112.3	112.7	113.3	114.2	115.6
Other foods at home	269.5	286.0	292.0	295.1	298.1	301.8	304.3	268.7	287.3	290.9	294.6	298.0	301.4	303.7
Sugar and sweets	279.4	297.5	313.5	319.5	326.8	342.0	353.1	278.3	297.1	314.1	320.8	326.0	342.9	354.6
Candy and chewing gum (12/77=100)	118.5	122.4	123.8	126.3	128.9	130.5	131.6	118.1	122.2	123.9	126.5	129.0	130.8	132.0
Sugar and artificial sweeteners (12/77=100)	115.4	131.5	153.0	156.9	161.4	180.3	194.2	115.4	131.6	153.8	158.6	163.3	180.7	194.5
Other sweets (12/77=100)	113.8	119.5	120.4	121.3	123.6	125.8	127.2	112.6	118.5	119.3	120.0	122.2	124.6	126.5
Fats and oils (12/77=100)	227.4	235.9	236.8	238.3	239.5	240.0	239.3	227.6	236.5	236.8	238.3	240.1	240.5	240.6
Margarine	240.2	247.9	248.8	247.9	246.1	249.0	247.0	239.7	247.9	248.3	248.3	248.4	249.4	248.6
Nondairy substitutes and peanut butter (12/77=100)	113.7	116.4	117.9	119.8	121.4	123.1	123.8	113.6	117.2	118.5	120.0	121.6	123.5	124.0
Other fats, oils, and salad dressings (12/77=100)	118.3	123.6	123.7	124.8	125.8	124.9	124.6	118.5	123.8	123.4	124.4	125.5	124.9	125.0
Nonalcoholic beverages	354.6	384.5	387.1	390.3	393.0	395.9	397.4	353.6	383.0	384.4	389.2	392.3	395.1	396.2
Cola drinks, excluding diet cola	238.3	255.9	259.3	261.7	265.4	267.8	268.4	236.5	253.6	255.4	260.1	263.2	267.1	265.6
Carbonated drinks, including diet cola (12/77=100)	115.6	122.3	123.5	125.6	126.2	128.3	129.2	113.0	120.2	121.1	123.4	124.8	126.2	127.4
Roasted coffee	376.5	439.6	437.6	434.0	433.5	432.4	435.3	375.1	436.8	432.3	430.4	430.0	429.2	432.3
Freeze dried and instant coffee	335.6	382.2	381.7	380.2	381.9	380.2	381.0	336.2	380.4	380.3	379.2	380.4	378.7	379.2
Other noncarbonated drinks (12/77=100)	113.1	118.3	118.6	120.7	120.7	121.6	122.1	112.2	117.5	118.1	119.6	120.0	120.8	121.1
Other prepared foods	209.1	221.8	224.1	226.6	229.1	230.9	232.3	208.8	221.7	224.0	226.6	229.6	230.8	232.1
Canned and packaged soup (12/77=100)	113.2	118.1	118.0	120.5	122.0	122.9	123.3	113.1	117.9	117.6	120.6	122.5	123.7	123.5
Frozen prepared foods (12/77=100)	121.4	126.6	128.2	130.4	131.3	132.0	132.4	119.5	125.5	127.1	128.8	131.0	130.8	131.3
Snacks (12/77=100)	114.0	123.4	124.1	124.8	126.1	127.2	128.3	114.8	124.7	125.3	126.0	127.3	127.9	128.5
Seasonings, olives, pickles, and relish (12/77=100)	115.0	123.6	124.9	125.2	125.4	127.5	128.0	114.2	123.1	124.0	124.5	125.5	127.3	127.3
Other condiments (12/77=100)	114.3	123.7	126.0	127.1	127.9	128.8	130.2	115.2	124.6	126.6	128.1	129.2	129.9	131.6
Miscellaneous prepared foods (12/77=100)	115.3	120.7	122.2	124.4	127.6	128.6	129.3	115.2	120.5	122.2	123.7	127.0	128.3	126.9
Other canned and packaged prepared foods (12/77=100)	115.8	121.2	122.2	123.1	124.6	125.2	126.0	115.3	120.3	122.0	123.3	124.3	124.1	125.4
Food away from home	244.9	258.3	260.9	263.0	264.6	266.6	267.8	246.5	260.1	262.7	265.3	267.6	269.9	271.2
Lunch (12/77=100)	119.6	125.9	127.0	127.9	128.5	129.3	130.0	120.4	126.7	127.6	128.9	129.9	130.7	131.1
Dinner (12/77=100)	118.9	125.8	127.0	127.9	128.7	129.5	130.1	119.7	126.8	128.1	129.1	130.5	131.0	132.0
Other meals and snacks (12/77=100)	117.3	123.2	124.9	126.4	127.4	129.0	129.3	118.2	124.4	126.2	127.7	128.6	131.1	131.6
Alcoholic beverages	172.7	180.4	181.7	183.9	185.4	186.4	187.2	173.3	181.1	182.8	185.0	186.9	188.0	189.2
Alcoholic beverages at home (12/77=100)	112.2	117.4	118.2	119.9	120.9	121.4	122.1	113.3	118.3	119.3	120.8	122.0	122.7	123.6
Beer and ale	170.3	179.9	182.0	185.9	187.7	188.2	189.2	170.5	179.9	181.7	185.1	187.5	188.8	189.7
Whiskey	127.4	132.6	132.8	133.4	133.9	134.7	135.2	129.2	133.8	134.4	134.6	135.1	135.4	136.6
Wine	194.1	202.5	204.1	206.6	208.5	211.5	212.6	197.8	206.1	208.4	209.8	212.0	213.7	217.4
Other alcoholic beverages (12/77=100)	105.2	107.3	107.4	108.2	109.0	108.7	109.6	105.0	106.7	107.2	107.8	108.7	108.9	109.6
Alcoholic beverages away from home (12/77=100)	114.5	119.2	120.0	120.5	121.5	122.3	122.5	112.3	117.6	119.1	120.5	121.7	122.5	122.9
HOUSING	228.4	250.5	254.5	257.9	261.7	266.7	265.1	228.4	250.5	254.4	257.8	261.7	266.9	265.1
Shelter	240.1	267.2	271.6	276.0	280.2	286.3	282.9	240.7	268.3	272.7	277.2	281.6	288.0	284.3
Rent, residential	175.9	185.6	186.6	187.0	188.9	191.1	192.1	175.8	185.5	186.4	186.9	188.7	190.8	191.8
Other rental costs	236.0	255.7	258.6	260.7	261.9	264.2	265.7	235.2	255.6	258.6	260.5	261.7	263.9	265.5
Lodging while out of town	248.8	272.8	276.8	279.3	279.9	282.1	283.8	246.7	271.6	275.7	278.0	278.6	280.8	282.3
Tenants' insurance (12/77=100)	110.9	117.8	118.6	119.9	121.2	122.6	123.1	111.5	118.5	119.3	120.1	121.4	122.7	123.3
Homeownership	263.0	296.3	302.0	307.7	312.9	320.4	315.4	264.2	299.4	304.0	310.0	315.4	323.4	317.9
Home purchase	224.0	243.0	244.0	246.5	249.7	252.6	253.9	224.0	243.0	243.8	246.5	249.8	253.0	254.3
Financing, taxes, and insurance	308.6	367.7	379.9	390.6	399.7	416.1	399.6	310.6	371.6	384.1	395.3	404.9	422.0	405.0
Property insurance	312.6	333.7	335.7	338.9	344.9	351.8	355.5	312.1	336.2	337.4	340.4	346.4	352.7	357.2
Property taxes	181.8	186.2	186.2	186.4	187.6	187.7	188.3	183.3	189.9	189.9	190.1	189.3	189.4	190.0
Contracted mortgage interest cost	375.6	464.0	483.0	499.4	513.6	538.9	512.2	375.8	465.0	484.1	500.9	515.6	541.5	514.6
Mortgage interest rates	164.9	187.5	194.4	199.4	202.4	210.3	199.0	164.9	187.8	194.8	199.8	202.8	210.8	199.6
Maintenance and repairs	257.9	273.7	278.8	282.9	284.9	285.9	287.6	259.1	274.4	278.2	281.7	283.4	283.8	285.1
Maintenance and repair services	280.0	297.1	303.2	307.9	310.1	310.6	312.1	282.8	299.3	303.5	307.7	309.1	308.5	309.0
Maintenance and repair commodities	206.1	218.9	221.4	224.3	225.8	228.0	230.3	206.5	219.5	222.3	224.3	226.5	229.8	231.3
Paint and wallpaper, supplies, tools, and equipment (12/77=100)	112.5	123.5	125.0	126.6	128.7	131.3	133.4	112.8	122.3	123.6	126.0	129.7	130.9	132.2
Lumber, awnings, glass, and masonry (12/77=100)	113.7	115.8	117.6	118.8	118.0	118.9	119.1	114.4	119.3	119.9	119.7	118.4	118.5	119.3
Plumbing, electrical, heating, and cooling supplies (12/77=100)	110.1	115.3	118.4	119.1	119.3	119.9	121.1	110.2	117.9	119.3	120.0	122.0	123.6	125.9
Miscellaneous supplies and equipment (12/77=100)	110.3	116.4	117.0	118.2	118.7	119.1	120.1	109.5	114.5	118.2	119.4	120.1	120.7	122.5
Fuel and other utilities	243.5	263.8	269.0	270.5	275.9	282.2	285.5	244.1	264.4	268.7	271.0	276.4	283.0	285.1
Fuels	293.8	327.1	333.9	337.8	348.4	355.8	360.8	293.9	327.0	333.8	337.6	346.0	355.6	360.3
Fuel oil, coal, and bottled gas	412.9	539.1	563.4	558.4	556.0	558.7	560.4	413.5	540.3	554.1	557.1	557.1	559.8	561.9
Fuel oil	420.5	561.9	577.9	580.7	580.4	583.2	585.1	430.0	582.5	577.8	580.7	580.5	583.3	585.6
Other fuels (6/78 = 100)	106.2	136.6	138.3	138.6	139.4	140.1	140.4	106.5	137.9	138.5	140.8	141.3	141.8	142.1
Gas (piped) and electricity	264.5	278.8	284.0	288.0	293.2	308.8	314.3	264.6	278.5	283.9	287.8	297.5	308.5	313.5
Electricity	227.4	233.8	237.9	241.5	248.1	261.9	267.4	228.0	233.9	238.1	241.5	248.0	262.3	267.8
Utility (piped) gas	307.7	336.8	343.9	347.9	364.6	366.7	371.8	306.5	336.4	342.6	346.4	362.3	364.9	368.8

23. Continued—Consumer Price Index—U.S. city av[illegible]ge

[1967 = 100 unless otherwise specified]

General summary	All Urban Consumers							Urban Wage Earners and Clerical Workers (revised)						
	1979	1980						1979	1980					
	July	Feb.	Mar.	Apr.	May	June	July	July	Feb.	Mar.	Apr.	May	June	July
HOUSING—Continued														
Fuel and other utilities—Continued														
Other utilities and public services	159.4	161.3	161.9	162.3	163.1	164.9	165.9	159.4	161.4	161.9	162.3	163.1	164.9	165.9
Telephone services	132.1	132.8	133.2	133.4	134.0	135.5	136.3	132.2	132.8	133.1	133.2	133.9	135.4	136.1
Local charges (12/77 = 100)	100.1	102.7	103.3	103.5	104.3	105.3	105.4	100.2	102.7	103.2	103.3	104.0	105.1	105.2
Interstate toll calls (12/77 = 100)	98.4	97.4	97.4	97.3	97.3	99.5	101.6	98.5	97.5	97.5	97.4	97.4	99.5	101.6
Intrastate toll calls (12/77 = 100)	101.3	98.8	98.7	99.0	99.4	99.6	99.5	101.2	98.7	98.6	98.9	99.3	99.5	99.3
Water and sewerage maintenance	244.0	252.3	253.9	255.2	256.5	259.3	261.3	244.0	253.0	254.7	256.2	257.6	260.5	262.4
Household furnishings and operations	190.4	199.0	201.3	203.0	204.2	205.5	206.2	189.0	196.8	199.2	200.7	201.9	202.9	203.5
Housefurnishings	162.9	169.3	171.5	172.7	173.4	174.6	174.7	162.5	167.9	170.4	171.5	172.2	172.9	172.9
Textile housefurnishings	173.6	182.9	187.2	188.2	187.3	189.4	188.2	171.6	181.2	185.3	186.3	186.1	189.6	188.7
Household linens (12/77 = 100)	104.3	110.1	113.9	114.8	114.4	116.0	114.6	103.1	109.8	113.2	113.8	113.4	116.2	114.8
Curtains, drapes, slipcovers, and sewing materials (12/77 = 100)	112.4	118.2	119.7	119.9	119.3	120.1	120.2	111.4	116.6	118.2	118.9	119.0	120.5	121.0
Furniture and bedding	176.8	185.2	189.2	190.9	191.9	193.6	192.8	177.2	184.3	187.9	189.4	190.1	190.8	189.7
Bedroom furniture (12/77 = 100)	113.2	120.5	122.5	124.3	125.0	126.2	125.4	112.1	117.5	119.2	120.9	121.7	123.1	122.6
Sofas (12/77 = 100)	106.2	108.5	110.9	111.6	111.4	113.0	112.2	108.7	110.3	112.7	111.8	112.0	112.7	111.7
Living room chairs and tables (12/77 = 100)	104.5	110.0	110.8	110.9	110.8	110.6	110.7	106.2	111.2	111.9	112.6	112.6	111.7	111.3
Other furniture (12/77 = 100)	113.3	118.3	122.6	124.0	125.6	127.1	126.6	112.5	117.5	121.3	123.1	123.5	123.9	123.0
Appliances including TV and sound equipment	135.4	138.3	138.6	139.3	139.9	140.2	140.5	135.0	137.8	139.0	139.7	140.2	140.1	140.1
Television and sound equipment (12/77 = 100)	103.9	105.4	105.7	105.7	105.7	105.6	105.8	103.3	104.9	105.5	105.4	105.4	105.2	105.0
Television	102.6	103.7	104.0	104.0	104.1	104.2	104.4	101.6	102.3	102.9	102.8	102.8	103.1	102.7
Sound equipment (12/77 = 100)	106.1	108.1	108.3	108.3	108.3	107.9	108.2	105.8	108.2	108.7	108.6	108.7	108.0	108.0
Household appliances	155.1	159.4	160.2	161.4	162.6	163.4	163.7	154.9	158.8	160.7	162.3	163.4	163.6	163.8
Refrigerators and home freezer	152.9	156.5	157.9	160.6	162.7	163.2	163.6	157.3	159.7	161.4	163.5	166.0	166.8	166.4
Laundry equipment (12/77 = 100)	110.7	115.0	116.8	117.5	118.2	119.1	119.6	110.1	114.7	116.6	117.8	118.5	118.9	118.7
Other household appliances (12/77 = 100)	108.7	111.3	111.2	111.5	112.1	112.7	112.6	107.1	109.5	110.7	111.6	111.8	111.7	112.1
Stoves, dishwashers, vacuums, and sewing machines (12/77 = 100)	109.0	110.8	110.9	110.0	110.3	111.2	111.6	107.6	110.5	111.1	111.6	111.9	111.4	112.8
Office machines, small electric appliances, and air conditioners (12/77 = 100)	108.5	112.0	111.6	113.1	114.2	114.4	113.8	106.5	108.4	110.2	111.6	111.7	112.0	111.3
Other household equipment (12/77 = 100)	110.3	115.9	117.3	118.4	119.0	120.2	121.3	110.4	114.4	116.0	117.0	117.8	118.5	119.7
Floor and window coverings, infants' laundry cleaning and outdoor equipment (12/77 = 100)	109.1	114.5	116.4	118.2	117.6	120.2	120.8	104.6	109.4	110.8	113.1	113.2	114.3	114.7
Clocks, lamps, and decor items (12/77 = 100)	107.5	112.7	114.9	115.6	117.6	118.8	119.0	107.2	109.8	112.3	112.6	114.4	115.9	116.6
Tableware, serving pieces, and nonelectric kitchenware (12/77 = 100)	114.4	121.4	122.6	123.4	124.1	125.4	126.4	114.1	118.9	120.8	121.4	121.7	122.2	124.0
Lawn equipment, power tools, and other hardware (12/77 = 100)	107.6	111.7	112.2	113.5	114.0	113.7	115.9	111.0	114.2	115.0	115.9	117.4	117.6	118.7
Housekeeping supplies	222.3	235.0	238.0	240.7	243.6	245.4	247.3	220.7	232.8	235.5	238.1	241.2	243.0	245.2
Soaps and detergents	210.9	228.9	232.1	233.2	235.0	234.9	237.2	210.5	226.5	230.0	231.1	232.1	232.3	234.4
Other laundry and cleaning products (12/77 = 100)	111.3	117.2	117.0	117.6	119.8	121.1	122.3	111.3	117.1	116.9	118.1	119.5	120.8	122.3
Cleansing and toilet tissue, paper towels and napkins (12/77 = 100)	116.5	121.2	123.9	126.2	128.6	129.4	130.2	116.9	123.4	125.8	128.1	130.8	131.5	132.7
Stationery, stationery supplies, and gift wrap (12/77 = 100)	108.9	112.7	113.8	115.6	116.3	116.9	117.6	107.5	112.3	113.6	114.9	116.0	116.5	117.9
Miscellaneous household products (12/77 = 100)	112.3	119.4	120.9	122.0	123.0	124.4	125.4	110.5	116.6	118.3	119.2	120.9	122.1	123.5
Lawn and garden supplies (12/77 = 100)	113.0	119.4	121.4	123.8	125.2	126.8	127.6	110.4	113.3	114.0	116.5	118.9	121.0	120.7
Housekeeping services	249.7	261.6	263.6	266.0	267.6	269.1	270.4	248.6	261.1	262.7	264.3	265.6	267.0	268.1
Postage	257.3	257.3	257.3	257.3	257.3	257.3	257.3	257.2	257.2	257.2	257.3	257.3	257.3	257.3
Moving, storage, freight, household laundry, and drycleaning services (12/77 = 100)	116.3	124.2	125.4	128.3	129.4	130.5	131.0	116.5	124.6	126.1	127.8	128.5	129.2	129.7
Appliance and furniture repair (12/77 = 100)	109.5	114.7	115.8	116.5	117.2	117.7	118.7	109.4	115.5	116.0	116.2	116.7	117.4	117.8
APPAREL AND UPKEEP	164.3	171.9	176.0	177.3	177.5	177.2	176.2	164.5	171.5	175.1	176.1	176.8	176.0	175.4
Apparel commodities	158.6	165.1	169.2	170.2	170.1	169.7	168.5	159.1	165.2	168.7	169.5	169.8	168.8	168.0
Apparel commodities less footwear	155.6	161.8	166.2	167.2	166.9	166.4	165.0	156.0	161.9	165.7	166.3	166.4	165.3	164.4
Men's and boys'	159.2	162.7	165.6	166.9	168.0	166.8	165.9	160.6	162.9	166.0	167.3	168.9	168.1	167.2
Men's (12/77 = 100)	100.0	102.3	104.3	105.0	105.7	104.8	103.9	101.3	102.4	104.4	105.2	106.3	105.5	104.7
Suits, sport coats, and jackets (12/77 = 100)	96.8	98.2	99.9	101.1	101.2	99.7	97.1	95.8	94.4	96.4	97.3	97.1	95.4	93.2
Coats and jackets (12/77 = 100)	94.4	93.6	96.9	96.5	97.3	96.3	96.0	97.6	92.2	96.9	97.0	97.2	97.1	97.1
Furnishings and special clothing (12/77 = 100)	108.4	112.7	115.0	116.6	117.9	118.2	118.4	106.6	111.1	113.2	114.2	116.4	115.4	115.7
Shirts (12/77 = 100)	100.9	109.3	111.8	111.5	112.2	110.8	110.7	104.1	109.4	112.0	111.7	113.7	112.9	111.2
Dungarees, jeans, and trousers (12/77 = 100)	99.0	97.7	98.7	99.4	100.2	99.5	99.2	101.5	102.2	102.7	104.2	105.2	105.0	104.8
Boys' (12/77 = 100)	104.2	106.3	107.5	108.9	109.7	109.5	110.0	103.5	105.9	107.5	108.7	109.6	109.8	110.0
Coats, jackets, sweaters, and shirts (12/77 = 100)	101.7	99.9	102.5	104.4	105.2	104.6	104.4	101.3	101.9	105.0	107.2	107.7	107.8	107.4
Furnishings (12/77 = 100)	108.0	110.9	112.0	113.3	114.3	114.6	114.7	107.1	109.5	110.7	111.6	112.7	113.3	113.3
Suits, trousers, sport coats, and jackets (12/77 = 100)	104.8	109.5	109.8	110.7	111.3	111.3	112.6	103.9	107.7	108.2	108.8	109.9	110.1	110.9
Women's and girls'	147.8	151.1	155.5	155.9	154.1	153.0	150.6	147.5	151.3	154.9	154.7	154.1	151.2	149.9
Women's (12/77 = 100)	98.4	100.8	103.8	103.9	102.4	101.7	99.8	98.7	101.4	103.7	103.3	103.0	100.8	99.6
Coats and jackets	162.1	163.1	167.6	168.3	162.0	158.1	158.8	168.8	162.4	167.0	167.8	162.4	155.2	157.5
Dresses	157.2	160.6	169.3	167.8	163.9	163.3	153.9	152.8	151.2	157.5	154.1	154.5	152.5	146.2
Separates and sportswear (12/77 = 100)	95.0	97.1	99.8	101.1	100.3	99.5	98.8	95.7	99.2	101.0	101.6	101.2	98.2	97.1
Underwear, nightwear, and hosiery (12/77 = 100)	105.6	110.2	111.0	111.5	111.8	112.1	113.2	106.1	110.6	111.5	111.7	112.2	112.3	112.8
Suits (12/77 = 100)	97.3	98.2	91.6	90.4	88.0	86.5	85.5	87.9	96.8	100.2	98.2	96.2	91.7	90.1
Girls (12/77 = 100)	98.1	98.8	101.6	102.6	102.7	102.1	102.0	95.5	97.3	100.1	101.1	100.5	99.6	100.0
Coats, jackets, dresses, and suits (12/77 = 100)	98.7	95.7	98.9	99.8	99.4	98.1	98.9	94.6	92.6	95.7	96.8	95.3	93.8	95.6
Separates and sportswear (12/77 = 100)	93.9	98.2	100.8	101.4	101.8	100.7	99.7	92.5	98.1	99.8	100.5	99.9	98.5	98.2
Underwear, nightwear, hosiery, and accessories (12/77 = 100)	104.6	105.6	108.4	108.5	110.0	111.4	111.4	102.0	103.5	107.8	108.9	110.0	110.9	110.4

23. Continued—Consumer Price Index—U.S. city average

[1967 = 100 unless otherwise specified]

General summary	All Urban Consumers							Urban Wage Earners and Clerical Workers (revised)						
	1979	1980						1979	1980					
	July	Feb.	Mar.	Apr.	May	June	July	July	Feb.	Mar.	Apr.	May	June	July
APPAREL AND UPKEEP — Continued														
Apparel commodities — Continued														
Apparel commodities less footwear — Continued														
Infants' and toddlers'	219.0	226.6	231.4	234.3	237.4	240.9	243.0	221.9	232.7	237.3	241.1	242.8	246.8	249.2
Other apparel commodities	167.9	191.4	199.9	201.9	202.7	205.3	205.5	168.4	191.8	197.8	198.5	197.4	201.0	200.8
Sewing materials and notions (12/77 = 100)	101.3	106.3	107.1	107.9	109.1	110.2	109.3	95.6	105.7	107.2	106.9	108.6	110.9	108.8
Jewelry and luggage (12/77 = 100)	111.7	131.2	138.6	140.1	140.4	142.2	142.8	114.9	132.3	137.3	138.1	136.3	138.6	139.4
Footwear	176.6	184.6	187.0	188.3	189.3	189.0	189.5	176.6	183.9	186.3	188.1	189.3	188.9	189.3
Men's (12/77 = 100)	113.4	118.3	119.0	119.7	120.0	121.3	121.1	114.5	119.4	120.9	122.4	122.7	123.6	123.2
Boys' and girls' (12/77 = 100)	111.0	117.9	119.5	119.5	121.3	121.0	123.5	111.2	118.0	119.5	119.5	121.5	121.3	123.1
Women's (12/77 = 100)	108.3	112.1	114.2	115.6	115.8	114.6	113.8	106.9	109.5	110.9	112.6	112.9	111.7	111.3
Apparel services	205.7	222.9	225.9	230.0	232.2	233.6	234.4	204.9	219.8	223.5	226.0	230.8	231.8	232.6
Laundry and drycleaning other than coin operated (12/77 = 100)	120.6	130.6	132.5	135.5	136.9	137.5	137.7	120.3	130.6	132.3	134.1	135.6	137.3	137.5
Other apparel services (12/77 = 100)	111.2	120.7	122.1	123.3	124.5	125.5	126.3	111.2	116.9	119.6	120.4	125.0	123.9	124.7
TRANSPORTATION	216.8	239.6	243.7	246.8	249.0	249.7	251.0	217.8	240.2	244.3	247.7	249.9	250.6	251.9
Private	217.4	239.8	244.0	247.0	249.2	249.7	250.5	218.3	240.4	244.6	248.0	250.1	250.8	251.5
New cars	166.7	175.3	175.0	177.0	178.9	178.5	179.2	166.6	175.4	175.4	177.7	179.6	179.4	180.0
Used cars	209.2	195.3	195.2	196.7	199.3	200.7	203.4	209.2	195.3	195.2	196.8	199.3	200.8	203.4
Gasoline	260.0	357.6	370.9	374.7	375.4	376.2	376.7	261.0	359.0	372.7	376.3	377.1	377.6	377.8
Automobile maintenance and repair	244.0	258.2	260.9	264.1	266.1	267.3	269.0	244.2	259.2	261.7	264.3	266.1	268.0	269.7
Body work (12/77 = 100)	117.4	126.5	127.3	129.1	130.6	131.4	131.8	117.6	126.1	127.2	128.4	129.7	130.8	131.3
Automobile drive train, brake, and miscellaneous mechanical repair (12/77 = 100)	116.7	123.2	124.1	126.1	126.6	127.5	128.1	117.5	124.8	126.1	127.4	127.8	128.8	129.9
Maintenance and servicing (12/77 = 100)	115.9	121.3	123.1	124.7	125.9	126.1	127.3	115.3	121.3	122.8	124.2	125.4	126.2	127.2
Power plant repair (12/77 = 100)	114.8	122.5	123.5	124.4	125.1	125.9	126.4	115.2	123.1	124.0	124.6	125.4	126.2	126.6
Other private transportation	198.5	212.6	216.5	221.3	224.5	225.0	224.5	199.1	213.6	217.1	223.1	226.7	227.3	226.7
Other private transportation commodities	173.3	191.2	192.7	194.1	195.3	195.5	197.7	174.4	191.7	193.2	195.8	196.7	198.8	200.1
Motor oil, coolant, and other products (12/77 = 100)	110.5	123.9	126.4	129.8	132.2	134.1	136.3	109.9	124.0	126.1	129.1	131.5	133.6	136.5
Automobile parts and equipment (12/77 = 100)	112.3	123.5	124.3	124.8	125.4	125.3	126.6	113.2	123.9	124.7	126.2	126.5	126.3	126.4
Tires	153.7	168.5	170.1	171.2	172.6	172.3	174.9	155.7	170.6	172.5	174.9	175.6	174.9	178.9
Other parts and equipment (12/77 = 100)	114.8	127.3	127.2	127.1	126.5	126.8	126.6	114.3	125.0	124.4	125.1	125.0	125.4	125.7
Other private transportation services	207.1	220.4	225.0	230.6	234.5	235.0	233.8	207.6	221.5	225.7	232.6	236.8	237.6	236.0
Automobile insurance	229.1	240.2	244.0	245.2	247.1	248.5	249.1	229.0	239.7	243.8	244.9	246.9	248.2	248.7
Automobile finance charges (12/77 = 100)	116.8	132.1	137.4	148.6	155.0	153.7	149.7	118.4	131.3	135.2	147.8	153.8	153.5	149.1
Automobile rental, registration, and other fees (12/77 = 100)	106.9	109.8	110.8	111.5	112.1	112.9	113.3	107.3	110.9	111.6	112.2	113.1	114.0	114.7
State registration	144.0	145.2	145.3	146.4	146.4	146.4	146.4	143.9	145.3	145.5	146.5	146.5	146.5	146.5
Drivers' license (12/77 = 100)	104.5	104.8	104.7	104.7	104.7	104.7	104.9	104.3	104.5	104.4	104.4	104.4	104.4	104.8
Vehicle inspection (12/77 = 100)	114.6	119.0	119.7	119.7	120.4	121.5	122.6	115.5	119.7	120.2	120.3	121.0	122.1	123.3
Other vehicle related fees (12/77 = 100)	114.0	119.6	122.0	122.7	124.0	126.1	126.8	116.9	125.4	127.0	127.8	130.0	132.7	134.6
Public	197.1	229.5	232.1	235.9	239.5	242.2	250.5	197.6	223.9	226.1	229.7	232.9	234.9	245.8
Airline fare	198.5	255.4	259.9	264.3	270.0	275.5	276.9	198.4	256.2	259.3	263.9	270.0	275.4	275.5
Intercity bus fare	258.8	288.5	290.7	291.5	293.6	293.8	294.2	258.5	289.2	290.2	291.0	293.4	293.6	293.9
Intracity mass transit	189.8	199.7	200.8	203.0	204.6	204.4	222.6	189.7	197.6	198.6	200.8	202.0	201.9	221.8
Taxi fare	220.6	244.0	245.6	256.4	259.9	262.0	263.3	226.5	249.3	251.2	261.6	265.7	267.6	269.2
Intercity train fare	216.1	237.2	237.2	237.3	250.0	255.2	256.3	217.1	237.0	237.1	237.2	251.1	256.5	255.4
MEDICAL CARE	239.9	257.9	260.2	262.0	263.4	264.7	266.6	240.5	258.7	260.9	263.1	264.9	265.9	267.8
Medical care commodities	154.1	162.1	163.5	164.9	166.4	167.9	169.1	155.3	162.7	164.4	166.0	167.2	168.5	169.7
Prescription drugs	141.9	149.8	150.9	152.2	153.5	154.8	155.6	143.0	150.7	152.0	153.5	154.6	155.8	156.6
Anti-infective drugs (12/77 = 100)	112.0	117.2	117.9	118.5	118.7	120.5	121.2	113.0	119.8	120.1	120.4	120.7	122.0	122.3
Tranquilizers and sedatives (12/77 = 100)	114.0	121.3	122.2	122.9	124.1	124.9	125.5	114.4	121.0	122.2	122.7	123.5	124.2	124.7
Circulatories and diuretics (12/77 = 100)	108.6	113.4	113.3	114.2	114.8	115.1	115.4	109.1	114.2	114.7	115.9	116.8	117.3	117.6
Hormones, diabetic drugs, biologicals, and prescription and supplies (12/77 = 100)	118.9	128.7	130.0	131.3	133.2	134.3	135.5	119.3	127.8	129.6	131.3	132.4	133.7	134.8
Pain and symptom control drugs (12/77 = 100)	113.1	119.7	120.5	121.4	122.9	124.2	124.5	114.7	120.1	121.3	122.6	124.2	125.5	126.1
Supplements, cough and cold preparations, and respiratory agents (12/77 = 100)	109.5	113.7	115.5	117.1	118.2	118.6	119.3	111.0	115.2	116.5	118.5	119.5	120.2	120.9
Nonprescription drugs and medical supplies (12/77 = 100)	110.8	116.3	117.3	118.4	119.5	120.6	121.7	111.9	116.6	118.0	119.2	120.1	121.0	122.0
Eyeglasses (12/77 = 100)	108.2	112.9	114.1	115.0	116.5	118.2	118.7	108.5	112.6	114.5	115.3	116.3	117.3	117.8
Internal and respiratory over-the-counter drugs	171.3	180.4	182.2	184.4	186.0	187.3	189.1	173.2	180.8	183.0	186.4	186.9	188.4	190.1
Nonprescription medical equipment and supplies (12/77 = 100)	109.7	114.6	115.1	115.3	116.5	117.5	119.1	110.7	115.6	116.1	116.3	117.1	117.5	119.0
Medical care services	258.5	279.0	281.5	283.4	284.7	286.9	289.0	258.8	279.8	282.2	284.5	286.3	287.3	289.3
Professional services	227.6	242.9	245.3	248.2	250.3	251.8	253.5	229.3	245.5	247.8	251.2	253.5	255.1	256.1
Physicians' services	244.7	260.2	262.3	264.8	267.5	269.2	270.9	246.8	264.1	266.2	269.7	272.3	273.9	275.4
Dental services	215.2	231.5	234.1	237.2	238.8	240.3	241.1	217.1	233.4	236.7	238.9	241.2	243.1	243.0
Other professional services (12/77 = 100)	111.5	118.1	119.5	121.7	122.2	122.9	125.0	111.0	117.4	119.3	121.1	121.6	122.2	123.6
Other medical care services	295.8	322.7	325.3	325.8	326.3	327.2	329.7	294.9	322.1	324.4	325.3	326.5	326.5	329.6
Hospital and other medical services (12/77 = 100)	117.3	127.8	128.8	129.7	130.4	131.4	133.4	116.6	126.8	127.7	128.6	129.7	130.3	132.6
Hospital room	389.7	403.4	405.8	408.0	410.1	412.6	418.2	387.5	398.8	401.2	403.6	406.7	408.5	414.9
Other hospital and medical care services	118.4	126.5	127.8	128.8	129.5	130.6	132.8	115.6	125.9	126.9	128.0	128.1	129.7	132.3

23. Continued—Consumer Price Index—U.S. city average

[1967 = 100 unless otherwise specified]

General summary	All Urban Consumers							Urban Wage Earners and Clerical Workers (revised)						
	1979	1980						1979	1980					
	July	Feb.	Mar.	Apr.	May	June	July	July	Feb.	Mar.	Apr.	May	June	July
ENTERTAINMENT	189.1	197.8	200.6	202.5	204.0	205.3	206.6	188.6	196.2	199.5	201.3	202.4	204.0	204.4
Entertainment commodities	189.7	200.4	203.4	205.7	207.0	208.3	209.3	188.2	196.9	200.3	202.8	203.4	204.5	204.8
Reading materials (12/77 = 100)	110.0	117.4	119.4	120.1	121.5	122.3	123.0	109.5	117.0	118.1	119.7	121.1	121.8	122.5
Newspapers	212.6	227.7	232.4	234.8	237.2	239.0	240.0	212.2	227.3	232.0	234.3	236.4	238.2	239.3
Magazines, periodicals, and books (12/77 = 100)	112.0	119.2	120.8	120.8	122.4	123.1	124.1	111.7	118.9	120.7	120.6	122.3	122.8	123.7
Sporting goods and equipment (12/77 = 100)	110.0	115.9	117.2	118.7	118.5	118.6	119.5	107.0	110.8	112.4	114.1	114.0	114.2	114.2
Sport vehicles (12/77 = 100)	110.8	117.4	118.7	120.6	119.9	119.8	120.7	106.9	109.1	110.8	113.0	112.5	112.6	112.5
Indoor and warm weather sport equipment (12/77 = 100)	106.7	108.3	109.5	111.3	112.0	111.1	112.4	104.7	107.8	109.3	110.5	110.3	110.2	110.6
Bicycles	162.2	174.5	177.2	178.6	179.7	180.6	181.6	161.8	174.9	177.8	179.8	180.9	181.4	181.4
Other sporting goods and equipment (12/77 = 100)	107.8	112.4	112.9	113.1	113.7	114.6	115.0	106.5	112.6	113.4	114.0	114.6	115.3	116.1
Toys, hobbies, and other entertainment (12/77 = 100)	109.4	115.1	116.9	118.4	119.4	120.6	121.0	109.6	114.3	116.4	118.0	118.1	119.0	119.1
Toys, hobbies, and music equipment (12/77 = 100)	109.3	114.1	115.7	117.3	118.5	119.6	119.0	109.1	112.3	114.9	116.5	115.8	117.0	115.9
Photographic supplies and equipment (12/77 = 100)	108.4	114.1	118.2	120.1	120.8	121.8	122.8	107.7	114.2	116.9	118.9	120.5	121.1	122.4
Pet supplies and expense (12/77 = 100)	110.3	117.6	118.2	119.2	120.1	121.7	123.2	111.6	117.9	119.0	120.0	120.9	121.4	122.9
Entertainment services	188.6	194.5	197.0	198.5	200.1	201.4	203.1	109.1	196.0	199.1	199.9	201.8	204.3	204.8
Fees for participant sports (12/77 = 100)	111.9	116.0	117.5	119.0	120.2	120.9	122.1	112.1	116.3	118.8	119.3	120.5	121.5	121.9
Admissions (12/77 = 100)	114.3	116.3	119.1	118.7	118.8	120.4	121.3	115.3	119.7	120.0	120.1	121.0	123.2	123.2
Other entertainment services (12/77 = 100)	109.1	111.4	113.2	114.8	116.4	116.6	117.4	110.5	111.8	113.9	115.1	116.5	118.2	118.8
OTHER GOODS AND SERVICES	195.2	208.1	208.9	209.8	211.2	212.5	213.5	195.1	207.7	208.3	209.2	210.6	212.1	212.9
Tobacco products	186.8	198.1	198.4	198.8	200.4	203.4	203.8	186.9	198.3	198.6	198.9	200.5	203.6	204.0
Cigarettes	189.2	200.9	201.2	201.4	202.9	206.0	206.4	189.4	201.3	201.6	201.6	203.2	206.4	206.8
Other tobacco products and smoking accessories (12/77 = 100)	110.8	115.6	116.3	117.6	119.0	120.2	120.7	110.3	114.8	115.7	117.2	118.5	119.5	120.3
Personal care	196.4	206.5	208.1	209.7	211.6	212.4	214.4	196.0	206.6	207.7	209.5	210.9	211.8	213.1
Toilet goods and personal care appliances	188.6	198.6	200.2	201.8	204.1	205.1	207.9	188.1	198.3	199.6	201.8	203.9	204.5	206.6
Products for the hair, hairpieces and wigs (12/77 = 100)	109.4	116.1	116.6	117.9	120.0	120.7	121.4	108.5	114.9	114.9	117.9	120.0	119.7	120.5
Dental and shaving products (12/77 = 100)	113.2	118.6	119.2	120.5	121.0	122.3	124.0	111.0	116.8	118.4	119.3	118.8	120.4	122.0
Cosmetics, bath and nail preparations, manicure and eye makeup implements (12/77 = 100)	109.5	114.2	115.1	115.7	116.5	116.7	119.1	109.0	114.0	114.8	115.2	116.2	116.6	117.9
Other toilet goods and small personal care appliances (12/77 = 100)	106.2	112.9	114.7	115.4	117.4	117.6	119.4	108.8	115.6	116.6	117.2	119.0	119.1	120.4
Personal care services	203.9	214.2	215.7	217.2	218.8	219.6	220.9	204.0	215.0	215.8	217.2	218.1	219.1	219.8
Beauty parlor services for women	205.2	216.1	217.9	218.6	220.4	220.6	222.1	205.9	216.6	217.8	218.6	219.4	220.2	221.0
Haircuts and other barber shop services for men (12/77 = 100)	114.1	119.3	119.7	121.7	122.2	123.4	123.9	113.6	120.0	120.1	121.5	122.0	122.8	123.0
Personal and educational expenses	209.3	228.0	228.3	228.7	229.2	229.5	229.9	209.8	227.8	228.2	228.7	229.4	229.8	230.3
School books and supplies	191.6	206.5	206.9	207.1	207.1	207.1	207.2	194.2	210.4	210.7	210.9	210.9	210.9	210.9
Personal and educational services	213.8	233.3	233.6	234.0	234.7	235.0	235.5	214.0	232.5	232.9	233.4	234.2	234.8	235.4
Tuition and other school fees	108.9	118.5	118.6	118.6	118.6	118.6	118.7	108.8	118.6	118.7	118.7	118.7	118.7	118.8
College tuition (12/77 = 100)	109.2	117.8	117.9	117.9	117.9	117.9	118.0	109.2	117.8	117.9	117.9	117.9	117.9	118.0
Elementary and high school tuition (12/77 = 100)	107.5	120.9	120.9	120.9	120.9	120.9	120.9	107.4	120.7	120.7	120.7	120.7	120.7	120.7
Personal expenses (12/77 = 100)	113.0	124.4	125.0	126.1	127.8	128.7	129.5	113.0	121.4	122.1	123.3	125.1	126.4	127.4
Special indexes:														
Gasoline, motor oil, coolant, and other products	276.6	352.5	365.5	369.3	370.1	370.9	371.5	277.5	353.8	367.2	370.8	371.6	372.2	372.5
Insurance and finance	272.8	316.7	326.3	335.2	342.6	353.8	342.3	272.5	316.2	325.6	335.2	342.8	354.0	342.6
Utilities and public transportation	215.3	227.9	230.9	233.4	238.9	244.8	249.1	215.9	227.2	230.2	232.6	237.9	244.0	248.4
Housekeeping and home maintenance services	272.5	287.6	292.0	295.7	297.6	298.6	300.1	273.7	288.7	292.0	295.1	296.5	296.7	297.5

24. Consumer Price Index for All Urban Consumers: Cross classification of region and population size class by expenditure category and commodity and service group

[December 1977 = 100]

Category and group	Size class A (1.25 million or more)			Size class B (385,000 - 1.250 million)			Size class C (75,000 - 385,000)			Size class D (75,000 or less)		
	1980			1980			1980			1980		
	Feb.	Apr.	June	Feb.	Apr.	June	Feb.	Apr.	June	Feb.	Apr.	June
	Northeast											
EXPENDITURE CATEGORY												
All items	122.1	125.0	127.1	125.6	129.0	131.0	129.1	132.7	135.6	124.2	127.4	131.0
Food and beverages	122.1	124.5	126.2	124.3	127.1	128.6	126.0	128.8	130.5	123.4	125.2	127.6
Housing	122.9	126.1	129.6	126.7	130.0	133.1	135.5	140.2	144.9	124.8	127.9	133.5
Apparel and upkeep	109.5	112.5	111.5	107.1	111.1	111.3	107.3	112.7	113.2	106.8	113.0	115.0
Transportation	129.9	133.8	135.3	135.0	140.8	141.7	133.1	136.2	138.2	133.5	138.1	140.2
Medical care	120.6	122.4	123.0	121.6	122.4	123.2	121.3	122.5	123.5	121.4	122.7	124.4
Entertainment	114.4	116.7	117.7	115.7	117.9	120.2	112.2	115.7	116.5	118.9	121.5	123.8
Other goods and services	114.4	114.7	116.1	116.5	117.5	119.0	119.2	119.6	121.9	114.8	116.0	116.8
COMMODITY AND SERVICE GROUP												
Commodities	124.1	126.5	128.4	127.5	130.8	132.1	128.5	131.6	133.8	125.6	128.0	131.5
Commodities less food and beverages	125.3	127.8	129.7	129.1	132.5	133.8	129.7	132.9	135.4	126.6	129.3	133.3
Services	119.5	122.9	125.4	122.5	126.3	129.2	129.9	134.5	138.5	122.2	126.5	130.2
	North Central											
EXPENDITURE CATEGORY												
All items	129.6	133.2	136.7	127.2	130.9	134.4	126.4	128.9	131.9	125.8	128.7	131.9
Food and beverages	124.9	126.8	128.1	122.6	124.9	126.7	124.8	127.0	128.7	126.9	128.9	129.6
Housing	136.7	141.1	147.5	131.5	135.8	141.2	127.6	130.4	135.6	125.9	129.1	134.5
Apparel and upkeep	105.2	109.2	108.5	107.1	111.2	111.0	109.0	110.7	111.0	110.4	113.6	114.6
Transportation	133.5	136.1	140.1	133.4	137.6	140.7	135.8	139.3	140.4	132.6	137.4	139.8
Medical care	123.2	125.3	126.1	122.2	125.0	125.8	124.5	125.7	126.6	126.8	127.4	128.9
Entertainment	116.9	118.9	120.1	111.5	114.0	117.1	116.2	118.7	121.3	115.9	116.1	117.3
Other goods and services	115.4	116.2	117.9	119.4	121.5	123.2	115.5	116.7	117.5	119.1	119.8	121.6
COMMODITY AND SERVICE GROUP												
Commodities	128.1	130.9	132.9	124.5	127.9	129.9	125.9	128.1	129.7	124.3	126.0	128.0
Commodities less food and beverages	129.6	132.8	135.2	125.2	129.2	131.2	126.4	128.5	130.1	123.1	124.8	127.3
Services	131.8	136.6	142.3	131.6	135.6	141.7	127.1	130.3	135.5	128.2	132.9	138.1
	South											
EXPENDITURE CATEGORY												
All items	127.1	130.7	133.5	128.0	131.7	134.7	127.9	131.3	133.1	125.9	128.3	131.4
Food and beverages	125.0	126.4	128.5	124.4	127.0	127.9	126.0	127.8	129.1	124.0	126.2	128.1
Housing	129.1	133.9	138.5	131.9	136.7	141.4	131.8	136.6	138.9	127.7	129.7	134.0
Apparel and upkeep	112.5	116.4	116.4	109.6	112.9	112.6	105.5	108.2	107.3	100.9	104.7	107.2
Transportation	135.7	139.7	140.9	134.7	138.4	140.6	133.7	137.2	139.7	133.1	136.5	138.7
Medical care	119.7	121.9	124.1	121.6	123.3	125.8	124.8	126.4	127.5	129.0	131.2	133.9
Entertainment	114.5	115.7	116.3	115.4	119.8	122.5	115.9	118.3	120.3	121.6	124.4	128.0
Other goods and services	118.5	119.3	120.9	117.7	118.1	119.5	117.5	118.8	120.2	121.5	121.9	123.9
COMMODITY AND SERVICE GROUP												
Commodities	126.7	129.3	130.9	125.9	129.0	130.6	126.4	128.7	129.7	124.7	127.2	129.0
Commodities less food and beverages	127.5	130.6	132.0	126.6	129.8	131.7	126.5	129.1	130.0	125.0	127.7	129.3
Services	127.7	132.6	137.2	131.1	135.8	140.9	130.2	135.3	138.4	127.7	129.8	135.1
	West											
EXPENDITURE CATEGORY												
All items	129.6	132.8	136.1	130.6	134.1	136.0	128.1	131.4	133.6	127.1	130.4	134.3
Food and beverages	124.2	126.5	127.7	126.9	128.8	130.2	123.8	125.7	127.6	125.7	128.0	129.6
Housing	132.9	136.3	142.5	134.6	139.1	141.4	131.0	134.8	137.9	127.1	129.7	135.9
Apparel and upkeep	113.6	115.7	114.5	112.4	115.8	118.4	104.2	107.7	107.4	114.7	121.8	123.6
Transportation	137.4	141.2	141.1	135.8	139.2	140.7	137.1	141.2	142.1	134.8	139.6	141.7
Medical care	125.6	128.8	129.5	124.8	126.9	127.9	124.6	126.7	129.4	126.2	128.9	132.5
Entertainment	113.5	117.8	119.5	118.6	123.1	123.9	117.8	121.0	122.4	123.6	127.5	130.3
Other goods and services	119.2	121.2	121.7	120.3	121.5	124.3	116.3	117.7	119.0	119.7	122.5	124.4
COMMODITY AND SERVICE GROUP												
Commodities	127.0	129.5	130.4	128.8	131.5	132.5	126.7	129.0	130.1	126.7	129.8	131.7
Commodities less food and beverage	128.1	130.8	131.6	129.6	132.7	133.5	127.8	130.4	131.1	127.2	130.6	132.6
Services	133.2	137.2	143.6	133.0	137.7	140.8	130.0	134.8	138.5	127.6	131.2	138.2

25. Consumer Price Index—U.S. city average, and selected areas

[1967 = 100 unless otherwise specified]

Area[1]	All Urban Consumers							Urban Wage Earners and Clerical Workers (revised)						
	1979	1980						1979	1980					
	July	Feb.	Mar.	Apr.	May	June	July	July	Feb.	Mar.	Apr.	May	June	July
U.S. city average[2]	218.9	236.4	239.8	242.5	244.9	247.6	247.8	219.4	236.5	239.9	242.6	245.1	247.8	248.0
Anchorage, Alaska (10/67 = 100)	207.4	...	223.5	...	226.5	...	228.4	206.4	...	220.2	...	223.1	...	224.8
Atlanta, Ga.	...	230.3	...	235.3	...	242.2	...	...	233.5	...	239.3	...	244.7	...
Baltimore, Md.	221.0	...	245.0	...	249.1	...	252.4	221.4	...	243.9	...	247.8	...	250.6
Boston, Mass.	214.2	...	234.2	...	236.9	...	240.9	213.7	...	234.2	...	236.8	...	240.9
Buffalo, N.Y.	...	227.9	...	233.7	...	235.4	...	...	227.9	...	233.3	...	234.6	...
Chicago, Ill.-Northwestern Ind.	217.4	232.7	235.5	240.1	243.1	248.2	246.8	216.8	232.5	235.2	239.8	243.0	248.0	247.0
Cincinnati, Ohio-Ky.-Ind.	224.8	...	247.8	...	251.6	...	256.7	226.5	...	249.7	...	252.9	...	259.1
Cleveland, Ohio	...	243.5	...	247.3	...	250.1	...	...	244.1	...	248.4	...	250.5	...
Dallas-Ft. Worth, Tex.	...	241.7	...	251.4	...	256.4	...	...	240.9	...	249.6	...	254.5	...
Denver-Boulder, Colo.	236.5	...	255.2	...	258.0	...	261.6	230.3	...	259.4	...	262.4	...	265.8
Detroit, Mich.	219.5	240.4	242.9	248.2	248.4	256.7	253.7	219.8	239.9	242.4	248.0	248.9	255.8	252.1
Honolulu, Hawaii	...	220.9	...	227.4	...	227.5	...	...	221.3	...	228.4	...	228.0	...
Houston, Tex.	...	255.9	...	260.8	...	266.5	...	...	251.9	...	257.3	...	262.8	...
Kansas City, Mo.-Kansas	...	238.7	...	243.8	...	247.8	...	...	236.6	...	242.2	...	246.3	...
Los Angeles-Long Beach, Anaheim, Calif.	214.7	237.6	241.3	244.6	249.1	250.1	248.7	216.8	240.0	243.9	247.8	252.6	253.4	251.5
Miami, Fla. (11/77 = 100)	115.7	...	127.7	...	129.7	...	133.6	116.9	...	128.8	...	130.9	...	134.7
Milwaukee, Wis.	222.7	...	242.7	...	250.3	...	251.6	225.0	...	247.8	...	256.2	...	256.9
Minneapolis-St. Paul, Minn.-Wis.	...	237.9	...	244.3	...	246.4	...	...	239.6	...	245.7	...	248.4	...
New York, N.Y.-Northeastern N.J.	214.0	228.0	231.2	233.1	234.5	237.2	238.9	214.1	227.7	230.8	232.4	234.1	236.7	238.4
Northeast, Pa. (Scranton)	211.7	...	229.0	...	232.5	...	239.8	213.4	...	231.3	...	236.8	...	243.2
Philadelphia, Pa.-N.J.	216.1	231.1	234.6	237.4	239.4	242.5	244.1	216.9	231.6	235.1	237.9	239.9	243.8	245.3
Pittsburgh, Pa.	...	235.5	...	240.9	...	246.1	...	...	235.9	...	242.2	...	246.8	...
Portland, Oreg.-Wash.	227.4	...	253.6	...	257.3	...	252.7	227.9	...	251.7	...	255.9	...	252.2
St. Louis, Mo.-Ill.	216.9	...	236.1	...	241.8	...	245.0	217.4	...	238.5	...	242.6	...	245.9
San Diego, Calif.	236.1	...	258.3	...	269.7	...	269.9	233.1	...	255.6	...	264.8	...	265.7
San Francisco-Oakland, Calif.	...	240.7	...	243.5	...	248.0	...	...	240.0	...	242.8	...	247.7	...
Seattle-Everett, Wash.	217.5	...	243.8	...	249.6	...	255.1	215.9	...	241.3	...	246.8	...	251.6
Washington, D.C.-Md.-Va.	220.4	...	238.8	...	241.2	...	247.2	221.9	...	239.2	...	242.0	...	248.7

[1] The areas listed include not only the central city but the entire portion of the Standard Metropolitan Statistical Area, as defined for the 1970 Census of Population, except that the Standard Consolidated Area is used for New York and Chicago.

[2] Average of 85 cities.

26. Producer Price Indexes, by stage of processing

[1967 = 100]

Commodity grouping	Annual average 1979	1979						1980						
		July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb	Mar.	Apr.	May	June	July
FINISHED GOODS														
Finished goods	216.1	216.2	217.3	220.7	224.2	226.3	228.1	232.4	235.7	238.5	240.0	241.0	242.6	246.6
Finished consumer goods	215.7	215.6	217.5	221.7	224.7	227.1	229.1	233.5	237.6	240.8	241.6	242.8	244.5	249.1
Finished consumer foods	226.3	224.9	223.5	228.1	226.7	230.5	232.1	231.4	231.6	233.1	228.7	230.0	231.0	239.5
Crude	231.4	224.9	231.7	214.0	215.5	228.1	227.9	226.0	220.1	230.9	222.2	227.7	223.4	230.7
Processed	223.8	222.8	220.7	227.0	225.5	228.6	230.3	229.7	230.4	231.1	227.1	228.1	229.4	238.0
Nondurable goods less foods	225.9	227.1	233.4	239.0	243.3	245.5	247.9	254.7	262.7	270.9	276.5	279.1	280.3	282.8
Durable goods	181.9	181.6	181.6	182.9	189.0	190.0	191.8	199.1	202.1	200.3	200.3	199.7	202.7	205.3
Capital equipment	216.7	217.2	216.5	217.8	222.8	223.9	225.3	229.3	230.5	232.2	235.8	236.0	237.5	240.2
INTERMEDIATE MATERIALS														
Intermediate materials, supplies, and components	242.8	244.6	247.5	251.0	255.0	256.3	258.7	265.9	271.6	273.7	274.5	275.8	277.7	280.3
Materials and components for manufacturing	234.1	236.0	238.0	240.7	244.3	245.5	247.8	255.5	259.8	259.5	259.7	261.8	263.9	264.7
Materials for food manufacturing	223.6	226.7	225.1	228.9	225.5	227.8	230.4	226.0	245.6	240.1	238.7	255.4	260.2	262.6
Materials for nondurable manufacturing	220.1	222.5	225.3	227.6	231.4	233.4	235.3	241.1	244.0	247.4	251.8	254.9	256.0	256.9
Materials for durable manufacturing	271.3	273.3	275.2	278.8	284.7	284.6	287.8	303.7	306.5	301.4	296.2	295.1	298.3	297.9
Components for manufacturing	206.8	207.7	209.3	211.3	213.2	214.8	216.3	219.2	223.2	225.3	227.4	228.0	229.6	231.2
Materials and components for construction	246.9	247.4	249.2	252.5	254.7	254.0	253.7	257.7	262.1	265.5	265.3	265.3	267.3	269.2
Processed fuels and lubricants	360.9	364.8	384.6	389.4	410.6	416.5	424.6	444.0	464.0	481.0	486.7	488.3	489.6	504.9
Manufacturing industries	298.9	304.0	311.2	317.2	322.5	325.2	332.2	340.5	351.4	356.6	358.4	363.6	368.2	378.4
Nonmanufacturing industries	422.9	425.5	458.8	483.0	500.6	510.0	519.1	550.3	579.9	609.5	619.5	617.0	614.7	635.3
Containers	226.3	235.4	237.6	237.9	242.6	243.8	247.1	250.9	251.6	253.8	262.5	263.7	265.3	267.1
Supplies	217.6	219.6	219.6	221.2	224.9	226.4	229.2	232.5	239.0	240.8	240.7	240.8	242.3	246.2
Manufacturing industries	204.4	204.2	208.6	209.4	212.2	213.7	216.3	220.9	222.5	223.7	226.8	228.4	230.2	232.3
Nonmanufacturing industries	224.7	227.8	225.4	227.5	231.7	233.3	236.1	238.7	247.8	249.8	248.1	247.5	248.8	253.6
Feeds	224.1	241.3	220.8	224.0	228.9	226.9	230.4	224.4	223.3	218.9	207.1	210.6	208.1	223.0
Other supplies	221.5	221.5	223.1	224.9	228.9	231.2	233.9	238.3	249.6	252.9	253.5	251.9	254.1	256.6
CRUDE MATERIALS														
Crude materials for further processing	282.2	287.1	281.7	289.3	289.5	290.8	296.2	296.8	308.4	303.5	296.9	300.7	299.5	316.3
Foodstuffs and feedstuffs	247.2	254.1	243.7	248.7	247.5	246.4	248.7	243.0	252.6	245.9	235.5	242.4	242.5	263.3
Nonfood materials	(¹)	348.3	353.6	363.1	368.9	374.9	384.2	398.9	414.3	412.7	413.5	410.4	407.9	416.8
Nonfood materials except fuel	284.5	285.2	286.1	289.3	298.1	304.6	311.6	330.1	341.7	339.8	336.9	329.2	324.4	331.3
Manufacturing industries	293.3	294.0	294.9	302.8	307.8	314.9	322.5	342.1	354.9	352.5	349.0	340.2	334.6	342.3
Construction	207.0	207.2	208.6	209.9	212.6	214.8	216.6	226.0	228.7	229.9	232.4	232.9	234.2	236.3
Crude fuel	568.2	570.7	586.2	604.0	612.9	617.4	634.5	636.3	664.8	664.1	677.4	690.4	695.5	711.0
Manufacturing industries	607.6	610.4	629.2	651.8	662.5	667.8	668.3	690.3	725.7	724.5	740.8	756.7	762.6	781.9
Nonmanufacturing industries	548.3	550.7	563.6	577.8	585.5	589.3	603.9	605.7	628.8	628.8	639.8	650.6	655.1	667.8
SPECIAL GROUPINGS														
Finished goods excluding foods	(¹)	211.4	213.2	216.2	221.3	222.8	224.6	230.5	234.6	237.8	241.2	242.0	243.8	246.4
Finished consumer goods excluding foods	208.2	208.4	212.3	216.3	220.6	223.1	225.3	232.3	238.3	242.3	245.5	246.8	248.8	251.4
Intermediate materials less foods and feeds	244.0	245.4	249.0	252.5	256.8	258.1	260.5	268.4	273.7	276.2	277.4	278.0	279.9	282.3
Intermediate foods and feeds	223.2	231.0	223.1	226.6	226.0	226.9	229.8	224.8	237.5	232.4	227.5	239.7	242.1	248.7
Crude materials less agricultural products	380.5	391.7	396.9	408.6	417.0	424.1	435.0	452.9	469.3	469.0	469.4	464.6	463.7	470.5

[1] Not available.

27. Producer Price indexes, by commodity groupings

[1967 = 100 unless otherwise specified]

Code	Commodity group and subgroup	Annual average 1979	1979						1980						
			July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July
	All commodities	235.6	236.9	238.3	242.0	245.6	247.2	249.7	254.9	260.2	261.9	262.3	263.7	265.2	269.8
	All commodities (1957-59 = 100)	250.0	251.4	252.8	256.7	260.6	262.3	267.3	270.2	275.6	277.4	278.3	279.7	282.5	286.3
	Farm products and processed foods and feeds	229.8	232.2	227.5	231.8	230.6	232.3	234.6	231.9	237.0	234.9	229.2	233.9	234.2	246.1
	Industrial commodities	236.5	237.5	240.6	244.2	249.0	250.6	253.1	260.6	265.9	268.6	270.7	271.2	273.0	275.6
	FARM PRODUCTS AND PROCESSED FOODS AND FEEDS														
01	Farm products	241.4	246.8	238.5	241.0	239.6	240.2	242.5	236.4	242.3	239.3	228.9	233.6	233.4	253.9
01-1	Fresh and dried fruits and vegetables	229.0	226.7	241.7	208.3	218.0	216.5	210.7	219.0	220.6	218.5	223.0	243.8	233.4	247.5
01-2	Grains	214.8	247.4	229.1	224.4	229.0	226.6	227.9	214.6	223.3	217.9	210.8	219.0	215.3	244.8
01-3	Livestock	260.3	256.0	240.2	256.4	251.7	248.3	252.5	247.8	257.2	251.8	230.5	233.3	240.0	260.5
01-4	Live poultry	194.3	183.8	171.9	173.5	162.0	195.5	194.7	195.2	184.6	180.1	171.9	171.3	166.6	227.2
01-5	Plant and animal fibers	209.9	207.6	207.9	211.3	212.9	215.4	222.0	239.0	269.5	254.9	266.9	272.7	247.0	267.0
01-6	Fluid milk	250.1	247.6	250.0	258.5	260.8	262.5	264.0	262.3	263.8	263.1	265.4	265.4	265.5	265.8
01-7	Eggs	176.5	167.6	166.8	175.4	155.9	178.7	198.4	165.6	150.4	184.2	153.3	145.7	146.8	159.3
01-8	Hay, hayseeds, and oilseeds	244.3	260.1	251.9	240.9	235.6	229.8	230.3	218.1	224.7	215.9	205.1	206.7	207.4	251.4
01-9	Other farm products	289.0	311.9	310.8	315.9	313.6	318.3	319.4	301.1	304.7	311.5	304.8	311.0	309.4	292.4
02	Processed foods and feeds	222.5	223.3	220.5	225.8	224.8	227.1	229.3	228.5	233.1	231.6	228.5	233.1	233.8	241.1
02-1	Cereal and bakery products	210.3	212.4	216.0	218.7	219.8	222.5	223.6	225.4	229.9	231.8	231.5	233.5	233.1	234.6
02-2	Meats, poultry, and fish	242.0	237.7	225.5	239.9	234.2	239.3	242.8	239.6	239.6	239.2	226.0	224.8	226.6	248.5
02-3	Dairy products	211.2	209.0	215.2	218.3	218.1	219.3	219.9	221.0	220.8	223.0	227.8	228.9	229.9	230.5
02-4	Processed fruits and vegetables	221.9	223.6	224.6	225.1	223.4	222.4	222.6	222.9	223.3	223.7	224.5	225.2	227.3	229.5
02-5	Sugar and confectionery	214.7	215.7	218.3	217.2	218.9	222.9	234.4	235.0	287.5	264.1	274.8	327.4	324.7	313.7
02-6	Beverages and beverage materials	210.7	214.1	216.5	217.9	218.9	221.2	221.6	224.0	224.8	225.9	227.9	231.4	233.6	234.4
02-7	Fats and oils	243.3	253.2	251.7	253.3	246.0	241.9	235.6	225.1	226.4	222.6	214.7	212.1	213.0	221.7
02-8	Miscellaneous processed foods	216.5	212.7	217.6	219.0	220.8	222.2	223.1	225.4	223.5	224.7	225.1	223.2	223.0	223.6
02-9	Manufactured animal feeds	219.4	234.3	216.2	219.2	224.0	222.4	224.9	219.7	219.8	216.6	205.4	207.3	205.4	220.6
	INDUSTRIAL COMMODITIES														
03	Textile products and apparel	168.7	169.3	170.5	171.3	172.0	172.8	173.1	175.2	176.5	179.3	180.6	181.5	182.4	184.3
03-1	Synthetic fibers (12/75 = 100)	119.0	119.5	120.6	123.6	124.7	124.2	124.7	127.0	127.2	129.1	130.7	133.5	134.8	136.3
03-2	Processed yarns and threads (12/75 = 100)	109.2	109.5	110.6	111.7	112.1	112.5	112.7	114.6	118.0	119.3	122.1	123.5	122.4	121.9
03-3	Gray fabrics (12/75 = 100)	127.1	128.3	128.7	128.7	129.7	130.7	132.3	132.7	132.3	136.8	136.1	135.3	133.7	134.8
03-4	Finished fabrics (12/75 = 100)	107.4	108.2	109.0	109.1	108.9	109.7	109.9	110.5	111.1	113.2	114.5	115.2	115.5	116.5
03-81	Apparel	160.4	160.3	161.4	161.6	162.2	163.1	162.6	165.5	166.8	168.0	169.1	169.7	172.0	174.1
03-82	Textile housefurnishings	190.4	189.9	190.5	193.9	196.3	196.5	197.1	199.0	199.7	201.3	201.6	202.6	202.7	210.7
04	Hides, skins, leather, and related products	252.4	261.9	257.9	251.1	253.9	248.9	249.2	255.7	250.9	246.8	243.6	240.7	241.0	244.9
04-1	Hides and skins	535.4	566.5	511.9	465.3	478.8	447.6	443.9	468.8	404.8	348.7	328.6	289.7	315.7	356.6
04-2	Leather	356.7	365.2	365.9	330.0	343.6	319.8	324.8	347.6	340.3	311.0	297.6	290.4	284.4	292.2
04-3	Footwear	218.0	221.8	225.4	226.9	227.5	227.9	227.9	229.1	228.0	231.8	231.9	231.9	232.1	232.9
04-4	Other leather and related products	205.0	212.1	210.9	210.1	209.7	208.4	208.0	213.1	214.8	217.8	216.3	217.5	216.0	216.3
05	Fuels and related products and power	408.1	411.8	432.8	454.8	468.5	476.9	487.9	508.0	532.7	553.5	566.3	571.9	574.8	585.4
05-1	Coal	450.9	452.5	454.2	452.5	454.6	455.1	458.6	459.3	459.6	461.7	463.3	464.8	466.9	467.8
05-2	Coke	429.2	430.6	430.6	430.6	431.2	431.2	431.2	430.6	430.6	430.6	430.6	430.6	430.6	430.6
05-3	Gas fuels [1]	544.1	548.4	572.4	603.4	619.9	637.0	662.4	677.5	716.6	716.6	730.2	744.8	750.1	763.3
05-4	Electric power	270.2	274.8	278.8	280.5	283.5	281.9	287.0	290.5	299.3	305.5	310.4	316.4	320.5	331.4
05-61	Crude petroleum [2]	376.5	370.6	385.7	422.1	436.7	450.4	470.8	513.6	515.1	522.8	533.9	540.1	549.0	550.9
05-7	Petroleum products, refined [3]	444.8	449.8	482.8	513.7	533.7	545.4	555.2	583.3	620.4	659.0	677.3	680.6	681.1	693.3
06	Chemicals and allied products	222.3	225.0	228.5	230.8	234.2	236.0	238.2	246.0	248.7	252.8	258.1	261.1	261.7	262.7
06-1	Industrial chemicals [4]	264.0	270.4	277.1	280.0	285.7	288.4	292.3	302.9	307.9	313.3	316.8	324.8	327.3	327.8
06-21	Prepared paint	204.4	205.3	205.3	206.0	206.7	209.4	210.7	223.3	223.3	228.7	231.5	236.8	236.8	236.8
06-22	Paint materials	241.2	246.7	247.9	252.0	253.6	256.6	256.8	259.9	263.4	267.5	271.1	272.9	274.0	277.0
06-3	Drugs and pharmaceuticals	159.4	159.2	159.6	161.0	162.8	163.0	164.4	166.5	167.6	168.9	172.8	171.8	173.0	175.4
06-4	Fats and oils, inedible	376.7	381.6	376.4	379.9	366.9	344.3	327.1	325.6	302.2	299.9	298.2	294.7	255.8	260.0
06-5	Agricultural chemicals and chemical products	214.4	211.2	215.3	219.4	224.3	229.5	232.9	241.9	248.0	256.1	258.3	258.3	257.7	258.2
06-6	Plastic resins and materials	235.9	244.5	250.1	252.0	260.0	261.4	262.5	270.4	272.1	274.5	285.6	287.8	287.9	286.2
06-7	Other chemicals and allied products	191.8	191.8	194.4	195.8	197.0	198.8	201.4	209.4	211.3	215.0	223.3	225.0	226.3	228.0
07	Rubber and plastic products	194.3	195.5	198.8	200.7	203.0	204.9	205.9	207.8	210.7	212.7	214.6	215.1	217.1	218.3
07-1	Rubber and rubber products	209.2	209.5	214.6	217.1	220.3	223.7	224.3	226.1	231.5	231.5	234.6	235.3	237.6	239.4
07-11	Crude rubber	221.4	226.1	233.0	232.2	236.5	237.2	240.2	252.7	263.9	255.8	263.8	263.0	263.2	262.5
07-12	Tires and tubes	205.9	206.2	211.6	215.0	218.3	223.1	223.1	225.1	231.6	231.6	231.3	231.8	234.6	237.0
07-13	Miscellaneous rubber products	206.4	205.4	209.4	211.9	214.7	217.1	217.7	215.9	217.8	220.6	225.9	227.5	229.7	231.8
07-2	Plastic products (6/78 = 100)	110.0	111.2	112.2	113.0	114.0	114.3	115.2	116.3	116.7	119.0	119.5	119.6	120.8	121.1
08	Lumber and wood products	300.4	300.1	304.7	309.7	308.8	298.9	290.1	290.0	294.7	294.9	275.2	271.6	279.8	288.9
08-1	Lumber	354.3	355.0	365.3	373.9	370.3	355.6	339.5	336.3	341.4	340.6	310.1	301.3	313.0	327.3
08-2	Millwork	254.3	252.5	249.6	250.9	255.6	252.3	250.3	254.1	258.0	262.2	256.6	250.9	253.0	255.9
08-3	Plywood	250.5	249.7	254.3	257.9	254.0	242.2	237.9	238.2	243.4	240.0	219.2	229.9	241.6	251.1
08-4	Other wood products	235.4	237.6	237.4	238.0	237.7	239.9	240.5	242.2	243.4	243.1	241.7	240.7	238.7	236.9

See footnotes at end of table.

27. Continued—Producer Price indexes, by commodity groupings

[1967=100 unless otherwise specified]

Code	Commodity group and subgroup	Annual average 1979	1979						1980						
			July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July
	INDUSTRIAL COMMODITIES—Continued														
09	Pulp, paper, and allied products	219.0	218.3	222.2	223.0	227.5	229.5	231.7	237.4	239.2	242.6	246.5	248.9	251.3	252.4
09-1	Pulp, paper, and products, excluding building paper and board	220.7	219.6	223.6	224.3	229.0	231.1	233.4	239.2	240.8	244.1	248.0	250.3	252.7	253.7
09-11	Woodpulp	314.3	320.3	320.6	320.6	337.5	338.0	338.0	356.6	356.4	356.8	386.8	388.0	388.0	388.6
09-12	Wastepaper	206.6	207.9	206.6	206.7	206.7	220.0	221.2	222.9	223.4	224.9	242.5	226.1	206.6	194.0
09-13	Paper	229.6	228.2	229.5	230.3	238.7	241.8	242.7	245.5	247.2	250.3	253.6	256.5	258.3	258.5
09-14	Paperboard	202.1	201.7	206.4	209.6	211.3	212.8	215.4	221.8	223.7	227.4	230.2	239.2	242.7	237.5
09-15	Converted paper and paperboard products	209.9	209.0	214.4	214.6	217.3	219.0	221.9	227.7	229.5	233.0	234.6	236.1	239.3	242.4
09-2	Building paper and board	182.4	178.0	179.1	182.6	183.5	183.6	184.6	186.2	191.7	198.7	201.3	206.8	208.9	211.8
10	Metals and metal products	259.3	260.8	261.8	263.7	269.6	271.1	273.6	284.6	288.9	286.8	284.6	281.9	282.4	281.5
10-1	Iron and steel	283.5	286.8	286.1	285.5	289.2	292.0	292.8	297.4	300.3	301.8	307.0	304.7	303.1	300.4
10-13	Steel mill products	280.4	284.6	284.7	284.8	286.3	288.8	289.3	293.6	294.2	295.5	304.1	305.5	305.8	301.0
10-2	Nonferrous metals	261.7	262.3	263.1	269.3	283.1	284.1	291.9	326.3	337.7	321.4	298.9	289.8	290.6	289.0
10-3	Metal containers	269.2	267.2	268.4	268.7	279.9	280.9	280.9	283.3	284.4	288.5	301.1	302.7	302.7	303.0
10-4	Hardware	218.7	218.5	220.1	221.5	224.0	225.5	226.2	228.2	230.4	231.5	236.9	238.2	239.7	241.9
10-5	Plumbing fixtures and brass fittings	217.1	219.6	222.4	223.0	223.5	225.4	226.5	232.8	236.7	242.4	243.7	247.4	248.5	249.6
10-6	Heating equipment	187.1	186.0	188.1	191.3	192.2	193.1	195.6	199.5	202.6	202.6	204.2	204.0	205.1	206.1
10-7	Fabricated structural metal products	248.9	250.5	252.2	253.7	256.3	256.7	257.7	258.9	259.7	265.1	268.2	269.4	270.0	271.9
10-8	Miscellaneous metal products	231.4	231.8	235.6	236.7	238.5	238.6	239.1	240.6	241.6	244.2	247.1	247.7	251.4	251.8
11	Machinery and equipment	213.9	214.8	216.0	217.7	220.0	221.3	223.4	227.6	230.2	232.5	235.8	237.0	238.8	241.3
11-1	Agricultural machinery and equipment	232.1	231.2	233.3	237.4	240.0	243.4	244.2	248.4	249.9	252.0	252.8	254.9	255.7	257.3
11-2	Construction machinery and equipment	256.2	257.0	258.5	258.9	263.9	265.4	268.8	276.0	278.3	279.5	282.9	284.2	288.8	290.9
11-3	Metalworking machinery and equipment	241.3	241.4	243.5	246.4	249.6	252.2	254.6	258.9	261.8	264.1	269.9	272.6	275.4	278.0
11-4	General purpose machinery and equipment	236.4	237.1	238.3	240.2	242.8	244.2	247.6	251.0	253.3	256.7	260.0	262.3	264.3	265.8
11-6	Special industry machinery and equipment	247.0	249.8	251.0	251.2	253.8	254.9	256.1	260.6	263.2	265.5	271.9	273.1	274.5	277.2
11-7	Electrical machinery and equipment	178.9	179.9	181.2	182.5	184.3	184.9	186.6	190.6	194.3	196.5	198.7	199.2	201.2	203.5
11-9	Miscellaneous machinery	208.9	209.7	209.7	212.0	213.6	214.9	216.3	220.3	221.1	223.2	226.8	226.9	227.8	230.7
12	Furniture and household durables	171.3	170.7	171.5	172.7	175.1	176.4	177.9	183.4	185.6	185.7	183.1	184.1	185.3	186.7
12-1	Household furniture	186.3	185.8	186.2	188.5	190.1	193.0	194.8	197.4	198.5	198.9	198.9	200.3	202.0	204.3
12-2	Commercial furniture	221.8	222.7	222.7	222.7	223.3	223.3	225.1	226.9	231.4	232.8	233.5	233.8	235.5	237.1
12-3	Floor coverings	147.9	149.1	150.0	150.4	152.1	152.8	152.9	159.0	158.5	160.8	161.7	163.6	162.2	163.2
12-4	Household appliances	160.9	161.1	162.2	162.7	163.2	164.5	165.3	166.5	168.9	169.9	170.2	172.1	174.7	174.8
12-5	Home electronic equipment	91.3	90.2	90.2	90.3	90.3	90.3	90.5	91.0	91.2	91.3	88.9	89.1	89.3	89.3
12-6	Other household durable goods	228.2	223.7	226.6	231.0	245.6	248.2	254.4	287.4	295.3	288.3	268.8	265.2	266.1	271.1
13	Nonmetallic mineral products	248.6	249.5	249.9	254.6	256.2	257.4	259.6	268.4	274.0	276.5	282.8	282.9	283.2	284.0
13-11	Flat glass	183.9	184.1	184.1	184.5	184.7	185.4	186.4	191.0	191.0	191.4	191.4	191.4	193.6	194.3
13-2	Concrete ingredients	244.0	245.1	245.9	246.7	248.3	249.6	251.0	265.0	266.6	267.5	270.5	271.1	271.9	272.5
13-3	Concrete products	244.1	245.2	246.3	248.7	250.1	250.6	253.2	265.4	266.7	269.1	273.0	275.0	275.9	275.9
13-4	Structural clay products excluding refractories	217.9	220.3	222.3	223.7	221.1	221.8	226.7	229.6	231.0	231.4	234.4	229.5	230.2	230.2
13-5	Refractories	236.5	240.8	241.7	242.4	244.6	247.4	248.0	248.5	251.1	253.9	262.6	265.2	268.7	269.6
13-6	Asphalt roofing	325.3	328.4	325.9	333.0	337.5	347.4	348.5	356.6	372.5	388.8	404.7	398.2	400.7	412.0
13-7	Gypsum products	252.3	251.8	252.3	254.9	255.3	256.2	256.0	255.4	262.2	267.6	264.0	256.5	257.1	253.1
13-8	Glass containers	261.1	265.2	265.2	265.2	265.2	265.2	274.2	274.3	274.3	274.3	294.6	294.6	294.6	294.6
13-9	Other nonmetallic minerals	313.7	310.5	309.9	336.0	341.2	342.2	342.2	351.8	381.7	387.0	399.5	399.5	394.5	396.1
14	Transportation equipment (12/68 = 100)	188.1	186.4	185.9	186.6	194.2	194.8	195.6	198.7	198.2	198.8	202.6	201.1	202.2	204.9
14-1	Motor vehicles and equipment	190.5	190.8	187.8	188.6	197.1	197.4	198.2	200.7	200.1	200.7	204.9	203.1	204.4	207.1
14-4	Railroad equipment	277.3	280.6	280.9	281.6	288.3	288.2	289.0	297.5	299.3	302.1	303.9	304.6	306.2	316.4
15	Miscellaneous products	208.7	207.0	208.9	213.1	218.9	221.4	227.4	242.9	262.9	256.1	252.2	250.9	257.4	261.3
15-1	Toys, sporting goods, small arms, ammunition	176.2	176.9	177.6	179.8	181.1	181.2	183.0	190.9	193.5	194.5	195.3	196.4	197.2	200.3
15-2	Tobacco products	217.8	214.8	221.3	221.9	222.1	222.2	228.6	236.6	237.2	237.3	237.6	244.6	245.1	247.6
15-3	Notions	191.8	192.0	191.9	191.9	195.7	195.8	196.8	203.1	203.2	207.2	216.8	217.0	217.0	221.7
15-4	Photographic equipment and supplies	153.7	152.0	152.2	154.3	157.4	161.2	164.3	165.9	218.6	219.1	212.6	200.0	203.4	202.0
15-51	Mobile homes (12/74 = 100)	138.1	138.2	139.5	140.7	142.9	144.0	144.1	144.7	146.8	147.1	148.9	148.9	150.6	151.2
15-9	Other miscellaneous products	263.7	261.4	261.4	272.5	288.3	293.3	308.8	351.6	378.3	351.3	339.2	339.1	358.8	369.4

[1] Prices for natural gas are lagged 1 month.

[2] Includes only domestic production.

[3] Most prices for refined petroleum products are lagged 1 month.

[4] Some prices for industrial chemicals are lagged 1 month.

28. Producer Price Indexes, for special commodity groupings

[1967 = 100 unless otherwise specified]

Commodity grouping	Annual average 1979	1979						1980						
		July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July
All commodities — less farm products	234.4	235.4	237.5	241.4	245.3	247.0	249.5	255.7	260.9	262.9	264.3	265.4	267.0	270.3
All foods	226.4	225.4	224.7	228.5	226.9	230.0	232.2	231.2	235.8	234.8	231.7	237.4	237.7	245.4
Processed foods	227.2	226.4	224.8	230.8	228.9	231.8	234.2	233.3	236.6	236.9	234.0	239.0	239.9	247.1
Industrial commodities less fuels	218.3	219.0	220.3	222.0	225.9	226.9	228.5	234.7	238.0	238.9	239.9	239.9	241.6	243.3
Selected textile mill products (Dec. 1975 = 100)	113.9	114.0	115.1	115.8	116.4	117.0	117.2	118.9	119.3	121.3	122.1	123.1	123.5	125.4
Hosiery	112.6	114.1	113.0	112.7	113.3	114.6	115.3	119.2	119.4	120.3	120.7	121.5	122.2	123.1
Underwear and nightwear	168.9	168.5	170.8	170.8	171.2	171.6	172.9	175.3	177.4	182.1	182.0	182.8	187.4	188.5
Chemicals and allied products, including synthetic rubber and manmade fibers and yarns	212.4	215.0	218.6	220.9	224.3	226.3	228.7	236.3	239.2	243.2	248.4	251.6	252.8	253.8
Pharmaceutical preparations	152.0	151.7	152.0	153.6	155.6	155.4	156.9	159.2	160.3	161.7	165.9	164.7	166.1	167.8
Lumber and wood products, excluding millwork and other wood products	325.0	325.3	333.9	341.0	337.3	323.3	310.8	308.6	313.9	312.2	284.5	281.7	293.5	306.4
Special metals and metal products	234.6	235.5	234.9	236.4	243.4	244.5	246.3	253.7	256.0	255.1	255.6	253.4	254.2	254.9
Fabricated metal products	236.8	237.4	239.8	241.1	244.0	244.6	245.3	247.2	248.4	252.0	256.0	257.0	258.9	260.0
Copper and copper products	208.3	191.9	197.1	200.5	212.2	213.8	217.1	227.7	260.7	240.9	224.7	212.3	208.7	211.7
Machinery and motive products	207.0	207.7	207.2	208.5	213.4	214.3	215.9	219.7	220.9	222.5	226.1	226.1	227.7	230.2
Machinery and equipment, except electrical	234.2	235.1	236.2	238.2	240.8	242.5	244.8	249.1	251.1	253.5	257.5	259.0	260.8	263.2
Agricultural machinery, including tractors	237.4	235.8	238.4	243.6	246.3	250.8	251.5	256.1	257.2	260.0	259.7	261.7	262.5	264.1
Metalworking machinery	259.1	260.1	261.7	265.6	269.5	272.7	276.0	281.9	284.4	287.5	294.3	296.8	299.9	303.6
Numerically controlled machine tools (Dec. 1971 = 100)	199.8	202.2	204.2	206.5	208.5	208.8	211.2	213.1	215.4	216.7	223.9	227.0	228.7	228.7
Total tractors	251.6	251.2	253.8	256.0	261.2	262.5	266.2	273.0	275.1	276.6	278.4	280.0	281.8	286.1
Agricultural machinery and equipment less parts	232.7	231.4	233.7	238.4	241.0	244.9	245.8	250.0	251.5	254.1	254.2	256.1	256.8	258.9
Farm and garden tractors less parts	236.1	233.9	237.6	244.1	247.6	250.5	251.1	256.0	257.5	261.5	261.0	262.0	262.7	264.9
Agricultural machinery excluding tractors less parts	238.7	237.6	239.2	243.5	245.4	251.3	252.0	256.4	257.3	258.9	259.0	261.7	262.6	263.7
Industrial valves	256.0	257.0	258.2	260.1	261.8	263.1	266.1	271.0	273.5	280.0	283.5	286.6	288.6	289.5
Industrial fittings	261.7	260.8	262.3	264.3	272.6	276.8	276.8	276.8	280.4	282.8	289.9	291.5	295.9	295.9
Abrasive grinding wheels	226.2	222.8	224.6	224.6	239.0	239.0	239.0	239.0	244.0	244.0	258.4	261.3	261.3	261.3
Construction materials	251.4	252.3	254.3	256.6	258.5	256.7	255.4	259.3	262.6	265.1	262.1	261.4	264.1	266.5

29. Producer Price Indexes, by durability of product

[1967 = 100]

Commodity grouping	Annual average 1979	1979						1980						
		July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July
Total durable goods	226.9	227.6	228.0	230.1	234.6	235.3	237.0	243.8	247.1	247.0	247.2	246.4	248.3	250.3
Total nondurable goods	241.7	243.7	245.8	251.1	253.7	256.2	259.3	263.2	270.2	273.4	274.0	277.3	278.4	285.3
Total manufactures	228.8	229.8	231.7	235.2	239.0	240.6	242.6	248.4	253.2	255.2	256.5	257.8	259.4	262.5
Durable	226.1	226.6	227.2	229.4	234.0	234.6	236.2	242.9	245.7	245.6	246.2	245.9	248.2	250.1
Nondurable	231.1	232.5	235.9	241.0	244.0	246.6	249.0	253.9	260.8	265.2	267.3	270.3	271.3	275.6
Total raw or slightly processed goods	270.4	274.3	272.1	276.9	278.7	281.0	285.9	287.6	295.9	295.4	290.4	292.7	293.0	307.5
Durable	262.1	265.4	259.8	255.7	259.2	265.8	267.8	282.8	305.3	303.4	286.0	262.2	249.9	253.9
Nondurable	270.1	274.0	272.0	277.5	279.2	281.2	286.3	286.9	294.2	293.8	289.7	294.0	295.3	310.4

30. Producer Price Indexes for the output of selected SIC industries

[1967 = 100 unless otherwise specified]

1972 SIC code	Industry description	Annual average 1979	1979						1980						
			July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July
	MINING														
1011	Iron ores (12/75 = 100)	134.8	136.0	138.8	138.1	140.2	140.2	142.0	142.0	147.3	152.6	152.6	152.6	152.6	155.8
1092	Mercury ores (12/75 = 100)	234.4	270.8	245.8	252.1	275.0	252.1	300.0	308.3	335.4	330.0	337.5	337.5	332.9	331.2
1211	Bituminous coal and lignite	451.3	453.1	454.8	452.9	455.1	455.5	458.9	459.2	459.6	461.7	462.9	464.4	463.3	467.2
1311	Crude petroleum and natural gas	459.8	457.5	476.0	508.4	522.1	533.9	551.3	582.7	598.0	600.6	612.3	620.2	631.3	637.8
1442	Construction sand and gravel	217.6	219.3	220.1	221.0	224.0	224.7	225.6	238.8	243.2	243.9	248.4	249.4	250.1	249.6
1455	Kaolin and ball clay (6/76 = 100)	125.8	125.5	125.5	125.5	126.7	124.2	129.3	136.6	136.6	136.6	136.6	136.6	136.6	136.6
	MANUFACTURING														
2011	Meat packing plants	247.4	243.8	229.3	247.2	238.9	241.5	243.9	240.8	240.1	238.9	225.6	227.4	229.9	249.1
2013	Sausages and other prepared meats	219.6	214.7	203.4	211.7	211.9	213.4	220.0	211.9	207.8	209.4	197.7	194.7	190.6	213.4
2016	Poultry dressing plants	187.1	178.4	169.6	171.2	163.1	188.3	188.5	186.1	178.2	173.5	164.5	164.7	164.2	214.2
2021	Creamery butter	228.8	227.5	237.9	240.6	240.1	241.7	243.1	241.8	242.8	243.4	252.8	253.7	255.7	256.3

See footnote at end of table.

30. Continued—Producer Price indexes for the output of selected SIC industries

[1967 = 100 unless otherwise specified]

1972 SIC code	Industry description	Annual average 1979	1979						1980						
			July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July
	MANUFACTURING — Continued														
2022	Cheese natural and processed (12/72 = 100)	189.2	186.3	195.4	200.8	196.8	193.6	193.9	195.4	192.9	195.7	203.6	203.6	204.2	205.1
2024	Ice cream and frozen desserts (12/72 = 100)	172.5	171.5	175.0	176.1	177.5	179.9	180.1	180.9	181.5	185.0	191.4	192.1	195.2	195.2
2033	Canned fruits and vegetables	208.6	209.9	210.5	212.0	212.9	212.2	212.2	213.4	213.6	214.7	216.3	217.4	220.1	222.6
2034	Dehydrated food products (12/73 = 100)	174.2	182.0	180.7	170.0	158.2	158.2	157.3	157.6	159.0	158.4	157.5	158.4	158.3	157.7
2041	Flour mills (12/71 = 100)	173.1	180.9	176.9	183.5	184.2	184.4	184.1	181.7	183.6	181.6	175.9	183.3	181.8	189.6
2044	Rice milling	204.0	206.8	218.7	223.5	227.3	231.8	218.1	217.5	233.0	258.0	260.4	254.5	236.0	225.3
2048	Prepared foods, n.e.c. (12/75 = 100)	120.4	128.1	119.4	120.9	123.6	124.3	125.0	122.0	122.6	121.5	116.8	117.2	116.6	122.6
2061	Raw cane sugar	210.3	209.0	216.8	216.7	224.3	223.3	248.4	260.5	374.9	276.0	320.2	456.1	402.4	381.8
2063	Beet sugar	202.6	202.0	199.4	200.0	204.7	210.6	223.2	224.6	293.2	305.7	295.4	338.0	343.9	343.5
2067	Chewing gum	245.8	242.9	242.9	242.9	242.9	262.3	262.3	262.3	262.3	261.9	261.9	262.0	262.0	262.4
2074	Cottonseed oil mills	207.4	224.5	214.1	217.9	214.9	204.7	205.6	182.4	184.4	170.4	154.8	150.5	155.1	190.1
2075	Soybean oil mills	245.0	262.8	250.0	248.6	244.7	242.4	241.9	235.1	230.4	222.3	212.6	212.5	209.1	224.6
2077	Animal and marine fats and oils	338.4	352.0	321.4	333.8	333.7	315.2	300.7	298.1	292.6	297.4	274.0	269.0	238.3	274.4
2083	Malt	203.7	201.4	201.4	214.9	214.9	228.2	228.2	244.1	244.1	244.1	244.1	244.1	244.1	244.1
2085	Distilled liquor, except brandy (12/75 = 100)	113.7	113.6	115.7	117.1	117.1	118.1	118.1	118.6	118.7	118.7	118.7	118.9	118.9	118.9
2091	Canned and cured seafoods (12/73 = 100)	146.4	148.5	148.2	154.0	154.3	155.6	159.8	160.9	164.0	165.7	170.2	173.2	175.3	175.9
2092	Fresh or frozen packaged fish	381.6	403.7	391.5	389.2	400.1	391.4	388.4	389.7	385.5	391.6	371.5	361.6	362.8	365.2
2095	Roasted coffee (12/72 = 100)	254.5	271.0	279.2	279.2	280.0	287.5	287.5	281.3	273.9	274.0	273.9	273.9	283.1	274.5
2098	Macaroni and spaghetti	199.7	203.5	210.4	210.4	210.4	221.5	227.7	227.7	227.7	227.7	230.5	230.5	230.5	230.5
2111	Cigarettes	225.0	221.5	228.9	229.1	229.2	229.2	234.3	245.8	245.9	246.0	246.1	254.2	254.3	257.2
2121	Cigars	147.3	149.8	150.1	150.1	149.8	150.4	150.4	151.2	154.2	154.4	152.7	152.7	157.1	157.2
2131	Chewing and smoking tobacco	248.4	246.4	246.4	255.6	260.4	260.8	260.8	260.9	265.1	267.3	274.3	274.6	274.7	274.7
2211	Weaving mills, cotton (12/72 = 100)	195.3	196.1	196.5	198.7	201.1	201.6	201.9	204.4	206.9	209.5	210.9	211.6	211.9	217.4
2221	Weaving mills, synthetic (12/77 = 100)	115.0	116.2	116.3	116.2	116.8	117.3	117.2	118.1	118.3	122.7	122.4	121.8	120.4	122.3
2251	Women's hosiery, except socks (12/75 = 100)	97.5	99.6	98.1	97.5	98.2	100.3	100.2	103.3	103.3	104.3	104.4	105.4	105.4	105.4
2254	Knit underwear mills	173.3	172.9	174.0	174.0	174.3	174.6	178.3	182.5	184.1	186.5	186.4	187.1	190.5	192.5
2257	Circular knit fabric mills (6/76 = 100)	95.2	96.1	96.4	96.2	96.9	98.4	98.6	99.3	100.4	103.4	103.6	104.1	104.7	105.1
2261	Finishing plants, cotton (6/76 = 100)	121.8	122.5	123.2	124.0	126.1	126.3	126.6	128.7	129.6	131.9	131.9	133.2	133.7	137.2
2262	Finishing plants, synthetics, silk (6/76 = 100)	107.2	107.5	108.2	108.3	109.3	109.7	109.8	110.3	109.4	110.4	111.3	112.1	111.5	173.7
2272	Tufted carpets and rugs	128.0	127.6	128.6	129.0	129.8	130.1	130.1	134.7	134.5	137.0	135.9	138.7	137.5	137.6
2281	Yarn mills, except wool (12/71= 100)	176.7	177.5	177.4	179.4	181.2	183.0	183.7	188.0	197.8	199.5	203.8	204.5	202.9	203.0
2282	Throwing and winding mills (6/76 = 100)	107.4	108.5	109.7	111.2	110.4	109.6	109.2	110.1	110.6	112.0	114.8	116.3	114.8	113.4
2284	Thread mills (6/76 = 100)	123.7	120.5	128.1	128.1	128.4	128.4	128.6	128.7	129.2	130.0	133.9	142.2	142.1	143.0
2298	Cordage and twine (12/77 = 100)	107.0	105.4	113.5	115.1	114.9	114.9	114.9	115.0	117.2	118.5	123.6	123.8	125.0	125.0
2311	Men's and boys' suits and coats	204.2	205.8	206.5	206.5	206.6	206.8	206.7	209.0	208.1	208.3	205.7	207.0	207.4	214.9
2321	Men's and boys' shirts and nightwear	194.0	194.7	195.9	196.0	196.1	196.6	196.3	197.7	198.2	199.3	202.9	203.5	204.9	205.4
2322	Men's and boys' underwear	186.9	188.7	190.0	190.0	190.0	190.0	194.0	199.8	202.0	204.0	204.2	204.3	208.5	211.1
2323	Men's and boys' neckwear (12/75 = 100)	106.5	103.4	110.9	110.9	110.9	110.9	110.9	112.4	112.4	112.4	106.3	106.3	106.3	106.3
2327	Men's and boys' separate trousers	161.5	162.5	162.7	162.7	162.9	163.4	163.5	164.2	174.2	174.3	174.8	174.9	175.1	175.3
2328	Men's and boys' work clothing	208.6	208.9	210.7	210.9	213.4	219.1	219.6	225.1	233.6	235.4	240.9	241.7	242.5	244.8
2331	Women's and misses' blouses and waists (6/78 = 100)	102.0	102.6	102.7	102.8	103.0	105.9	106.8	107.1	106.6	106.7	107.6	107.7	107.8	111.4
2335	Women's and misses' dresses (12/77 = 100)	107.0	108.4	108.3	108.3	108.7	108.8	108.8	112.9	113.8	113.8	113.9	113.9	114.0	114.0
2341	Women's and children's underwear (12/72 = 100)	144.3	144.2	145.3	145.3	146.7	147.4	147.7	149.4	150.0	153.1	152.4	153.2	155.2	155.4
2342	Brassieres and allied garments (12/75 = 100)	118.9	117.5	117.8	117.8	117.8	117.8	118.8	119.7	122.9	124.9	125.4	125.4	127.0	128.2
2361	Children's dresses and blouses (12/77 = 100)	104.8	102.4	102.4	103.7	105.7	105.7	105.6	105.3	105.3	105.5	106.0	106.0	106.7	112.4
2381	Fabric dress and work gloves	241.4	245.4	245.4	245.4	245.4	246.9	246.9	257.7	261.7	265.0	267.5	271.1	271.1	271.1
2394	Canvas and related products (12/77 = 100)	109.3	108.4	111.0	111.4	112.3	112.1	120.1	122.1	122.8	123.4	123.4	123.4	123.4	123.4
2396	Automotive and apparel trimmings (12/77 = 100)	111.3	114.3	114.3	114.3	114.3	114.3	114.3	114.3	114.3	122.3	122.3	122.3	122.3	122.3
2421	Sawmills and planing mills (12/71 = 100)	251.0	251.3	259.1	265.6	262.2	250.2	237.9	234.6	239.5	239.1	215.7	209.3	218.1	228.8
2436	Softwood veneer and plywood (12/75 = 100)	152.3	148.1	153.4	156.0	153.1	142.9	138.9	138.5	143.7	139.8	121.4	129.6	140.5	148.7
2439	Structural wood members, n.e.c. (12/75 = 100)	151.2	150.0	149.9	150.8	158.2	158.2	158.2	158.2	158.2	158.3	158.2	152.1	152.1	152.1
2448	Wood pallets and skids (12/75 = 100)	166.5	166.9	166.8	167.9	167.9	171.0	170.5	169.8	167.0	166.3	164.6	162.8	159.7	157.1
2451	Mobile homes (12/74 = 100)	138.2	138.2	139.6	140.7	143.0	144.0	144.1	144.8	146.9	147.2	149.0	150.0	150.6	151.2
2492	Particleboard (12/75 = 100)	139.1	134.3	134.7	138.5	139.5	136.8	134.5	136.9	150.7	158.9	161.9	167.3	171.7	168.7
2511	Wood household furniture (12/71 = 100)	165.5	164.5	164.6	168.0	169.3	172.3	174.5	177.5	178.2	178.9	179.7	180.8	182.4	183.8
2512	Upholstered household furniture (12/71 = 100)	150.0	150.0	150.2	151.6	151.6	153.8	155.7	155.9	158.7	158.7	158.7	158.9	160.3	163.3
2515	Mattresses and bedsprings	165.7	164.5	165.8	165.8	168.9	172.3	172.3	169.9	170.5	170.5	171.5	174.8	174.8	180.7
2521	Wood office furniture	215.3	216.8	216.8	216.8	217.6	217.6	221.9	228.2	233.8	233.8	233.9	233.9	233.9	236.1
2611	Pulp mills (12/73 = 100)	200.6	205.4	205.7	205.8	213.5	213.9	213.9	225.2	225.1	225.5	244.9	246.0	246.0	246.6
2621	Paper mills, except building (12/74 = 100)	130.2	130.2	131.0	131.4	135.1	136.5	136.8	139.0	139.8	142.5	145.1	146.1	146.6	146.7
2631	Paperboard mills (12/74 = 100)	119.8	119.7	121.9	123.4	125.4	126.3	127.6	131.3	132.3	134.6	137.0	141.5	143.1	140.4
2647	Sanitary paper products	277.7	276.4	285.9	285.4	286.3	286.4	290.9	295.8	303.9	311.7	312.2	318.1	321.1	328.4
2654	Sanitary food containers	186.7	189.6	189.6	191.8	195.8	198.2	199.9	202.6	204.8	208.9	212.9	216.7	218.3	219.4
2655	Fiber cans, drums, and similar products (12/75 = 100)	134.8	136.6	138.8	136.6	138.5	138.5	142.3	143.2	143.2	143.3	145.7	147.8	150.6	155.2
2812	Alkalies and chlorine (12/73 = 100)	208.8	209.5	212.2	213.1	214.1	216.7	217.3	220.4	226.5	233.7	234.0	238.6	245.3	250.4
2821	Plastics materials and resins (6/76 = 100)	121.2	124.9	127.8	128.9	132.9	133.6	134.1	138.5	139.7	140.8	145.4	147.0	147.1	148.3
2822	Synthetic rubber	210.3	214.2	223.4	223.8	225.7	228.0	230.4	240.9	244.2	244.7	255.7	258.2	258.5	258.9
2824	Organic fiber, noncellulosic	117.6	118.6	119.8	123.5	123.6	123.2	122.6	124.1	124.7	128.9	128.8	131.9	133.0	133.6
2873	Nitrogenous fertilizers (12/75 = 100)	103.4	102.8	104.1	106.1	108.0	111.7	113.5	114.3	119.6	122.1	123.9	124.4	123.4	122.6
2874	Phosphatic fertilizers	193.8	186.9	199.4	204.3	213.2	221.6	223.4	229.2	233.2	236.0	237.3	236.4	236.8	234.9
2875	Fertilizers, mixing only	203.8	196.1	205.6	211.1	218.3	227.0	227.1	233.2	239.8	242.5	247.9	246.0	248.9	249.3
2892	Explosives	236.4	240.1	240.7	250.3	250.6	251.7	252.5	253.6	255.2	260.2	271.3	272.5	273.6	273.6
2911	Petroleum refining (6/76 = 100)	163.6	165.5	176.6	188.9	198.4	201.0	204.8	213.9	228.4	242.3	250.4	253.0	253.2	255.8
2951	Paving mixtures and blocks (12/75 = 100)	134.3	134.4	134.9	141.6	145.6	145.6	145.7	150.0	161.5	167.9	172.6	172.6	171.6	173.7
2952	Asphalt felts and coatings (12/75) = 100)	162.5	143.6	142.7	145.8	147.6	152.2	151.9	156.1	162.7	169.9	176.5	173.6	175.0	180.1
3011	Tires and inner tubes (12/73 = 100)	176.4	176.8	181.2	184.2	186.9	191.2	191.4	193.0	196.7	196.8	198.6	199.0	201.4	203.3

30. Continued—Producer Price indexes for the output of selected SIC industries

[1967=100 unless otherwise specified]

1972 SIC code	Industry description	Annual average 1979	1979						1980						
			July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July
3021	Rubber and plastic footwear (12/71 = 100)	171.1	171.0	173.4	173.4	173.5	173.5	173.5	173.5	173.6	173.6	173.8	173.8	173.9	181.9
3031	Reclaimed rubber (12/73 = 100)	170.0	169.2	169.2	177.7	178.8	179.2	179.5	179.7	180.0	184.9	183.7	184.3	184.3	184.4
3079	Miscellaneous plastic products (6/78 = 100)	109.9	111.4	112.3	113.1	114.3	114.6	115.6	116.6	117.0	119.1	120.1	120.3	121.6	121.9
3111	Leather tanning and finishing (12/77 = 100)	167.5	181.8	172.9	155.2	161.9	150.8	153.5	164.3	160.8	146.7	140.8	137.9	134.6	137.7
3142	House slippers (12/75 = 100)	135.8	135.0	135.0	135.0	135.8	135.9	135.9	143.5	145.4	145.4	146.8	146.8	146.8	152.5
3143	Men's footwear, except athletic (12/75 = 100)	152.7	155.4	158.2	160.1	160.4	160.3	160.3	160.3	157.9	158.5	158.4	158.4	158.6	158.6
3144	Women's footwear, except athletic	194.5	198.7	201.5	201.6	202.3	204.0	204.0	205.6	206.3	213.5	213.8	213.8	213.8	214.3
3171	Women's handbags and purses (12/75 = 100)	128.9	131.8	131.8	131.8	131.8	131.8	131.8	131.9	131.9	132.1	132.1	140.8	140.9	140.9
3211	Flat glass (12/71 = 100)	151.7	151.9	151.9	152.3	152.6	153.3	153.9	157.6	157.6	157.9	157.9	157.9	158.9	159.5
3221	Glass containers	261.1	265.2	265.2	265.2	265.2	265.2	274.2	274.3	274.3	274.3	294.5	294.5	294.5	294.5
3241	Cement, hydraulic	283.1	285.4	285.4	285.4	285.4	285.5	288.2	305.7	305.9	306.3	309.8	310.7	310.8	310.5
3251	Brick and structural clay tile	258.6	261.0	263.3	265.9	261.3	261.3	262.7	268.3	270.4	271.9	276.4	278.5	278.5	278.5
3253	Ceramic wall and floor tile (12/75 = 100)	117.2	120.2	120.2	120.2	120.2	120.2	130.3	130.4	130.4	130.4	130.4	117.6	117.6	117.6
3255	Clay refractories	242.1	246.5	246.7	247.1	251.0	252.9	254.0	255.1	259.4	263.7	275.4	277.1	277.5	280.7
3259	Structural clay products, n.e.c.	189.2	188.2	192.1	192.1	192.8	192.3	196.5	196.3	198.1	196.4	200.6	201.6	204.9	205.1
3261	Vitreous plumbing fixtures	207.4	210.1	212.4	213.1	214.5	215.7	217.3	219.2	224.6	226.7	227.6	236.1	235.8	237.2
3262	Vitreous china food utensils	295.2	297.5	297.5	298.0	298.0	305.4	308.2	308.2	308.2	308.2	313.4	313.4	318.6	318.2
3263	Fine earthenware food utensils	244.9	238.8	238.8	246.0	246.0	248.4	294.3	294.3	294.3	294.3	294.8	293.6	294.4	294.3
3269	Pottery products, n.e.c. (12/75 = 100)	132.5	131.0	131.0	133.3	133.3	135.5	150.1	150.1	150.1	150.1	151.3	151.4	152.6	152.6
3271	Concrete block and brick	233.0	232.7	235.7	237.8	240.0	240.0	240.2	249.5	250.6	252.3	259.3	259.4	259.4	259.4
3273	Ready-mixed concrete	248.2	249.6	250.5	252.4	254.0	254.6	257.0	270.8	272.6	275.5	278.9	281.6	282.5	282.5
3274	Lime (12/75 = 100)	141.0	141.8	142.9	144.2	144.6	144.3	144.6	149.5	153.5	155.6	156.7	156.9	157.4	159.6
3275	Gypsum products	252.8	252.3	252.8	255.4	255.9	256.8	255.6	255.9	262.8	268.1	264.6	257.0	257.5	253.5
3291	Abrasive products (12/71 = 100)	187.8	187.7	188.6	190.4	195.1	195.3	196.5	199.4	203.3	203.9	210.1	211.9	213.5	215.2
3297	Nonclay refractories (12/74 = 100)	145.6	148.1	149.1	149.7	150.1	152.3	152.3	152.6	153.3	154.2	157.4	159.7	161.2	162.8
3312	Blast furnaces and steel mills	288.8	292.8	293.0	293.2	296.4	297.1	297.7	302.4	302.9	304.1	311.9	313.2	313.4	308.5
3313	Electrometallurgical products (12/75 = 100)	111.9	116.5	116.5	116.0	116.2	117.5	117.6	117.8	117.8	118.0	118.7	118.5	118.7	117.0
3316	Cold finishing of steel shapes	265.5	270.6	270.8	270.9	271.7	273.4	273.9	274.1	277.1	277.2	285.9	288.1	288.2	282.2
3317	Steel pipes and tubes	268.6	271.9	271.3	271.3	272.7	273.1	273.2	280.5	281.0	283.2	286.9	286.9	290.5	292.5
3321	Gray iron foundries (12/68 = 100)	255.8	253.9	253.8	254.8	267.1	269.6	269.7	273.7	276.9	277.2	278.4	279.0	279.9	280.4
3333	Primary zinc	265.7	281.4	265.5	264.2	265.2	257.8	265.7	266.1	272.4	279.6	274.2	268.2	268.6	255.8
3334	Primary aluminum	243.1	244.9	247.4	248.2	256.0	263.2	266.6	267.0	267.0	267.8	276.0	287.0	288.6	293.3
3351	Copper rolling and drawing	213.2	211.2	213.6	216.7	226.3	222.6	225.0	231.0	253.1	238.6	230.1	222.9	220.4	223.3
3353	Aluminum sheet plate and foil (12/75 = 100)	148.9	149.6	149.8	150.0	150.7	151.3	151.7	153.2	153.5	155.5	158.0	157.8	157.7	158.2
3354	Aluminum extruded products (12/75 = 100)	149.3	150.3	151.9	151.9	155.2	157.4	158.0	158.8	158.9	160.9	167.6	167.7	167.7	168.3
3355	Aluminum rolling, drawing, n.e.c. (12/75 = 100)	132.4	132.7	133.1	133.5	136.9	139.9	140.5	140.7	141.0	141.1	143.8	145.2	146.5	147.2
3411	Metal cans	264.1	262.2	262.9	263.5	273.8	274.6	274.7	276.6	277.3	279.9	295.1	295.2	294.9	295.6
3425	Hand saws and saw blades (12/72 = 100)	163.3	162.8	166.3	166.4	167.1	169.5	169.8	173.1	174.6	176.4	177.8	181.3	181.7	183.3
3431	Metal sanitary ware	224.8	226.4	228.9	229.2	230.1	231.7	232.9	237.8	242.1	243.1	245.5	249.7	249.9	250.9
3465	Automotive stampings (12/75 = 100)	128.5	127.8	130.9	131.6	132.4	132.4	132.4	132.4	132.4	132.7	133.8	134.1	138.1	138.1
3482	Small arms ammunition (12/75 = 100)	132.2	134.0	134.0	134.0	133.2	133.6	143.2	143.2	143.2	142.6	146.3	147.1	150.2	149.8
3493	Steel springs, except wire	219.8	221.6	222.1	222.8	223.7	224.1	225.6	226.1	226.6	228.6	228.9	228.9	230.1	230.1
3494	Valves and pipe fittings (12/71 = 100)	204.8	205.3	206.2	207.5	210.4	212.5	214.3	216.9	219.6	223.1	227.3	229.1	231.2	231.8
3498	Fabricated pipe and fittings	289.2	294.8	294.8	294.9	297.3	297.4	297.4	301.7	301.8	303.5	306.8	306.9	313.8	317.2
3519	Internal combustion engines, n.e.c.	243.3	242.3	245.7	251.8	254.2	254.9	254.9	260.5	261.8	266.1	269.2	270.2	270.3	275.1
3531	Construction machinery (12/76 = 100)	125.1	125.6	126.3	126.5	128.9	129.4	130.9	134.6	135.7	136.3	138.0	138.7	140.0	141.5
3532	Mining machinery (12/72 = 100)	229.4	231.2	231.5	232.7	233.1	235.4	236.4	245.8	247.1	247.8	254.1	256.2	257.1	259.4
3533	Oilfield machinery and equipment	291.6	292.0	293.3	296.8	300.5	302.8	309.1	314.2	316.2	318.9	329.5	332.9	337.4	342.6
3534	Elevators and moving stairways	215.9	215.4	214.6	219.1	219.4	220.6	220.9	225.6	226.1	229.1	232.6	234.1	242.5	244.2
3542	Machine tools, metal forming types (12/71 = 100)	242.8	244.6	245.1	247.9	249.8	253.7	256.7	266.1	268.1	269.4	276.1	275.7	279.8	284.9
3546	Power driven hand tools (12/76 = 100)	119.3	119.2	120.2	120.4	122.0	122.8	124.4	126.3	126.6	127.4	128.6	130.4	130.6	133.5
1552	Textile machinery (12/69 = 100)	194.7	195.0	197.5	198.2	199.3	200.6	200.6	202.6	205.2	207.0	212.5	213.0	217.0	222.1
3553	Woodworking machinery (12/72 = 100)	185.4	185.9	187.7	190.0	192.6	192.7	192.9	201.2	201.6	205.1	212.7	212.5	214.0	216.3
3576	Scales and balances, excluding laboratory	194.2	194.8	195.4	195.4	195.7	199.5	201.0	204.2	205.8	206.6	205.1	208.2	208.6	208.8
3592	Carburetors, pistons, rings, valves (6/76 = 100)	139.6	139.2	139.6	140.7	142.8	145.1	145.3	147.5	147.8	148.6	152.5	152.8	153.2	158.3
3612	Transformers	168.1	167.9	167.6	168.4	171.2	170.4	171.6	172.9	176.6	177.5	180.0	181.7	183.2	186.2
3623	Welding apparatus, electric (12/72 = 100)	192.2	193.5	194.1	195.1	196.9	196.8	200.3	201.3	203.3	206.0	207.3	209.8	211.0	212.3
3631	Household cooking equipment (12/75 = 100)	122.2	122.0	123.4	124.3	124.4	125.9	126.3	128.7	129.3	129.4	129.6	132.5	133.4	134.7
3632	Household refrigerators, freezers (6/76 = 100)	113.6	113.6	114.3	115.1	115.1	115.7	116.3	117.0	118.5	118.6	119.0	119.0	121.5	121.7
3633	Household laundry equipment (12/73 = 100)	148.8	148.8	149.9	150.6	150.9	152.3	153.5	154.0	156.6	158.3	159.0	159.7	162.8	160.1
3635	Household vacuum cleaners	141.7	141.6	141.7	141.9	144.5	144.7	145.8	146.1	149.7	151.3	150.2	149.2	149.6	151.9
3636	Sewing machines (12/75 = 100)	121.4	121.8	122.2	122.2	122.6	122.6	122.6	122.6	129.2	129.2	128.6	128.6	128.6	129.4
3641	Electric lamps	235.2	240.8	244.3	242.7	244.8	238.7	240.8	248.5	252.4	251.8	252.4	252.3	260.0	266.4
3644	Noncurrent-carrying wiring devices (12/72 = 100)	204.6	203.3	207.7	209.1	210.5	211.9	215.0	212.9	215.2	215.3	219.7	220.3	222.5	222.3
3646	Commercial lighting fixtures (12/75 = 100)	126.5	127.9	127.9	130.5	131.4	131.6	131.9	133.4	134.3	136.2	138.4	138.9	139.6	139.6
3648	Lighting equipment, n.e.c. (12/75 = 100)	126.0	127.6	128.2	128.5	129.6	129.8	130.5	133.0	133.2	134.6	138.6	139.4	140.4	140.5
3671	Electron tubes receiving type	220.3	226.5	226.6	227.2	227.2	227.4	227.7	229.1	229.4	229.7	253.9	254.3	254.8	255.1
3674	Semiconductors and related devices	84.8	84.2	84.3	84.7	85.1	85.6	86.4	86.8	88.5	89.3	89.7	90.7	91.0	91.6
3675	Electronic capacitors (12/75 = 100)	125.2	126.7	129.3	134.1	133.9	135.8	138.0	147.7	149.1	151.3	155.6	156.4	156.2	164.3
3676	Electronic resistors (12/75 = 100)	124.4	124.0	124.6	125.2	126.6	126.7	127.3	127.4	128.8	131.8	131.9	132.8	135.0	135.1
3678	Electronic connectors (12/75 = 100)	131.7	133.4	134.1	137.6	138.9	140.7	142.1	145.1	146.4	146.7	147.3	148.8	148.8	149.0
3692	Primary batteries, dry and wet	170.1	172.8	172.8	172.8	173.1	173.1	174.1	174.2	176.5	176.6	176.8	176.4	176.4	176.4
3711	Motor vehicles and car bodies (12/75 = 100)	125.1	125.1	122.1	122.5	130.2	130.1	130.4	132.7	131.6	131.8	135.0	133.2	134.1	136.8
3942	Dolls (12/75 = 100)	110.8	111.8	112.6	112.6	112.9	112.9	113.0	122.7	125.4	125.6	126.0	126.7	126.7	126.7
3944	Games, toys, and children's vehicles	182.7	183.5	184.4	185.1	186.2	186.3	186.6	198.7	203.8	204.0	202.6	203.5	204.0	204.4
3955	Carbon paper and inked ribbons (12/75 = 100)	118.6	117.1	118.3	118.7	123.1	125.2	125.2	126.2	128.2	128.3	131.5	133.3	136.4	136.4
3995	Burial caskets (6/76 = 100)	122.5	123.3	123.8	124.8	123.1	124.8	124.8	128.3	128.3	128.3	128.1	130.0	132.2	132.2
3996	Hard surface floor coverings (12/75 = 100)	126.3	128.3	128.3	128.3	131.0	134.1	134.1	138.6	138.7	138.7	143.2	143.3	143.3	146.1

PRODUCTIVITY DATA

Productivity data are compiled by the Bureau of Labor Statistics from establishment data and from estimates of compensation and output supplied by the U.S. Department of Commerce and the Federal Reserve Board.

Definitions

Output is the constant dollar gross domestic product produced in a given period. Indexes of **output per hour of labor input,** or labor productivity, measure the value of goods and services produced per hour of labor. **Compensation per hour** includes wages and salaries of employees plus employers' contributions for social insurance and private benefit plans. The data also include an estimate of wages, salaries, and supplementary payments for the self-employed, except for nonfinancial corporations, in which there are no self-employed. **Real compensation per hour** is compensation per hour adjusted by the Consumer Price Index for All Urban Consumers.

Unit labor cost measures the labor compensation cost required to produce one unit of output and is derived by dividing compensation by output. **Unit nonlabor payments** include profits, depreciation, interest, and indirect taxes per unit of output. They are computed by subtracting compensation of all persons from the current dollar gross domestic product and dividing by output. In these tables, **Unit nonlabor costs** contain all the components of unit nonlabor payments except unit profits. **Unit profits** include corporate profits and inventory valuation adjustments per unit of output.

The **implicit price deflator** is derived by dividing the current dollar estimate of gross product by the constant dollar estimate, making the deflator, in effect, a price index for gross product of the sector reported.

The use of the term "man-hours" to identify the labor component of productivity and costs, in tables 31 through 34, has been discontinued. **Hours of all persons** is now used to describe the labor input of payroll workers, self-employed persons, and unpaid family workers. **Output per all-employee hour** is now used to describe labor productivity in nonfinancial corporations where there are no self-employed.

Notes on the data

In the private business sector and the nonfarm business sector, the basis for the output measure employed in the computation of output per hour is Gross Domestic Product rather than Gross National Product. Computation of hours includes estimates of nonfarm and farm proprietor hours.

Output data are supplied by the Bureau of Economic Analysis, U.S. Department of Commerce, and the Federal Reserve Board. Quarterly manufacturing output indexes are adjusted by the Bureau of Labor Statistics to annual estimates of output (gross product originating) from the Bureau of Economic Analysis. Compensation and hours data are from the Bureau of Economic Analysis and the Bureau of Labor Statistics.

Beginning with the September 1976 issue of the *Review*, tables 31–34 were revised to reflect changeover to the new series—private business sector and nonfarm business sector—which differ from the previously published total private economy and nonfarm sector in that output imputed for owner-occupied dwellings and the household and institutions sectors, as well as the statistical discrepancy, are omitted. For a detailed explanation, see J. R. Norsworthy and L. J. Fulco, "New sector definitions for productivity series," *Monthly Labor Review*, October 1976, pages 40–42.

31. Annual indexes of productivity, hourly compensation, unit costs, and prices, 1950–79

[1967=100]

Item	1950	1955	1960	1965	1970	1972	1973	1974	1975	1976	1977	1978	1979
Private business sector:													
Output per hour of all persons	61.2	70.6	79.0	95.1	104.4	111.5	113.6	110.2	112.6	116.6	118.7	119.3	118.3
Compensation per hour	42.6	56.1	72.2	88.7	123.3	139.8	151.3	165.2	181.7	197.6	213.3	231.4	253.1
Real compensation per hour	59.2	69.9	81.4	93.9	106.0	111.6	113.6	111.8	112.7	115.9	117.5	118.4	116.4
Unit labor cost	69.6	79.4	91.4	93.3	118.2	125.4	133.2	149.8	161.3	169.5	179.7	194.0	214.0
Unit nonlabor payments	73.1	80.4	85.4	95.9	105.8	118.9	124.9	130.3	150.3	157.9	165.5	174.3	184.4
Implicit price deflator	70.8	79.8	89.3	94.2	113.9	123.2	130.3	143.1	157.5	165.5	174.8	187.2	203.6
Nonfarm business sector:													
Output per hour of all persons	67.2	74.6	81.2	96.0	103.2	110.1	112.0	108.6	110.7	114.6	116.4	116.9	115.7
Compensation per hour	45.6	59.0	74.5	89.4	121.9	138.4	149.2	163.0	179.3	194.2	209.6	227.5	247.9
Real compensation per hour	63.3	73.6	84.1	94.6	104.8	110.5	112.1	110.4	111.2	113.9	115.5	116.4	114.0
Unit labor cost	68.0	79.1	91.7	93.2	118.1	125.7	133.2	150.1	161.9	169.5	180.1	194.6	214.4
Unit nonlabor payments	71.4	80.1	84.4	95.8	106.0	117.4	117.8	124.7	145.9	156.0	163.8	169.9	178.6
Implicit price deflator	69.1	79.4	89.2	94.1	114.0	122.9	127.9	141.4	156.4	164.8	174.5	186.1	202.1
Nonfinancial corporations:													
Output per hour of all employees	(1)	(1)	80.6	96.9	103.7	110.6	112.9	108.7	112.2	115.8	117.0	118.0	117.5
Compensation per hour	(1)	(1)	76.0	90.1	121.8	136.7	147.6	161.7	177.9	192.7	208.0	225.0	244.9
Real compensation per hour	(1)	(1)	85.7	95.3	104.7	109.1	110.9	109.5	110.4	113.0	114.6	115.2	112.7
Unit labor cost	(1)	(1)	94.3	93.0	117.4	123.7	130.7	148.8	158.6	166.4	177.7	190.6	208.4
Unit nonlabor payments	(1)	(1)	90.8	100.1	103.5	114.8	116.8	124.8	146.1	156.8	164.4	170.6	179.5
Implicit price deflator	(1)	(1)	93.1	95.5	112.5	120.5	125.8	140.2	154.9	163.0	173.0	183.5	198.1
Manufacturing:													
Output per hour of all persons	65.8	75.0	79.8	98.4	105.0	115.7	118.9	113.0	118.8	124.0	127.7	128.2	129.2
Compensation per hour	45.6	61.2	78.0	91.1	122.3	136.6	146.5	161.7	181.1	196.1	212.7	229.9	250.8
Real compensation per hour	63.3	76.3	88.0	96.4	105.1	109.0	110.1	109.5	112.3	115.0	117.2	117.6	115.3
Unit labor cost	69.4	81.6	97.7	92.6	116.5	118.1	123.2	143.1	152.4	158.2	166.6	179.4	194.1
Unit nonlabor payments	82.3	88.5	92.3	103.3	96.2	107.4	106.4	105.6	128.4	139.6	147.4	152.4	154.4
Implicit price deflator	73.3	83.8	96.1	95.9	110.3	114.8	118.0	131.6	145.1	152.5	160.7	171.1	181.9

[1] Not available.

32. Annual changes in productivity, hourly compensation, unit costs, and prices, 1969–79

Item	Year											Annual rate of change	
	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1950-79	1960-79
Private business sector:													
Output per hour of all persons	0.2	0.7	3.3	3.4	1.9	−3.0	2.1	3.5	1.8	0.5	−0.8	2.5	2.1
Compensation per hour	6.9	7.2	6.7	6.2	8.2	9.2	10.0	8.8	8.0	8.5	9.4	5.9	6.9
Real compensation per hour	1.4	1.2	2.3	2.8	1.9	−1.6	.8	2.8	1.4	0.8	−1.7	2.5	2.0
Unit labor cost	6.6	6.4	3.3	2.8	6.2	12.5	7.7	5.0	6.0	8.0	10.3	3.3	4.7
Unit nonlabor payments	1.0	1.2	6.8	5.3	5.0	4.4	15.3	5.1	4.8	5.3	5.8	3.0	4.2
Implicit price deflator	4.7	4.7	4.4	3.6	5.8	9.8	10.1	5.0	5.6	7.1	8.9	3.2	4.5
Nonfarm business sector:													
Output per hour of all persons	−.2	.2	3.0	3.6	1.7	−3.1	2.0	3.5	1.5	.5	−1.1	2.1	1.9
Compensation per hour	6.4	6.8	6.7	6.4	7.8	9.2	10.0	8.3	7.9	8.6	9.0	5.6	6.7
Real compensation per hour	1.0	.8	2.3	3.0	1.5	−1.6	.8	2.4	1.4	.8	−2.1	2.2	1.7
Unit labor cost	6.7	6.5	3.5	2.7	6.0	12.7	7.9	4.7	6.3	8.0	10.2	3.4	4.7
Unit nonlabor payments	.4	1.6	6.7	3.8	.3	5.9	17.0	6.9	5.0	3.7	5.1	2.9	4.0
Implicit price deflator	4.5	4.9	4.5	3.1	4.1	10.5	10.6	5.4	5.9	6.6	8.6	3.3	4.5
Nonfinancial corporations:													
Output per hour of all employees	.4	.0	3.3	3.1	2.1	−3.7	3.2	3.2	1.1	.9	−.4	(1)	1.9
Compensation per hour	6.8	6.8	6.2	5.7	7.9	9.6	10.0	8.3	7.9	8.2	8.9	(1)	6.5
Real compensation per hour	1.3	.8	1.8	2.4	1.6	−1.3	.8	2.4	1.4	.5	−2.2	(1)	1.6
Unit labor cost	6.3	6.8	2.7	2.5	5.7	13.8	6.6	4.9	6.8	7.3	9.3	(1)	4.5
Unit nonlabor payments	0	.5	7.3	3.3	1.8	6.8	18.7	5.8	4.9	3.8	5.2	(1)	3.6
Implicit price deflator	4.1	4.6	4.2	2.8	4.4	11.5	10.5	5.2	6.1	6.1	7.9	(1)	4.2
Manufacturing:													
Output per hour of all persons	1.3	−.1	5.2	4.8	2.8	−5.0	5.1	4.4	3.0	.4	r0.8	2.5	2.5
Compensation per hour	6.6	7.1	6.2	5.2	7.2	10.4	12.0	8.3	8.4	8.1	9.1	5.5	6.4
Real compensation per hour	1.2	1.1	1.9	1.8	.9	−.5	2.6	2.4	1.9	.4	−2.0	2.1	1.5
Unit labor cost	5.2	7.2	.9	.4	4.3	16.1	6.6	3.8	5.3	7.7	8.2	2.9	3.9
Unit nonlabor payments	−4.4	−3.2	9.2	2.3	−1.0	−.7	21.6	8.8	5.5	3.4	1.3	1.9	2.5
Implicit price deflator	2.3	4.2	3.1	1.0	2.8	11.5	10.2	5.1	5.4	6.5	6.3	2.6	3.5

[1] Not available.

r = revised.

33. Quarterly indexes of productivity, hourly compensation, unit costs, and prices, seasonally adjusted

[1967 = 100]

Item	Annual average		Quarterly indexes										
			1977	1978				1979				1980	
	1978	1979	IV	I	II	III	IV	I	II	III	IV	I	IIp
Private business sector:													
Output per hour of all persons	119.3	118.3	119.0	118.5	119.1	119.7	119.8	118.9	118.3	117.8	117.7	117.7	r117.1
Compensation per hour	r231.4	253.1	218.8	224.6	228.8	233.7	238.4	244.8	250.4	255.7	260.3	267.6	275.3
Real compensation per hour	118.4	116.4	117.9	118.8	118.3	118.2	117.9	117.9	117.0	115.8	114.2	112.9	r112.4
Unit labor cost	194.0	214.0	183.9	189.4	192.1	195.2	199.0	205.9	211.7	217.0	221.1	227.5	r235.1
Unit nonlabor payments	174.3	184.4	168.5	164.8	173.9	177.0	181.3	180.8	183.7	185.6	188.3	190.0	r193.1
Implicit price deflator	187.2	203.8	178.6	180.9	185.8	188.9	192.9	197.2	202.0	206.1	209.7	214.5	r220.6
Nonfarm business sector:													
Output per hour of all persons	116.9	115.7	116.4	116.2	116.7	117.4	117.6	116.6	115.4	115.0	115.2	114.9	r114.1
Compensation per hour	227.5	247.9	r219.6	221.0	224.9	229.5	234.4	240.2	244.9	r249.9	255.6	262.2	269.0
Real compensation per hour	116.4	114.0	r115.5	116.9	116.3	116.1	115.9	115.7	114.4	113.2	112.1	110.6	109.9
Unit labor cost	194.6	214.4	r180.1	190.2	192.8	195.6	199.3	206.0	212.2	217.3	221.8	228.2	r235.8
Unit nonlabor payments	169.9	178.6	r163.8	161.1	168.1	173.0	r176.1	174.3	177.6	180.5	182.5	185.9	r191.1
Implicit price deflator	186.1	202.1	r174.5	180.2	184.7	187.8	191.4	195.1	200.3	204.7	208.4	213.7	r220.5
Nonfinancial corporations:													
Output per hour of all employees	118.0	117.5	116.9	116.9	118.0	118.5	118.8	118.1	117.3	117.2	117.1	117.1	p116.7
Compensation per hour	225.0	244.9	213.2	219.0	222.6	226.9	231.3	237.3	242.1	247.1	252.1	258.8	p265.7
Real compensation per hour	115.2	112.7	114.9	115.8	115.1	114.8	114.4	114.3	113.1	111.9	110.6	109.2	p108.5
Total unit costs	193.3	210.4	186.3	190.8	191.6	194.0	196.8	202.3	208.0	213.2	218.0	224.3	p233.2
Unit labor cost	190.6	208.4	182.3	187.3	188.7	191.5	194.8	201.0	206.4	210.8	215.3	221.1	p227.6
Unit nonlabor costs	201.8	216.6	198.7	201.5	200.8	201.6	203.1	206.5	213.2	220.5	226.1	234.4	p250.7
Unit profits	127.2	127.8	122.2	107.1	129.2	132.7	138.7	130.3	129.2	127.5	124.0	120.5	p110.9
Implicit price deflator	183.5	196.1	176.8	178.3	182.3	184.9	188.2	191.6	196.3	200.4	204.0	208.9	p215.0
Manufacturing:													
Output per hour for all persons	128.2	129.2	128.3	126.3	127.7	r129.3	r129.5	r128.3	r128.8	129.6	129.1	128.4	r127.0
Compensation per hour	229.9	r250.8	218.3	223.9	227.1	231.7	236.6	242.3	248.0	252.7	258.0	264.6	r274.1
Real compensation per hour	117.6	115.3	117.6	118.4	117.5	117.2	117.0	116.7	115.9	114.4	113.2	111.6	r112.0
Unit labor cost	179.4	194.1	170.1	177.2	177.9	179.1	182.7	189.0	192.6	195.0	199.8	206.0	r215.9

[1] Not available.

r = revised.

34. Percent change from preceding quarter and year in productivity, hourly compensation, unit costs, and prices, seasonally adjusted at annual rate

[1967=100]

Item	Quarterly percent change at annual rate						Percent change from same quarter a year ago					
	IV 1978 to I 1979	I 1979 to II 1979	II 1979 to III 1979	III 1979 to IV 1979	IV 1979 to I 1980^p	I 1980 to II 1980^p	I 1978 to I 1979	II 1978 to II 1979	III 1978 to III 1979	IV 1978 to IV 1979	I 1979 to I 1980^p	II 1979 to II 1980^p
Private business sector:												
Output per hour of all persons	−3.1	−2.0	−1.4	−0.3	−0.3	^{r}−1.9	0.3	−0.7	−1.6	−1.7	−1.0	^{r}−1.0
Compensation per hour	11.0	9.5	8.7	7.5	11.7	^{r}11.9	9.0	9.4	9.4	9.2	9.3	^{r}19.9
Real compensation per hour	−.2	−2.9	−4.1	−5.4	−4.5	^{r}−1.6	−0.8	−1.1	−2.1	−3.2	−4.2	−3.9
Unit labor cost	14.6	11.8	10.3	7.6	12.1	^{r}14.1	8.7	10.2	11.2	11.1	10.5	^{r}11.0
Unit nonlabor payments	−1.0	6.5	4.2	5.9	3.8	^{r}6.6	9.7	5.7	4.8	3.9	5.1	^{r}5.1
Implicit price deflator	9.3	10.1	8.3	7.2	9.4	^{r}11.8	9.0	8.7	9.1	8.7	8.8	^{r}9.2
Nonfarm business sector:												
Output per hour of all persons	−3.3	−3.9	−1.5	0.8	−1.1	^{r}−2.9	.4	−1.1	−2.0	−2.0	−1.4	^{r}−1.2
Compensation per hour	10.2	8.1	8.5	9.5	10.7	^{r}10.7	8.7	8.9	8.9	9.1	9.2	9.8
Real compensation per hour	−.9	−4.2	−4.4	−3.6	−5.3	−2.6	−1.0	−1.6	−2.5	−3.3	−4.4	−4.0
Unit labor cost	14.0	12.5	10.1	8.6	12.0	^{r}14.1	8.3	10.1	11.1	11.3	10.8	^{r}11.2
Unit nonlabor payments	−3.9	7.7	6.6	4.6	7.5	^{r}11.7	8.2	5.0	4.3	3.7	6.6	^{r}7.6
Implicit price deflator	8.1	11.0	9.0	7.4	10.6	^{r}13.3	8.3	8.5	9.0	8.9	9.5	^{r}10.1
Nonfinancial corporations:												
Output per hour of all employees	−2.3	−2.7	−0.3	−0.4	−0.1	^{p}−1.1	1.0	−.6	−1.1	−1.4	−0.9	^{p}−0.5
Compensation per hour	10.8	8.3	8.5	8.4	11.0	^{p}11.1	8.4	8.7	8.9	9.0	9.0	^{p}9.7
Real compensation per hour	−.4	−4.1	−4.3	−4.5	−5.1	^{p}−2.3	−1.3	−1.8	−2.6	−3.3	−4.5	^{p}−4.1
Total unit costs	11.7	11.8	10.2	9.3	12.2	^{p}16.8	6.1	8.6	9.9	10.8	10.9	^{p}12.1
Unit labor costs	13.4	11.2	8.8	8.9	11.1	^{p}12.3	7.3	9.4	10.1	10.6	10.0	^{p}10.3
Unit nonlabor costs	6.8	13.5	14.6	10.6	15.4	^{p}31.0	2.5	6.2	9.4	11.3	13.5	^{p}17.6
Unit profits	−22.1	−3.4	−5.3	−10.4	−10.9	^{p}−28.2	21.7	0	−3.9	−10.6	−7.6	^{p}14.2
Implicit price deflator	7.6	10.2	8.6	7.3	9.9	^{p}12.3	7.5	7.7	8.4	8.4	9.0	^{p}9.5
Manufacturing:												
Output per hour of all persons	−3.8	1.7	2.5	−1.4	−2.2	^{r}−4.5	1.5	.9	0.2	−0.3	0.1	^{r}−1.4
Compensation per hour	10.1	9.6	7.8	8.8	10.5	^{r}15.2	8.2	9.2	9.1	9.1	9.2	^{r}10.5
Real compensation per hour	−.9	−2.8	−4.9	−4.2	−5.5	^{r}1.3	−1.5	−1.3	−2.4	−3.3	−4.4	^{r}−3.4
Unit labor cost	14.5	7.9	5.2	10.3	13.0	^{r}20.7	6.6	8.2	8.9	9.4	9.0	^{r}12.1

r = revised.

LABOR-MANAGEMENT DATA

MAJOR COLLECTIVE BARGAINING DATA are obtained from contracts on file at the Bureau of Labor Statistics, direct contact with the parties, and from secondary sources. Additional detail is published in *Current Wage Developments*, a monthly periodical of the Bureau. Data on work stoppages are based on confidential responses to questionnaires mailed by the Bureau of Labor Statistics to parties involved in work stoppages. Stoppages initially come to the attention of the Bureau from reports of Federal and State mediation agencies, newspapers, and union and industry publications.

Definitions

Data on wage changes apply to private nonfarm industry agreements covering 1,000 workers or more. Data on wage and benefit changes *combined* apply only to those agreements covering 5,000 workers or more. **First-year wage settlements** refer to pay changes going into effect within the first 12 months after the effective date of the agreement. **Changes over the life of the agreement** refer to total agreed upon settlements (exclusive of potential cost-of-living escalator adjustments) expressed at an average annual rate. **Wage-rate changes** are expressed as a percent of straight-time hourly earnings, while **wage and benefit changes** are expressed as a percent of total compensation.

Effective wage-rate adjustments going into effect in major bargaining units measure changes actually placed into effect during the reference period, whether the result of a newly negotiated increase, a deferred increase negotiated in an earlier year, or as a result of a cost-of-living escalator adjustment. Average adjustments are affected by workers receiving no adjustment, as well as by those receiving increases or decreases.

Work stoppages include all known strikes or lockouts involving six workers or more and lasting a full shift or longer. Data cover all workers idle one shift or more in establishments directly involved in a stoppage. They do not measure the indirect or secondary effect on other establishments whose employees are idle owing to material or service shortages.

35. Wage and benefit settlements in major collective bargaining units, 1975 to date
[In percent]

Sector and measure	Annual average					Quarterly average							
	1975	1976	1977	1978	1979	1978		1979				1980 P	
						III	IV	I	II	III	IV	I	II
Wage and benefit settlements, all industries:													
First-year settlements	11.4	8.5	9.6	8.3	9.0	7.2	6.1	2.8	10.5	9.0	8.5	8.6	10.1
Annual rate over life of contract	8.1	6.6	6.2	6.3	6.6	5.9	5.2	5.3	7.8	6.1	6.0	6.4	6.8
Wage rate settlements, all industries:													
First-year settlements	10.2	8.4	7.8	7.6	7.4	7.5	7.4	5.7	8.9	6.8	6.3	7.8	8.7
Annual rate over life of contract	7.8	6.4	5.8	6.4	6.0	6.4	5.9	6.6	7.2	5.1	5.3	6.3	6.8
Manufacturing:													
First-year settlements	9.8	8.9	8.4	8.3	6.9	8.4	9.5	8.7	9.7	6.3	5.6	7.0	6.6
Annual rate over life of contract	8.0	6.0	5.5	6.6	5.4	7.2	7.4	7.7	8.1	4.7	4.2	5.6	4.9
Nonmanufacturing (excluding construction):													
First-year settlements	11.9	8.6	8.0	8.0	7.6	7.4	6.4	3.2	8.5	9.4	7.8	9.1	10.4
Annual rate over life of contract	8.0	7.2	5.9	6.5	6.2	5.9	5.1	5.6	5.8	6.5	7.4	7.1	8.6
Construction:													
First-year settlements	8.0	6.1	6.3	6.5	8.8	7.0	8.4	9.7	8.7	9.7	7.5	9.6	12.7
Annual rate over life of contract	7.5	6.2	6.3	6.2	8.3	7.2	7.1	8.2	8.3	8.5	7.6	9.3	10.3

36. Effective wage adjustments going into effect in major collective bargaining units, 1975 to date

[In percent]

Sector and measure	Average annual changes					Average quarterly changes								
	1975	1976	1977	1978	1979	1978			1979				1980^{p}	
						II	III	IV	I	II	III	IV	I	II
Total effective wage rate adjustment, all industries	8.7	8.1	8.0	8.2	9.1	2.6	2.7	1.4	1.4	2.6	3.3	1.6	1.4	2.6
Change resulting from —														
Current settlement	2.8	3.2	3.0	2.0	3.0	.6	.5	.4	.2	1.1	1.0	.5	.4	.7
Prior settlement	3.7	3.2	3.2	3.7	3.0	1.4	1.2	.5	.6	1.0	1.0	.4	.5	1.2
Escalator provision	2.2	1.6	1.7	2.4	3.1	.6	1.0	.5	.6	.5	1.2	.7	.6	.6
Manufacturing	8.5	8.5	8.4	8.6	9.6	2.2	2.9	1.9	1.5	2.3	3.2	2.4	1.7	2.9
Nonmanufacturing	8.9	7.7	7.6	7.9	8.8	2.9	2.5	1.1	1.4	2.8	3.4	1.0	1.2	2.2

NOTE: Because of rounding and compounding, the sums of individual items may not equal totals.

37. Work stoppages, 1947 to date

Month and year	Number of stoppages		Workers involved		Days idle	
	Beginning in month or year	In effect during month	Beginning in month or year (thousands)	In effect during month (thousands)	Number (thousands)	Percent of estimated working time
1947	3,693	....	2,170	....	34,600	.30
1948	3,419	....	1,960	....	34,100	.28
1949	3,606	....	3,030	....	50,500	.44
1950	4,843	....	2,410	....	38,800	.33
1951	4,737	....	2,220	....	22,900	.18
1952	5,117	....	3,540	....	59,100	.48
1953	5,091	....	2,400	....	28,300	.22
1954	3,468	....	1,530	....	22,600	.18
1955	4,320	....	2,650	....	28,200	.22
1956	3,825	....	1,900	....	33,100	.24
1957	3,673	....	1,390	....	16,500	.12
1958	3,694	....	2,060	....	23,900	.18
1959	3,708	....	1,880	....	69,000	.50
1960	3,333	....	1,320	....	19,100	.14
1961	3,367	....	1,450	....	16,300	.11
1962	3,614	....	1,230	....	18,600	.13
1963	3,362	....	941	....	16,100	.11
1964	3,655	....	1,640	....	22,900	.15
1965	3,963	....	1,550	....	23,300	.15
1966	4,405	....	1,960	....	25,400	.15
1967	4,595	....	2,870	....	42,100	.25
1968	5,045	....	2,649	....	49,018	.28
1969	5,700	....	2,481	....	42,869	.24
1970	5,716	....	3,305	....	66,414	.37
1971	5,138	....	3,280	....	47,589	.26
1972	5,010	....	1,714	....	27,066	.15
1973	5,353	....	2,251	....	27,948	.14
1974	6,074	....	2,778	....	47,991	.24
1975	5,031	....	1,746	....	31,237	.16
1976	5,648	....	2,420	....	37,859	.19
1977	5,506	....	2,040	....	35,822	.17
1978	4,230	....	1,623	....	36,922	.17
1979: July	471	....	188	....	3,001	.16
August	463	....	119	....	3,152	.15
September	464	....	135	....	2,319	.13
October	443	....	230	....	2,968	.15
November	257	....	91	....	2,720	.15
December	134	....	42	....	1,976	.11
1980: January^{p}	352	441	207	292	3,142	.16
February^{p}	354	590	114	332	3,025	.17
March^{p}	396	631	123	310	2,705	.14
April	425	663	116	231	2,786	.14
May	505	752	139	214	2,464	.13
June	435	714	164	201	2,553	.13
July	491	768	270	394	4,030	.21

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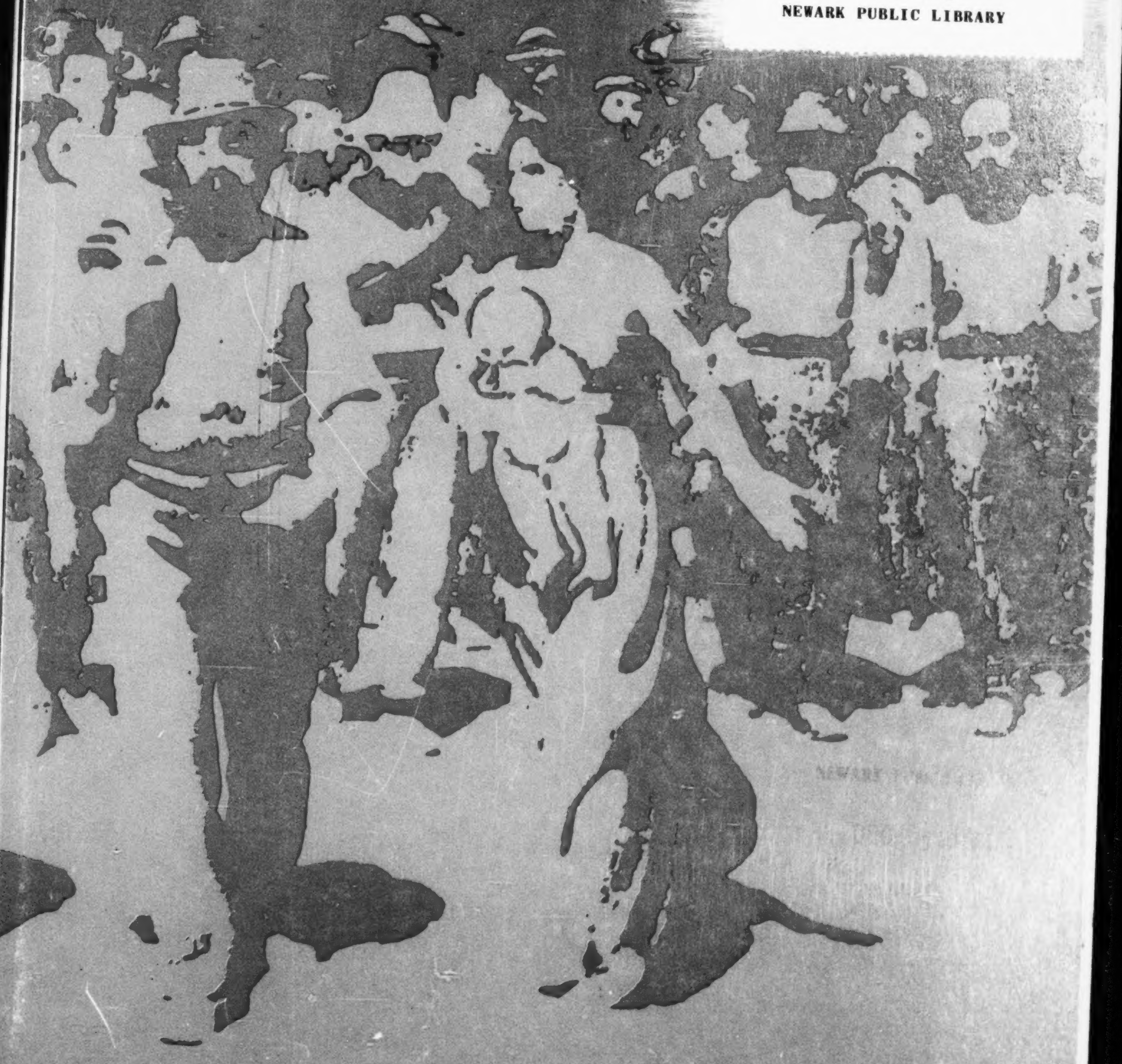

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Labor Month In Review

STATISTICS IN BUREAUCRACIES. In her presidential address to the 141st meeting of the American Statistical Association, in Houston earlier this year, Margaret E. Martin focused on the role of government statistical bureaus whose principal function is to produce and summarize data for use by others. Highlights:

Concepts. A major activity of statistics bureaus is the definition of concepts, an activity that is both difficult and extremely important in much of Federal multipurpose data collection. A well-known example is the case of employment and unemployment . . . . Should one measure the number of persons at work, or jobs held, or hours spent at work? There are uses for each of these measures. It took economists and statisticians working together nearly a decade during the 1930's to, first, agree on basic concepts, and second, develop reasonably satisfactory and mutually compatible definitions of employment and unemployment—definitions that were workable in household surveys and that, with only minor changes, are still being used today, although not without continued questioning.

Another, and as yet unsettled, example is the concept of ethnicity and the problem of its definition in censuses and surveys. Social theory suggests no easy answer, usually assuming self-identification. A variety of different definitions have been used in practice: place of parents' birth, mother tongue, language spoken in the home, origin, or descent. It is not sufficient for the statistician to say that such concepts and definitions are not his or her business, that these questions belong exclusively to the subject-matter specialist.

Differences. Because data produced by Federal statistics bureaus frequently are national in scope, and therefore refer to the same universe, differences in series that ostensibly measure the same or similar phenomena are glaringly obvious.

The existence of two ostensibly similar series can be a boon as well a bane to statistical enterprise. Differences in level and change can call attention to problems, especially to nonsampling errors, and, if taken seriously, can lead to improvements in one or both series. Efforts to reconcile the two employment series, for example, led to many improvements, extensions, and additional analyses—improvements that have provided a wealth of additional information on the labor force.

Pressures for more. Another characteristic circumstance of much Federal data collection is the insistent pressure for more. Once statistical information is produced, it is generally used. And once used, pressures start building for more—more detail, greater frequency, more prompt availability. If a series is issued quarterly, it is wanted monthly, if it is national in scope, it is wanted for regions, or States, or all standard metropolitan statistical areas, or even every county (3,000) or every political entity (39,000). . . .

The quality of such efforts is limited not only by resources—budgets, statistical talent, and other inputs to the statistical operation—but also by the burden imposed on respondents. Although much of the government's paperwork burden is not for statistical purposes—tax collection, regulatory activities, provision of benefits for which applications must be filed—large-scale statistical surveys must consider the burden imposed on suppliers of data and the mounting resistance to paperwork.

Analysis. Because statistics bureaus collect data primarily for the use of others, some believe it is unreasonable to expect them to engage in substantive analysis. They may fear that such analysis might distort data collecting priorities or delay public dissemination of the data. . . .

I believe that more analysis by statistics bureaus, whether by their own staffs exclusively or in cooperation with others, would lead to improvements in the base data, to a better understanding of priorities, to better documentation of the data for use by others, and possibly to new knowledge as the result of the analysis. The close tie between analysis and data improvement is not generally understood and, indeed, is not clearly documented. Budget authorities and congressional appropriations committees are unaware of the importance of analysis in leading to improved data and also may fear that analysis would not be politically neutral. The research community is, I believe, more interested in obtaining the data for its own independent use than concerned about building up analytic strength in Federal statistics bureaus.

Dissemination. Statistics bureaus spend much time on methods of distributing their products effectively. The theoretical statistician writes a report for a research journal and typically leaves it up to others to seek out and use the results of his research. The statistical consultant has direct contact with the users of his advice. But the statistics bureau, at a greater distance from users and operating on public funds, should feel a responsibility for making data available in convenient forms and for explaining how the data are compiled, their weaknesses and strengths.

If statisticians as a profession seek wider application of statistical methods in data collection activities, in other scientific disciplines, and in management and administration, whether public or private, we may need to devote more effort to communicating with nonstatisticians in ways that are of interest and of benefit to them.

The text of Martin's address is scheduled for publication in March in the *Journal* of the American Statistical Association. □

Self-employed Americans: their number has increased

The self-employed began to more closely resemble wage and salary workers during 1972–79; their workweek was shortened, they tended to be younger, and were more likely to be women than in the past, but they continued to earn less than other workers

T. SCOTT FAIN

Between 1972 and 1979, the number of self-employed Americans rose by more than 1.1 million, reversing decades of steady decreases.[1] The most dramatic surge occurred in the post-recession years of 1976–79, when the percentage increase in the number of self-employed workers surpassed the comparable increase for wage and salary workers (12.4 versus 10.8 percent).

When agricultural self-employment is separated from nonagricultural, a more dramatic picture appears. While the number of agricultural self-employed workers continued to decline—dropping 210,000 between 1972 and 1979—nonagricultural self-employment increased by 1.3 million. The growth trend was especially strong in the last 4 years when nonagricultural self-employment rose by 17 percent, while wage and salary employment rose 11 percent. (See table 1.)

In addition to the self-employed as officially enumerated by the Census Bureau, there are three other groups closely related to this worker category. First, there are those who identify themselves as self-employed but whose businesses are incorporated. Their numbers are included with the wage and salary group. Therefore, the increase in these workers from around 850,000 in 1967 (when they were first reclassified out of the self-employed category) to more than 2 million in 1979 is not reflected in the official figures for the self-employed. A more detailed discussion of these persons comes at the end of this article after an examination of recent trends among proprietors and partners, who comprise the unincorporated self-employed.

Another type of self-employment that is not reflected in the data in table 1 involves the more than 1.5 million workers who are self-employed at their second jobs. Because these moonlighters are classified by the nature of their primary employment, they are officially wage and salary workers. Those persons who supplemented their earnings with self-employment accounted for more than

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T. Scott Fain is an economist formerly with the Office of Current Employment Analysis, Bureau of Labor Statistics. Bernard Altschuler, a statistician in the same office, developed some of the tabulations used in this analysis.

one-third of all dual or multiple jobholders in 1979, and their number rose more than 28 percent since 1972.

On the other hand, the number of unpaid family workers, another group similar to the self-employed, continued its overall downturn. In 1979, there were 760,000 unpaid family workers, a drop of 225,000 since 1972, with the agricultural sector leading the decline. This group continues to be predominantly female, as they constituted 9 of 10 unpaid family workers in 1979.

The overall upward trend in the number of self-employed workers was interrupted during the 1974–75 recession; there were 50,000 fewer self-employed workers in 1976 than in 1974. But self-employment responded strongly to the post-recession economic surge. In this respect, self-employed workers appear to be reacting like their wage and salary counterparts, rather than continuing their past counter-cyclical employment trends.[2]

Demographic features

Age. While the demographic characteristics of the self-employed differ from other workers, these differences have grown less sharp in recent years. For instance, the median age of the self-employed has typically been greater than that of wage and salary workers. Young workers are less likely to have acquired the capital and managerial skills needed to start a business; and many older workers who have withdrawn from wage and salary employment may wish to continue working via self-employment. But in recent years, the average age of the self-employed has dropped. The proportion of self-employed who are 16 to 44 years old rose by 10 percentage points, while those over age 45 decreased by the same amount. In part, this change is because of the nature of the population; with entry of the baby-boom generation, the median age of the labor force has fallen. But as can be seen in the following tabulation, the downward shift in age distribution (in percent) has been more dramatic for the self-employed:

	Self-employed			*Wage and salary*		
Age	*1972*	*1979*	*Change*	*1972*	*1979*	*Change*
16–24 . .	5.4	6.6	+1.2	23.1	24.1	+1.0
25–44 . .	35.7	44.3	+8.6	41.8	45.9	+4.1
45 and over	58.8	49.0	−9.8	35.1	30.0	−5.1

From 1972 to 1979, a comparatively large number of workers 25 to 44 years old entered self-employment.

Table 1. Employment by class of worker, 1948–79

Year	Self-employed			Wage and salary			Unpaid family workers		
	Total	Agricultural	Nonagricultural	Total	Agricultural	Nonagricultural	Total	Agricultural	Nonagricultural
1948	10,773	4,664	6,109	44,221	1,645	45,866	1,703	1,318	385
1949	10,776	4,609	6,167	43,444	1,728	45,172	1,701	1,321	380
1950	10,358	4,340	6,018	45,354	1,630	46,984	1,573	1,190	383
1951	9,819	4,014	5,805	47,047	1,547	48,594	1,546	1,163	383
1952	9,546	3,933	5,613	47,719	1,437	49,156	1,546	1,129	417
1953	9,555	3,815	5,740	48,770	1,375	50,145	1,477	1,068	409
1954	9,655	3,816	5,839	47,633	1,343	48,976	1,474	1,043	431
1955	9,577	3,726	5,851	49,359	1,601	50,960	1,634	1,123	511
1956	9,459	3,563	5,896	51,057	1,580	52,656	1,700	1,142	558
1957	9,312	3,301	6,011	51,509	1,583	52,642	1,667	1,065	602
1958	9,183	3,081	6,102	50,761	1,564	52,325	1,529	941	588
1959	9,242	3,020	6,222	52,265	1,582	53,847	1,542	963	579
1960	9,098	2,795	6,303	53,417	1,762	55,179	1,499	901	598
1961	9,046	2,738	6,308	53,600	1,629	55,229	1,471	832	639
1962	8,802	2,609	6,193	54,963	1,561	56,524	1,376	773	603
1963	8,541	2,427	6,114	56,388	1,564	56,527	1,269	696	573
1964	8,538	2,358	6,180	58,027	1,469	59,496	1,272	696	576
1965	8,394	2,297	6,097	60,031	1,387	61,418	1,278	678	600
1966	8,126	2,136	5,990	62,361	1,266	63,627	1,142	578	564
1967	7,170	1,996	5,174	64,848	1,301	66,149	1,053	547	506
1968	7,087	1,985	5,102	66,517	1,281	67,798	1,035	550	485
1969	7,148	1,895	5,253	68,527	1,179	69,706	1,048	531	517
1970	7,027	1,810	5,217	69,446	1,153	70,599	1,001	499	502
1971	7,057	1,748	5,309	69,902	1,161	71,063	1,000	479	521
1972	7,121	1,789	5,332	72,381	1,216	73,597	984	467	517
1973	7,202	1,776	5,426	74,995	1,254	76,249	959	423	536
1974	7,386	1,752	5,634	76,325	1,349	77,674	876	391	485
1975	7,341	1,715	5,626	75,298	1,280	76,578	864	386	478
1976	7,326	1,637	5,689	78,041	1,318	79,359	800	342	458
1977	7,575	1,570	6,005	80,804	1,330	82,134	835	343	492
1978	7,912	1,607	6,305	84,253	1,418	85,671	788	316	472
1979	8,233	1,580	6,652	86,540	1,413	87,953	759	304	455

While many factors may have contributed to this development, apparently during the last decade younger workers placed a higher premium on being able to work for themselves than did prior generations.

Sex. Besides being disproportionately older, the self-employed have also been overrepresented by men. In 1979, 75 percent of self-employed workers were men, compared with less than 60 percent of wage and salary workers. Nevertheless, the number of self-employed women has been growing at a faster pace than either self-employed men or wage and salary women. Since 1972, female self-employment has increased by 43 percent or five times faster than male self-employment, and considerably faster than the 31 percent increase in the number of women employed as wage and salary workers. Thus, the female share of self-employment grew from about one-fifth in 1972 to one-quarter in 1979.

Race. Minorities have also been less likely to be self-employed, but, unlike younger persons and women, the proportion of self-employed who are members of minorities has not increased. Although the number of black self-employed has grown since 1972 by nearly 60,000 to 450,000, their proportion of all self-employed workers has remained constant at about 5.5 percent.[3] The number of self-employed blacks grew by only 14 percent from 1972 to 1979, just half the rate of increase incurred among black wage and salary workers.

Not only have blacks continued to be underrepresented among the self-employed, but those who have managed to start their own enterprises are most likely to be in service and blue-collar occupations, while white self-employed workers are more likely to be in the relatively high paying white-collar occupations. The following tabulation shows the occupational distribution (in percent) for self-employed workers in 1979, by race:

	Whites	*Blacks*
White-collar	48.7	40.7
Blue-collar	24.9	29.6
Service	8.7	21.2
Farm	17.6	8.4

Nonagricultural industry trends

From 1949 to 1972, the percent of workers in nonagricultural industries who were self-employed fell from 12.3 to 6.8. But since 1972, the trend reversed and in 1979 the proportion was 7.1 percent. During the entire 30-year period, however, the self-employed sector of agricultural employment has never stopped falling; it had been more than 60 percent in 1948 and was less than half in 1979.

Table 2. Self-employed and wage and salary workers, by occupation and industry, 1972–79, Annual averages

[In percent]

Characteristics	Self-employed		Wage and salary workers	
	1972	1979	1972	1979
Total employed	100.0	100.0	100.0	100.0
Occupation				
White-collar	46.6	48.3	48.1	51.2
Professional and technical workers	13.6	14.3	14.2	15.8
Managers and administrators, except farm	23.6	21.3	8.6	9.9
Clerical workers	7.8	9.9	6.4	6.0
Sales workers	1.6	2.8	18.9	19.5
Blue-collar	20.7	25.2	36.7	34.0
Craft and kindred workers	13.2	16.4	13.4	13.8
Operatives, except transport	2.6	3.0	13.8	12.1
Transport equipment operatives	2.6	3.1	4.1	3.8
Nonfarm workers	2.3	2.7	5.5	5.3
Service workers	9.1	9.3	13.9	13.7
Farm workers	23.4	17.2	1.3	1.2
Industry				
Goods-producing	18.7	22.3	34.1	32.0
Mining	0.2	0.3	0.8	1.0
Construction	13.9	17.0	6.2	5.9
Manufacturing	4.5	5.0	27.1	25.2
Service-producing	81.3	77.7	65.9	68.0
Transportation and public utilities	3.8	4.1	7.3	7.1
Trade	31.5	27.3	20.0	20.4
Wholesale	4.0	4.1	3.9	4.0
Retail	27.5	23.2	16.1	16.4
Finance, insurance, and real estate	4.9	6.6	5.6	6.1
Miscellaneous services	41.2	39.8	29.0	28.5
Public administration	0	0	6.1	5.8

Traditionally, the self-employed in the nonagricultural sector have been concentrated in the service-producing industries. The creation of a business in goods-producing industries—mining, construction, or manufacturing—usually requires large amounts of capital. But between 1972 and 1979, the percentage of the self-employed in this sector grew faster, from 18.7 to 22.3. (See table 2.) The construction industry led the increase, as self-employment accounted for more than one-third of the total employment gain in this industry between 1972 and 1979. In manufacturing, although the numbers grew substantially, self-employment continued to be relatively uncommon; only 1 of 20 self-employed workers was in manufacturing, compared with 1 of 4 wage and salary workers. The service-producing industries also witnessed substantial increases in the numbers of self-employed, as finance, insurance, and real estate, and miscellaneous services registered the strongest gains. But the growth rate in the service-producing sector was less than half that of the goods-producing sector mainly because of the slow growth in the number of retailers.

The relatively slow growth of self-employment in the service sector is in sharp contrast to the situation in the economy as a whole, because among wage and salary workers the service-producing sector has grown twice as fast as the goods-producing sector. But, interestingly, these differential growth patterns have combined to bring the industry employment patterns of self-employed workers closer to the patterns of all employed workers.

Occupational trends

Clearly some occupations lend themselves more easily to self-employment than others. For a small number of jobs, self-employment accounted (in 1979) for more than half of all workers. These categories included chiropractors, dentists, optometrists, podiatrists, authors, auctioneers, hucksters and peddlers, paperhangers, piano and organ tuners, shoe repairers, fishers, farmers, midwives, barbers, boarding and lodging housekeepers, and bootblacks.

During the period studied, the major development in occupational employment of the self-employed was the decrease in farm occupations. In 1972, 1 of 4 self-employed persons worked at a farm-related job; in 1979, 1 of 5. Partly as a result, the proportions of self-employed in white-collar, blue-collar, and service jobs all increased. Related to the more dramatic increase in the goods-producing industries was the sizable increase in blue-collar self-employment. The increase in the actual numbers of self-employed in the white-collar sector was of comparable size, but the percentage increase was less than half that of the blue-collar sector. The growth in the service occupations was even less marked. In the blue-collar occupations, craftworkers represented two-thirds of the increase. In particular, carpenters and other construction workers posted self-employment gains of about 120,000 and 130,000, respectively. The sales occupations led the increases in white-collar jobs, with a large jump in the number of self-employed persons in real estate sales and hucksters and peddlers. The growth in real estate and construction reflected the continued strength of the residential housing market, as the baby-boom generation added to the demand for homes. Self-employment has traditionally played an important role in residential construction.[4]

In general, these shifts in industry and occupational employment have caused self-employed workers to more closely parallel the patterns of their wage and salary counterparts. This tendency was especially true for self-employed men, as their employment shifts were much more dramatic than those of self-employed women in both industry and occupational categories. Though their numbers increased sharply, self-employed women continued to be concentrated in the trade and service industries and white-collar and service occupations.

Hours and earnings

Hours. Another distinguishing characteristic of self-employed workers was the many hours which they typically put into a workweek, but this dropped dramatically in recent years. In 1965, the average workweek for a self-employed worker in a nonagricultural industry was 46.8 hours; by 1979, that figure had fallen 4.9 hours to 41.9. Over the same period, the workweek of a nonagricultural wage and salary employee fell by only 1.1 hours to 38.4. This average weekly hours gap narrowed faster since 1972, as the self-employed workweek fell 5.2 percent, while the wage and salary workweek decreased by only 0.8 percent. Following are hours worked per week by self-employed and wage and salary nonagricultural workers:

	1965	*1972*	*1979*
Self-employed	46.8	44.2	41.9
Wage and salary	39.5	38.7	38.4

In part, this reduced workweek for the self-employed may reflect the influx of women and younger workers, both working relatively fewer hours as a general rule.

Earnings. But as their workweek has drawn nearer to that of wage and salary employees, the earnings of the self-employed continued to lose ground in comparison with the earnings of other workers. For example, between 1972 and 1978, the median annual earnings of both male self-employed workers and private wage and salary workers rose by about 50 percent to $10,240 and $12,016, respectively. Self-employed women on the other hand, actually lost ground as their earnings grew at a rate less than half that of other women employed in the private sector; in 1978, they earned $1,878 compared with $5,047 for their wage and salary counterparts. Meanwhile, mean earnings for self-employed men stayed well above that for wage and salary men, indicating that self-employed earnings are substantially skewed at the upper end of the earnings distribution. Apparently a number of self-employed really "strike it rich," while the majority continue to earn less than the average wage and salary worker.

Reflecting the differential impact of the recession, the earnings gap between self-employed and wage and salary workers grew during 1974–75. The self-employed do not experience the high unemployment rates of wage and salary workers, but their earnings are tied more closely to the success of their business. Rather than give up their businesses and join the ranks of the unemployed, the self-employed are more likely to continue working during a recession but take home less income.[5]

In general, self-employed men and women have more income flexibility than wage and salary workers. By adjusting their inventories, for example, they can use their business as a sort of personal savings account, by selling off or building up stock. Also, earnings of the self-employed tend to be understated because they exclude: the income implicit to the farmer who feeds his family with his own crops, the store owner who consumes his own stock, the businessman who saves money and time by working at home or using the business car for personal travel, and other nonmonetary income.

Incorporated businesses

Because of a change in the Current Population Survey in 1967, it became possible to identify those workers who had reported themselves as self-employed but had incorporated their businesses. These individuals were reclassified as wage and salary workers because a corporation pays all of its employees a salary, including the owner. The resultant number of self-employed persons was down by 850,000 in January 1967. Since then, the "incorporated self-employed" have been officially tallied with the wage and salary workers; for the purpose of this article, however, separate counts for March 1976 and 1979 were made and analyzed. (Another group which cannot be separated and studied are those incorporated self-employed who report themselves initially as wage and salary employees. There is no way to determine how large this group might be or to know whether it has grown larger or smaller over time.)

From March 1976 to 1979, the number of persons who classified themselves as self-employed but who were incorporated rose from 1.5 million to 2.1 million, an increase of around 40 percent. This jump was about four times the comparable increase for the remaining wage and salary workers or the officially self-employed workers.

The move toward incorporation is a function of many complex factors. A worker will usually incorporate his business for traditional benefits of the corporate structure, including limited liability, tax considerations, and the increased opportunity to raise capital through the sale of stocks and bonds.[6] But regardless of the underlying reasons, the overall increase in self-employment has been even greater than indicated by the basic statistics. And, for the purposes of labor force analysis, these workers are akin to the self-employed.

Demography. Even more so than most self-employed workers, the owners of incorporated businesses are likely to be older than the average worker. As the following tabulation shows, in March 1979, more than half of the incorporated self-employed were 45 years or older, compared with less than a third of all workers:

	16–24 years	*25–44 years*	*45 years or older*
Incorporated self-employed	2.0	44.9	53.2
All workers	21.9	45.8	32.2

These individuals are also more likely to be men: whereas 75 percent of the officially self-employed were men in March 1979, 84 percent of the incorporated self-employed were men. This figure is down from 90 percent in March 1976 but, nevertheless, indicates the degree to which men dominate the ranks of the incorporated self-employed. Therefore, in the areas of age and sex, the incorporated self-employed exhibit tendencies which differ from overall worker norms in the same way that other self-employed workers do—only more so.

Industrial and occupational employment. With respect to type of industry, these workers fall somewhere between their unincorporated counterparts and private wage and salary workers. Their employment distribution for March 1979 shows that they are more likely to be in the goods-producing industries than other self-employed workers. A low percentage in the miscellaneous services sector more than offsets a high percentage in the wholesale trade sector, and reduces the proportion in service-producing industries. Therefore, their employment distribution comes much closer to mirroring wage and salary patterns than does the distribution of all other self-employed workers.

But with regard to occupational employment, these incorporated entrepreneurs resemble no other class of worker. In March 1979, more than 80 percent were white-collar workers, compared with 50 percent of the other self-employed and 45 percent of private wage and salary employees. More than 50 percent were managers and administrators by occupation, which accounted for the sizable differentials between them and other workers. Given the nature of the corporation, this high percentage of managers and administrators is expected. By the time a single business is large enough to benefit from incorporation, the proprietors are usually devoting a great deal of their attention to managing it. For instance, these individuals might be spending most of their time running a construction firm rather than doing carpentry work, or managing a drugstore rather than performing pharmaceutical tasks. Although they account for only 2.3 percent of all workers, they represent almost 12 percent of all private managers and administrators; that proportion rises to 30 percent when the unincorporated self-employed managers and administrators are included.

Earnings. With regard to earnings, the incorporated self-employed are unique. Their median earnings of $20,187 for March 1979 was more than double that for either private wage and salary or other self-employed workers. This is linked to the corporate tax shelter—it is advantageous only for self-employed persons in the highest income brackets to incorporate and thus their total income—salary and dividends—was much higher.[7] These earnings figures also help to explain the occupational mix of this group of workers, which is skewed towards the typically high earning, white-collar occupations such as doctors, lawyers, and managers. In turn, the earnings and occupational characteristics help explain the age and sex profile of these jobholders.

As noted, incorporation is a largely technical distinction; instead of working for themselves, these people work for their corporation. Therefore, their numbers, and especially their recent growth, must be considered when discussing the status of the self-employed. Their high earnings moderate the earnings gap between wage and salary earners and self-employed workers. This more inclusive view of self-employment might help to explain its recent strength.

Conclusion

Overall, the self-employed exhibited strong labor market growth during 1972–79. Not only have their numbers experienced sustained growth for the first time since World War II, but they are developing cyclical, industrial, and occupational patterns, as well as sex, age, and workweek characteristics that are much more similar to the rest of the work force. Only their racial and earnings distribution continue to diverge from those of wage and salary workers. But it is interesting to note that the two major developments in self-employment have apparently occurred simultaneously; as the appeal of self-employment has intensified, the differences between self-employed workers and the remainder of jobholders have waned. □

——*FOOTNOTES*——

[1] The data in this article were derived from the Current Population Survey. This is a monthly survey of 65,000 households conducted by the Bureau of the Census for the Bureau of Labor Statistics.

[2] The tendency for the self-employed sector to react countercyclically was discussed by John E. Bregger, "Self-Employment in the United States, 1948–62," *Monthly Labor Review*, January 1963, pp. 37–43, and his observation was updated by Robert Ray, "A report on self-employed Americans in 1973," *Monthly Labor Review*, January 1975. Data from the most recent recession support the theory that self-employment is now reacting cyclically. From a high of 8,550,000 in February 1980, their number fell to 8,260,000 by May.

[3] The term "black" refers to all persons in the survey other than white. In addition to blacks, the group includes American Indians, Alaskan Natives, Asians, and Pacific Islanders.

[4] Joseph D. Phillips, *The Self-employed in the United States* (Urbana, Illinois, University of Illinois, 1962), p. 29.

[5] The unemployment rate for wage and salary workers was 8.5 percent in 1975 compared to only 2.0 percent for self-employed workers. For a discussion of this type of "concealed unemployment" see Phillips, *Self-employed*, p. 53–6, or Srully Blotnick "Maintaining Appearances," *Forbes*, May 26, 1980, pp. 152–53.

[6] Another advantage of the corporation is the increased allowance for pension fund tax shelters. Steven S. Anreder felt that "of the many desirable features of incorporation, the pension advantage is the most outstanding." For a general discussion of this topic, see Anreder, "Retirement Dollars for the Self-employed," (New York, The Dun & Bradstreet Business Library, 1972). The Keogh plan, which provides retirement deductions for the self-employed, was revised in 1974 to allow a yearly write-off of $7,500 or 15 percent of earned yearly income, whichever is less. However, the corporation can establish a more comprehensive pension program.

[7] For a comprehensive study of the often complicated tax status of self-employed workers, see *Tax Treatment of Employees and Self-employed persons by the Internal Revenue Service—Problems and Solutions: Report to the Joint Committee on Taxation, Congress of the United States by the Comptroller General of the United States* (Washington, U.S. General Accounting Office, 1977).

U.S. labor turnover: analysis of a new measure

New method of determining labor turnover, which includes fiirms from all sectors, shows much more hiring activity than is shown by the Bureau of Labor Statistics survey, which is derived mainly from manufacturing; however, the two series' separation rates are not as far apart

MALCOLM S. COHEN AND ARTHUR R. SCHWARTZ

Labor market analysts, employment counselors, and employment security administrators have long been handicapped by the lack of broad-based labor turnover data. Until recently, the only labor turnover data available have been those generated by the Bureau of Labor Statistics' Labor Turnover Survey, which provides monthly estimates of labor turnover for manufacturing and a few selected nonmanufacturing industries. Although useful as an economic indicator, the data show turnover primarily in only one sector of the economy—manufacturing.

Now, a new methodology obtains data from manufacturing and nonmanufacturing firms of all sizes without placing additional reporting requirements upon them.[1] This method generates, for the first time, information about the volume of accessions, new hires, and separations in both the manufacturing and nonmanufacturing sectors of the economy.

This article presents quarterly new-hire and separation rates derived from the new methodology. Surprisingly, these data suggest that the new-hire rate for nonagricultural firms in the second quarter of 1974 was 25 percent. On an annual basis, this would mean that the average firm hired almost as many workers as its average employment that year. The estimates then are contrasted with BLS and other turnover data, and no major unexplained discrepancies were found. However, it was not possible to obtain accurate estimates of nonsampling errors. For this reason, the estimates contained in this article should be viewed as preliminary.

How data are obtained

This study uses employee earnings information submitted by employers to the Social Security Administration. Until 1978, employers were required to submit quarterly earnings information for each individual employee to the Social Security Administration.[2] To derive turnover data, a special tabulation of a 1-percent sample of these records was prepared in cooperation with the research and data processing divisions of the New York State Employment Service. At the time of preparation, the most current data available were for 1974. From this tabulation, new-hire rates were derived for all 50 States and the District of Columbia for the second quarter of 1974. Separation rates were computed for the first quarter of 1974.

Because there is an income ceiling ($13,200 in 1974) for social security reporting, some employees may "dis-

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appear" from the payroll when in fact they are still working. Increasingly, in the latter quarters of the year, these workers may be inadvertently counted as separations and may be identified mistakenly as accessions in the following first quarter. Therefore, accession data were calculated for the second quarter and separation data, for the first quarter.

Turnover measures were computed by comparing the social security numbers of employees working for a given employer in a given quarter with the social security numbers reported by the same employer in prior quarters. Because these new measures cannot assign turnover to a particular month or distinguish as many types of turnover transactions as the BLS survey, their definitions differ from those used by BLS.[3] Following are terms used in deriving turnover rates for this article, along with those used by the BLS:[4]

Social Security data

Accession	—	The employee worked for an employer in a given quarter but did not work for that employer in the previous quarter.
Separation	—	The employee worked for an employer in a given quarter but did not work for that employer in the previous quarter.
New hires	—	The employee worked for an employer in a given quarter but did not work for that employer in any of the previous five quarters.

BLS data

Accession	—	The total number of additions to the employment roll in a particular month.
Separation	—	Terminations of employees in the calender month.
New hires	—	An addition to the employment roll resulting from (1) a person who has never worked in the establishment, or (2) a former employee who was not recalled by the employer.

An arbitrary cutoff of five quarters is used to separate a new hire from a recall. The longer the period used to define the new hire, the more costly the process of computing the series and the shorter the time series available. For example, if unemployment insurance wage data are available for 5 years and if a new hire is defined as "not working for that employer in any of the 20 previous quarters," no new hires could be derived until data from the 21st quarter became available. Then, only one quarter of new-hire data could be obtained. Using too few quarters will result in misclassification as new hires, persons who had worked for the same employer previously. Going back 5 quarters offers the advantage of eliminating as new hires seasonal employees who work for the same employer one season a year and persons who worked at all in the previous year.[5]

The employer account numbers in the data sources permit association of the turnover measures with employer characteristics such as geographic location, industry, and size-of-firm class. New-hire data may also be analyzed by number of quarters of resulting employment and quarterly earnings levels.

Uses of the data. Some of the uses contemplated for these data are: (1) new hire data may be a potential factor in allocation of Federal funds to the U.S. Employment Service; (2) the data can be used by job developers to determine the firms with the greatest potential for applicant hires. Seasonal hiring patterns and trends projected from these data can assist Employment Service and Comprehensive Employment and Training Act prime sponsor planning efforts; (3) the data may assist in evaluation of social programs. The Employment Service, for example, has been criticized for placing most of its applicants in jobs lasting less than 180 days. However, preliminary data from the Employment Service suggest that 60 to 70 percent of all new hires' job tenure is of relatively short duration, that is, less than 9 months;[6] (4) the data can provide information for the internal management of U.S. Department of Labor employment programs. It may assist in determining the location of Employment Service local offices, setting placement goals, measuring performance, and validating placement information; and (5) a number of hypotheses pertaining to theories such as segmentation of labor markets, the relationship between low wage levels and turnover, and turnover patterns over the business cycle can be tested with these data.

Turnover rates, by region and industry

Table 1 shows new-hire rates for the second quarter of 1974 by region for all major industry divisions, except agriculture.[7] The quarterly new-hire rate for the entire nonagricultural private sector (25.0 percent) is much higher than that for manufacturing (16.2 percent). Across the Nation, the highest nonagricultural quarterly new-hire rates were in construction, a highly volatile sector subject to large seasonal and cyclical changes in employment and, therefore, to excessive labor turnover. Retail trade and services also had high turnover rates, which may be attributed to the preponderance of small firms and to the relative large numbers of easy-entry, low-skill jobs in these industries.[8] The transportation and public utilities sector consistently showed the lowest new-hire rates.

The South, the Southwest, the Mountain States, and the Northwest (regions IV, VI, VIII and X) had the highest new-hire rates in the second quarter of 1974. The Midwest and New England (regions V and I), hardest hit by the Arab oil embargo and recession, had

Table 1. New-hire rates in selected industries by regions, second quarter 1974

[Rates per 100 employees]

Region[1]	Total nonagricultural	Mining	Construction	Manufacturing	Transportation, public utilities	Wholesale trade	Retail trade	Finance	Services
TOTAL	25.0	22.8	50.5	16.2	15.3	18.8	33.8	18.5	27.7
Region I	20.4	([2])	36.4	14.9	10.5	15.2	29.8	12.8	23.5
Region II	22.4	([2])	42.5	14.5	12.4	15.3	28.3	22.5	24.4
Region III	21.3	13.1	44.8	13.1	14.5	18.6	28.9	18.9	22.7
Region IV	28.7	24.4	55.2	19.3	15.2	21.9	38.1	20.1	31.5
Region V	20.8	14.6	45.0	12.8	12.2	16.2	31.5	15.3	25.0
Region VI	33.5	30.8	64.5	23.7	23.8	25.5	39.6	20.7	34.3
Region VII	25.7	([2])	52.7	17.6	16.6	20.1	34.0	16.1	27.5
Region VIII	34.1	([2])	63.0	24.0	18.3	25.2	39.4	21.7	35.7
Region IX	27.7	18.3	47.2	19.9	15.1	20.5	36.8	17.7	32.3
Region X	30.4	([2])	63.0	21.7	20.7	18.1	40.6	18.5	32.6

[1] The regions are: Region I—Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont; Region II—New Jersey, New York; Region III—Delaware, District of Columbia, Maryland, Pennsylvania, Virginia, West Virginia; Region IV—Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee; Region V—Illinois, Indiana, Michigan, Minnesota, Ohio, Wisconsin; Region VI—Arkansas, Louisiana, New Mexico, Oklahoma, Texas; Region VII—Iowa, Kansas, Missouri, Nebraska; Region VIII—Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming; Region IX—Arizona, California, Hawaii, Nevada; Region X—Alaska, Idaho, Oregon, Washington.

[2] Employment represented less than 50,000.

Source: Institute of Labor and Industrial Relations, University of Michigan, from 1-percent social security tabulation.

the lowest rates. The rapid growth of the population in the "sun belt" States (which include region VIII and IX) may also have contributed to the differences between their new-hire rates and those of the Midwest and East. Even manufacturing's new-hire rates were higher in the Western States because of the lighter nature of their industry and the development of Western energy reserves, which led to an expansion of the industry and, hence, more new hires.

Table 2 presents analogous first-quarter 1974 separation rates. Manufacturing rates were again below those for the entire nonagricultural private sector, but by a small margin. Construction, retail trade, and services continued to have the highest rates; transportation and public utilities, the lowest. Regional differences were less pronounced than for new hires. The South, Southwest and West (regions IV, VI and IX) had higher rates than the Midwest and New England (regions V and I).

Tables 3 and 4 present the industries with the highest and lowest new-hire and separation rates nationally. Many of the industries with very high new-hire rates also have high separation rates. The same pattern is repeated among industries with particularly low new-hire rates. Electric, gas, and sanitary services, for example, had the lowest separation rate. The low turnover industries tend to be in the manufacturing, transportation, and public utility sectors, while the high turnover industies are in services, retail trade, and construction.

Standard errors low

The reliability of these results can be assessed in two ways, sampling errors and nonsampling errors. Sampling errors are illustrated by computation of standard errors. Nonsampling errors are assessed by comparison of the results with other data.

The standard errors of the data in tables 1 and 2 are quite small. Among the regional totals, region VIII has the highest standard error, 0.39, which gives a coeffi-

Table 2. Separation rates in selected industries, by regions, first quarter 1974

[Rates per 100 employees]

Region[1]	Total nonagricultural	Mining	Construction	Manufacturing	Transportation, public utilities	Wholesale trade	Retail trade	Finance	Services
TOTAL	22.8	18.1	42.4	16.2	15.3	18.1	31.3	16.2	25.4
Region I	18.8	([2])	29.7	14.5	11.9	15.0	27.5	12.4	21.0
Region II	21.1	([2])	38.1	16.5	15.3	18.2	28.3	16.6	23.2
Region III	18.6	9.5	33.7	12.5	14.3	15.8	26.2	13.1	20.8
Region IV	27.3	18.2	53.2	20.0	18.4	22.9	36.0	19.7	28.7
Region V	18.9	9.7	33.4	13.4	12.2	14.8	28.4	14.3	22.8
Region VI	29.6	26.4	56.4	21.8	20.5	22.5	37.6	18.2	29.6
Region VII	21.3	([2])	32.6	18.0	15.5	15.1	28.8	15.2	23.8
Region VIII	26.1	([2])	37.7	18.8	14.5	20.4	32.8	19.8	26.5
Region IX	27.0	13.2	48.3	18.7	13.6	19.5	35.9	17.5	32.6
Region X	22.4	([2])	37.7	18.4	15.8	15.2	30.7	16.1	25.0

[1] The regions are: Region I—Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont; Region II—New Jersey, New York; Region III—Delaware, District of Columbia, Maryland, Pennsylvania, Virginia, West Virginia; Region IV—Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee; Region V—Illinois, Indiana, Michigan, Minnesota, Ohio, Wisconsin; Region VI—Arkansas, Louisiana, New Mexico, Oklahoma, Texas; Region VII—Iowa, Kansas, Missouri, Nebraska; Region VIII—Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming; Region IX—Arizona, California, Hawaii, Nevada; Region X—Alaska, Idaho, Oregon, Washington.

[2] Employment represented less than 50,000.

Source: Institute of Labor and Industrial Relations, University of Michigan, from 1-percent social security tabulation.

cient of variation (standard error adjusted for a rate per 100 employees divided by the turnover rate) of 1.1 percent. No major division in any region has a standard error greater than 5.0 and most are below 1.0. The largest coefficients of variation are in mining (the only regional cells with employment below 100,000), with only region V mining having a coefficient greater than 10 percent. (The standard errors for the State totals are also relatively low.)

The standard errors for the data in tables 3 and 4 are again generally low. For eating and drinking places, the standard error is 0.3, so one can be 95 percent certain the actual new-hire rate falls between 58.0 and 59.2. The coefficient of variation is 0.5 percent.

Three comparisons are made to assess nonsampling errors: BLS turnover data, wage records data from specific States, and job tenure data from the Current Population Survey. Because the BLS turnover data is the most widely used, a comparison of BLS and social security new-hire rates helped in the analysis of the new series. This study's new-hire rates for manufacturing are approximately 40 percent higher than BLS' published estimates for the second quarter of 1974. A number of factors contribute to this differential.

The first factor is the difference in the denominators of the turnover rates. This study's employment measure, a beginning-of-quarter count of social security wage items minus accessions, is a stock. The BLS survey denominator, payroll period employment, is a stock plus partial flow. Thus, the nature of this study's denominator leads to a small overstatement of rates relative to those of the BLS survey.

The second source of difference is the tendency of this hew methodology to register errors in input, such as keypunch errors, transposition or reporting errors, and recording of employers switching firm identification numbers as new hires.

The greatest source of the variance between the two series is the nature of the BLS survey sample. A voluntary sample directed at large establishments, it fails to provide an adequate reflection of small firms, whose turnover rates are considerably higher. BLS estimates that its sample contains only 1.8 percent of total employment in firms of nine employees or fewer, 7.5 percent of total employment in firms with fewer than 19 employees, but 72.5 percent of the total employment of firms with more than 1,000 employees.

Firm size is important as a determinant of the turnover rate. For example, for all firms in manufacturing, the social security new-hire rate was 5.4 percent a month (or 16.2 percent a quarter) in the second quarter of 1974. The rate for firms with more than 500 employees was 3.7 percent; for firms with more than 1,000 employees, 2.9 percent. Therefore, the BLS turnover rate of 3.8 percent appears to best reflect the employment changes of firms with more than 500 employees.

Because there is less variability in separation rates by size of firm, the social security and BLS separation rates for 1974 were much closer together, 5.4 percent and 4.4 percent, respectively. Thus, the structure of the BLS sample results in less downward bias in its separation data.

Estimates of new-hire rates were made from unemployment insurance wage records for three States in the second quarter of 1974. Following are these rates, along with those estimated from social security records:

	Unemployment insurance	*Social security*
California	31.0	27.6
Idaho	38.5	33.3
Pennsylvania	20.8	17.4

The rates estimated from unemployment insurance are slightly higher because they are based on four quarters of data rather than five. (In California, there were only 1 percent more new hires recorded when four quarters of data were used.[9]) The major reason for differences can be attributed to coverage: the social security administrative records include only persons earning

Table 3. New-hire rates in selected industries with high and low turnover rates, second quarter 1974

Industry	New-hire rate (per 100 employees)	Employment (in thousands)
Low turnover		
Communication	6.2	1,171
Electric, gas, and sanitary services	7.0	725
Transportation by air	8.0	313
Transportation equipment	10.0	1,883
Banking	10.0	1,176
Security and commodity brokers	10.2	151
Insurance	10.6	1,060
Primary metal industries	10.7	1,270
Chemicals and allied products	10.8	1,022
Petroleum refining and related industries	12.3	171
Educational services	12.3	877
Paper and allied products	12.6	639
Electrical machinery and equipment	13.1	1,873
Private households	13.4	593
Measuring instruments	13.5	525
Insurance agents, brokers, and service	13.7	297
Bituminous and coal and lignite mining	14.5	163
Credit agencies other than banks	14.5	401
Machinery, except electrical	14.8	2,156
High turnover		
Oil and gas extraction	33.0	241
Automotive dealers and service stations	33.2	1,477
Automotive repair, services, and garages	34.0	346
Water transportation	35.4	232
Real estate	37.8	743
Construction—special trade contractors	45.3	1,956
Business services	45.6	1,864
Motion pictures	45.8	184
Construction, not building construction	55.7	784
Hotels and other lodging places	55.9	726
Amusement and recreation services	56.5	488
Building construction—general contractors	57.1	996
Eating and drinking places	58.6	2,536

NOTE: Data are for industries with employment greater than 100,000.

SOURCE: Institute of Labor and Industrial Relations, University of Michigan, from 1 percent social security tabulation.

Table 4. Separation rates in selected industries with high and low turnover rates, first quarter 1974

Industry	Separation rate (per 100 employees)	Employment (in thousands)
Low turnover		
Electric, gas, and sanitary services	5.1	725
Communication	6.1	1,171
Transportation by air	7.8	313
Petroleum refining and related industries	7.9	171
Bituminous coal and lignite mining	8.7	163
Banking	9.0	1,176
Primary metals industry	9.8	1,270
Insurance	10.3	1,060
Chemicals and allied products	11.1	1,022
Paper and allied products	11.3	639
Transportation equipment	11.6	1,883
Measuring instruments	12.1	525
Educational services	12.7	877
Machinery except electrical	13.1	2,156
Electrical machinery and equipment	13.4	1,873
Credit agencies other than banks	14.4	401
High turnover		
General merchandise stores	30.3	1,966
Apparel and accessory stores	30.3	786
Real estate	32.1	743
Automotive repairs, services, and garages	36.0	346
Amusement and recreation services	37.9	488
Water transportation	38.0	232
Construction, not building construction	39.9	764
Construction—special trade contractors	40.1	1,956
Hotels and other lodging places	40.5	726
Eating and drinking places	44.7	2,538
Business services	46.1	1,864
Building construction	48.5	996
Motion pictures	54.8	184

NOTE: Data are for industries with employment greater than 100,000.

SOURCE: Institute of Labor and Industrial Relations, University of Michigan, from 1 percent social security tabulation.

at least $50 in a given quarter; the unemployment insurance wage records include all wage earners.

These comparisons are for transaction-based turnover systems. Another way to view turnover is to examine the median job tenure of the working population, or a person-based system. For example, in January 1978, the median job tenure was 3.6 years;[10] 28.2 percent of the working population had been at their current job 1 year or less. However, it is possible for an individual to account for many new hires. For example, if a person has several new jobs in a year, that person would be counted once as having his or her current job less than a year, in a person-based system, but each new job would be counted as a new hire in a transaction-based system.

Both systems can be useful in analyzing turnover. The transaction-based system measures the number of jobs that are new hires, while the person-based system measures an individual's time on a given job as well as the number of persons hired in a period.

THESE NEW MEASURES of labor turnover show more hiring activity than do BLS' manufacturing estimates. They also indicate that there is dramatic variation in new-hire rates across industries. Industries such as communications and public ultilities have new-hire rates of less than 8 percent per quarter, while industries such as building construction and eating and drinking places have rates exceeding 57 percent per quarter. As more data are obtained from wage records and time series estimates can be made, additional analysis of labor turnover patterns will be possible. ☐

FOOTNOTES

[1] This methodology has been developed under the auspices of the Employment Service Potential project of the United States Employment Service and cooperating State Employment Security Agencies.

[2] Beginning in 1978, employers have submitted annual reports.

[3] The BLS survey can register in-State, interestablishment transfers for multi-establishment firms, rehire and layoff of workers whose layoffs are of very short duration (less than one quarter), and the involuntary and voluntary components of separations—all turnover transactions which these new measures cannot distinguish.

[4] For a complete listing of the measures which may be generated with this new methodology, see Malcolm S. Cohen, *ESP: A New Source of Labor Market Information* (Ann Arbor, Institute of Labor and Industrial Relations, University of Michigan, Wayne State University, 1978); and Glenn Siebert, *Employment Service Potential: Indicators of Labor Market Activity* (Sacramento, Calif., Employment Development Department, 1977).

[5] The California Employment Development tests of its data indicated that the percentage of accessions classified as recalls increases only marginally if seven quarters are used to define a recall rather than four. See Siebert, *Employment Service*, pp. 48–49.

[6] See Cohen, *ESP*, p. 20, and Philip Hardiman and Marged Sugarman, *Employment Service Potential: The Dimensions of Labor Turnover* (Sacramento, Calif., Employment Development Department, 1979), p. 5.

[7] Agriculture is omitted because of problems in social security coverage of this sector.

[8] Firm size, along with industry and time period, has been suggested as a determinant of labor turnover. California's Employment Development tests demonstrated an inverse correlation between firm size and turnover rates, with small firms having higher rates than larger firms when industry is held constant. See Siebert, *Employment Service*, pp. 56–57.

[9] Siebert, *Employment Service*, pp. 48–49.

[10] "Average Job Tenure Declines," U.S. Bureau of Labor Statistics, *News*, Apr. 23, 1979.

The retirement decision: a question of opportunity?

Age discrimination laws now protect workers through age 70, but most choose to retire sooner; lack of acceptable job options keeps many out of the labor force who desire work

PHILIP L. RONES

The "graying of America" could have a more profound impact on our lives than any demographic phenomenon since the end of the great waves of immigration. Its influence will be felt in areas as diverse as politics and consumerism, health care and education, family structure and taxation. Researchers, policymakers, and planners interested in these and other fields have begun to study the potential impact of the aging population, to avoid a 21st century crisis when the "baby boom" generation reaches retirement age. The controversies concerning two key subjects, the future solvency of social security and pension funds, and the recent changes in Federal laws affecting mandatory retirement, have pushed labor force issues on aging into the forefront of debate.

Retirement trends are not easily identified as either positive or negative. Among some observers there is concern that older people in the job market frustrate career aspirations of younger workers or are too costly for employers. At the same time, however, there is concern about the long-term effects of too few older workers—that the number of retirees will drain the economy and place unfair burdens on the young. Because of the critical importance of the decision to retire, many organizations, both private and public, have begun to monitor closely the labor force characteristics of persons near, at, or beyond normal retirement age.

Three issues

This report attempts to clarify several retirement developments, focusing on three issues:

- The extent to which labor force participation rates, such as those available from the Current Population Survey (CPS), can be used to assess the impact of changes affecting the decision to retire;
- The anticipated impact on employment among the elderly, of the 1978 Amendments to the Age Discrimination in Employment Act (ADEA), which raised the allowable age for mandatory retirement, in most cases, from 65 to 70;
- The potential labor supply among current retirees, or to what extent does this group want to work?

From 1950 through the mid-1970's, labor force activity among older persons in the United States declined markedly. (See table 1.) Two recent events have led many observers to anticipate a reversal of this long-term trend: the passage of the 1978 ADEA Amendments, prohibiting forced retirement prior to age 70,[1] and the unusually high rate of inflation with its negative effect on the anticipated value of retirement income.

However, it is difficult to isolate the impact of these or other factors, because changes in labor force participation rates are the end result of complex interaction by various forces. Sometimes a single force dominates, leading to a clear trend. For example, the rapid growth of retirement income from private and public pensions and from disability benefits contributed to dramatic de-

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clines in the labor force activity of older men (age 65 and older) during the past 30 years.

For older women, during the same period, labor force participation rates moved little, remaining at about the same levels in the late 1970's as 30 years earlier. But it would be inaccurate to conclude that there were no powerful influences on the retirement decision of older women during this period. Rather, two strong forces were opposing each other: on one side, improving retirement income, by itself, would have lowered participation rates of older women; on the other, the rapid rise in participation among women in general, the dominant labor force trend since World War II, served to counter this income effect.

The labor force participation rate for older men has not changed markedly during 1976–79. Again, the lack of a clear trend belies the complexity of the forces influencing the retirement decision. Social security benefits have, by law, been tied to the Consumer Price Index and private pension coverage has provided income supplements to a growing number of retirees.[2] This, of course, allows more workers to retire. However, countering these income improvements have been the recent high rates of inflation and threats of recession (and, subsequently, its realization) which, undoubtedly led some older workers to postpone retirement. Although this description is an oversimplification, it does demonstrate that the impact of a single factor on the retirement decision can easily be hidden by countering factors.

ADEA—limited impact

Despite the intense debate for and against its passage, it is likely that the 1978 Amendments to the Age Discrimination in Employment Act will have little short-term impact on the retirement decision. This is because, even prior to its enactment, proportionately few workers were actually forced out of their jobs by mandatory retirement provisions. Many people retire before reaching mandatory retirement age, which typically has been age 65. The youngest retirees, those who leave the labor force before age 62, frequently do so for health reasons.[3] After age 62, the earliest age of social security retirement eligibility, the decision becomes more economic; the marked improvements in public and private retirement eligibility and benefits has permitted many workers to retire prior to age 65.

Even among persons who leave the work force at age 65, mandatory retirement is not always evidence of forced retirement. Because of the strong correlation between mandatory retirement provisions and private pension coverage, most employees reaching age 65 under mandatory retirement policies can draw full pensions and full social security as well. Thus, many workers would have retired willingly at age 65, regardless of company requirements.

Table 1. Labor force participation rates of older workers by sex, annual averages, selected years, 1950–79

Years	Men		Women	
	60 to 64 years	65 years and over	60 to 64 years	65 years and over
1950	...	45.8	...	9.7
1955	82.5	39.6	29.0	10.6
1960	81.1	33.1	31.4	10.8
1965	78.0	27.9	34.0	10.0
1970	75.0	26.8	36.1	9.7
1975	65.7	21.7	33.3	8.3
1976	63.7	20.3	33.1	8.2
1977	62.9	20.1	32.9	8.1
1978	62.0	20.5	33.1	8.4
1979	61.8	20.0	33.9	8.3

Studies using several data sources indicate that prior to the ADEA Amendments, only 5 to 10 percent of retired workers were forced to retire.[4] The sources are the 1968 and 1969 Survey of Newly Entitled Beneficiaries (SNEB, from the Social Security Administration), The Retirement History Study, the National Longitudinal Survey, and the 1974 Louis Harris Survey (conducted for the National Council on the Aging). One technique they used was to reduce the population age 65 and over, step-by-step. For example, using percentages of the total for men from the 1968 SNEB: start with those covered by mandatory retirement provisions, 54 percent; reduce to those who actually worked until mandatory retirement age, leaving 24 percent; reduce that to those who were unwilling to retire, leaving 14 percent; and reduce that to those who were able to work, leaving 10 percent; finally, reduce to those who did not find other jobs, leaving 7 percent.[5] The final figure is that of workers who were actually forced out of the labor force by mandatory retirement. This and similar estimates from the other surveys may overstate the recent effects of mandatory retirement; participation rates declined significantly since the time of the surveys. Thus, the true impact of the ADEA amendments would probably be felt by even fewer workers.

For some employees, the impact of the ADEA could actually be earlier labor force withdrawal. If a business thinks its interests are served by early retirement of its employees, how does it react to the law? One option would be to stiffen productivity requirements, leading to more firings. Before, if an employee's productivity had fallen at age 60, for example, because of declining physical skills or outdated job-related skills, the employer would only be faced with a few years of additional employment. The business might have been willing to retain the employee, and make adjustments to accomodate him. However, faced with a much longer period of potential employment, the firm might find the option of terminating the employee more attractive. Thus, ADEA might actually shorten the job tenure of some workers whose value to employers might be declining. Another option, one that might be used more frequently, would be to improve the economic incentives of retirement to induce voluntary labor force withdrawal. This process might include retirement bonuses or early retirement options, for example. It is possible that the ADEA amendments will expand the practice among some employers of inducing voluntary retirement with generous retirement packages.

In summary, the recent legislation, in the absence of other mitigating factors, would be expected to affect the retirement behavior of only a small proportion of older workers and retirees. However, with a continuation of high rates of inflation, the ADEA protection may be used increasingly by employees who are faced with deteriorating retirement income prospects.

Desire to work

Among the most baffling issues related to retirement is that of the potential labor supply among the elderly who are outside the labor force. To what extent do people who are beyond "normal" retirement age want to work? There are two radically divergent views:

First view. The decision to retire, at least for those in good health, is largely economic—a person who can afford to retire generally will. In this argument, for the current generation of retirees, work is seen primarily as bad rather than good. Justification for this assumption comes from an analysis of the education and work histories of present retirees. Workers age 65 and over who are out of the labor force have a median educational attainment of only 9 years, and only 15 percent have attended college.[6] As would be the case for any group with low levels of education, they have tended to work in jobs with comparatively little satisfaction and hence, little non-financial hold on them.[7] As the baby boom generation, which is better educated and in better jobs, reaches retirement age, individuals may be more likely to postpone retirement than today's older workers to whom continued employment at the same job, beyond the age of full pension, probably has little allure.

Evidence of this preference for retirement is available from the CPS.[8] Persons classified as not in the labor force (neither working nor seeking work) were asked whether they now want regular jobs either part or full time. If there were many involuntary retirees, a large "yes" response would be anticipated. However, only about 1 in 35 men (and an even smaller proportion of women) age 60 and over said they want work, only a third of whom cited job market factors as the reason for not seeking it.[9]

Second view. Many older retired persons want employment but are prevented from working by forced retirement, age discrimination, or inhibiting job structure (few part-time, part-year, or job modification opportunities). Those who want to work do so not only for economic reasons, but also for feelings of usefulness and satisfaction.

Supporters of this view cite several data sources, the most impressive being a 1979 survey conducted by Louis Harris and Associates for the consulting firm of Johnson and Higgins.[10] Nearly half of the retirees questioned said they would prefer to be working, and more than half would have preferred to keep working rather than retire.

Another possibility. A middle-ground explanation may evolve from these two vastly divergent views. Why do the 1979 Harris Survey results show that so many of the retired want to work? The best explanation may come from a question that was not asked. In the 1974 Louis Harris Survey, conducted for the National Council on Aging,[11] retirees age 65 and over were asked whether they would like to work; 31 percent said they would. But they were also asked "What's keeping you from working?" The responses showed that only 15 percent of the 31 percent, fewer than 5 percent of the retirees, cited the job market as their reason for not working. Most cited poor health, old age, or other interests. Thus, a far greater proportion of retirees indicated they wanted to work than could actually be considered able or available.

The 1979 Harris Survey did not ask the same "reason for not working" question. The nearly 20 percent difference in response to the "want to work" question between 1974 and 1979 has at least three possible explanations. First, the group of retirees was far younger in the later survey, having a median age of only 62 years. Although no median age is provided in the documentation to the 1974 study, the group of retirees was restricted to persons age 65 and older. One might expect the younger group, with a more recent labor force attachment, to be more likely to consider favorably the employment option. This may be particularly so if many of those in poor health indicated they want employment, as was clearly the case in the 1974 survey. The second explanation is that if the 1974 sample and survey were replicated exactly in 1979, inflation would probably have caused a higher degree of job interest in 1979. And third, as evidenced by the enactment of the ADEA and the 1975 Age Discrimination Act. The rights of older persons to equal access to jobs and to equal treatment in all Federal programs and activities, have been confirmed. Today's older workers may be less willing to "step aside" to provide younger persons a place in the labor force than were their predecessors.

Undoubtedly many more than 1 in 30 or 40 retirees (from the CPS results) would want to work under better job market conditions. Some people responding to the CPS that they do not want a job now may mean they are not interested in the types of jobs that are available to them. In the Harris survey, on the other hand, the "want a job" questions were asked in the context of a list of hypothetical work options probably not available to most respondents. When older workers no longer wish, or are unable to work full time, few options short of total retirement are available. Part-time "phased retirement" is rarely offered, and those jobs that are open to retirees tend to be of the low-skill, low-pay variety. As Harold Sheppard and Sarah Rix point out,[12] older people may choose retirement not because they literally want to retire completely, but because they do not wish to remain in the same dissatisfying jobs. The difficulties that they have in obtaining more satisfying kinds of employment may mean that total retirement is their best option.

It may be true that few workers have actually been forced to retire, particularly by mandatory retirement policies. However, institutional forces, including age discrimination and a lack of job opportunities which match the needs of the elderly, have probably contributed to the exit from the job market of many who otherwise would wish to remain. The many methods used to obtain labor market data from older people tend not to reveal the true causes of nonparticipation.

The U.S. Department of Labor, mandated by Congress to report the effects of the 1978 ADEA Amendments, has contracted to obtain additional longitudinal data from the Retirement History Study on the effects of mandatory retirement on older workers. The Department has also contracted a national survey of employees and employers in order to study the response of both groups to changes in the minimum mandatory retirement age. These and other research efforts, should dispel some of the confusion surrounding the retirement decision. ☐

—— *FOOTNOTES* ——

[1] For a detailed description of the 1978 Amendments to the Age Discrimination in Employment Act, see Julia E. Stone, "Age Discrimination in Employment Act: a review of recent changes," *Monthly Labor Review*, March 1980, pp. 32–36.

[2] The recent high rates of inflation have brought into question the private pension systems' ability to remain a viable and significant source of retirement income. See "Inflation is Wrecking the Private Pension System," *Business Week*, May 12, 1980, pp. 92–99. Even without these high rates of inflation, it is argued that the importance of private pensions has been declining and that this trend will probably continue. See Alicia H. Munnell, "Are Private Pensions Doomed?," *New England Economic Review*, March–April 1978, pp. 5–20.

[3] Eric R. Kingson, "Men Who Leave Work Before Age 62: A Study of Advantaged and Disadvantaged Very Early Labor Force Withdrawal" (Brandeis University, Heller School for Advanced Studies in Social Welfare, Ph.D. Dissertation, 1979).

[4] SNEB data in Virginia Reno, "Incidence of Compulsory Retirement Policies," *Reaching Retirement Age* (Social Security Administration, 1976) and James H. Schultz, "The economics of mandatory retirement," *Industrial Gerontology* (now *Aging and Work*), Winter 1974. For analysis of the Retirement History Study see Robert L. Clark, David L. Barker, R. Steven Cantrell, *Outlawing Age Discrimination: Economic and Institutional Responses to the Elimination of Mandatory Retirement* (unpublished report for Administration on Aging, contract #90–A–1738, 1979). The 1974 Harris Survey results are published in Louis Harris and Associates, *The Myth and Reality of Aging in America* (National Council on the Aging, Inc., Washington, D.C., July 1976). NLS results are in *The Pre-Retirement Years: A Longitudinal Study of the Labor Market Experience of Men* (U.S. Department of Labor, Manpower Administration, Manpower Research Monograph no. 15) pp. 153–94.

[5] James H. Schultz, "The economics of mandatory retirement," *Industrial Gerontology* (now *Aging and Work*), Winter 1974. While the labor force effect of mandatory retirement has been small, economic dislocations primarily due to decreased hours and wages, are also experienced by those who are forced out of their jobs and subsequently find other employment (and, thus avoided "not in labor force" status). This group represented about 3 percent of the sample in the survey results shown.

[6] Scott Campbell Brown, *Educational attainment of workers—some trends from 1973 to 1978*, Special Labor Force Report 225, (Bureau of Labor Statistics).

[7] For a discussion of job satisfaction and its relation to retirement preference see Harold L. Sheppard and Neal Q. Herrick, *Where Have All the Robots Gone? Worker Dissatisfaction in the 70's* (New York, Free Press, 1972).

[8] Philip L. Rones, "Older men—the choice between work and retirement," *Monthly Labor Review*, November 1978, pp. 3–10.

[9] *Employment and Earnings*, (Bureau of Labor Statistics, January 1980) p. 188. Data are 1979 annual averages.

[10] Louis Harris and Associates, *1979 Study of American Attitudes Toward Pensions and Retirement* (Johnson and Higgins, New York) Summary Report, p. IX.

[11] Louis Harris and Associates, *The Myth and Reality of Aging in America* (National Council on the Aging, Inc., Washington, D.C., July 1976).

[12] Harold Sheppard and Sarah Rix, "*The Graying of Working America*," (The Free Press, New York, 1977) p. 6.

Productivity gains in the drugstore industry, 1958–79

Spurred by the expansion of chains and large independents benefiting from economies of scale, the rate of growth in output per hour exceeded that of the private sector until 1973, but has lagged during the last 7 years

BRIAN L. FRIEDMAN

Output per hour of all persons in the drug and proprietary store industry[1] increased at an average annual rate of 4.6 percent from 1958 through 1979,[2] as compared with an average of 2.0 percent for the nonfarm business sector of the economy during the same period. This gain in productivity over the 22-year period reflects an average annual increase of 4.7 percent in output with virtually no average change in hours of all persons in the industry. For the most recent 7-year period, 1973–79, productivity increased at a slower annual rate—averaging 1.0 percent. (See table 1.)

The strong growth in output per hour of all persons has been influenced by a trend toward fewer and larger stores. Large chainstore organizations[3] and groups of stores known as cooperatives and voluntaries[4] have grown to dominate industry sales, while the number of unaffiliated, independently owned, smaller drugstores have declined significantly. Chains have increased the number of stores in high-volume shopping centers and have expanded the number and type of products offered. In contrast to independents, chains, cooperatives, and voluntaries could more easily take advantage of technological advances and use better management and marketing techniques.

In 1958, there were 56,232 drug and proprietary stores with employment of more than 405,000 persons. In 1979, this number fell to an estimated 46,000 stores employing more than 524,000 persons; sales in terms of constant dollars increased more than 140 percent from 1958–79. As the population grew, the average number of people served per store rose from 3,097 in 1958 to 4,785 in 1979.

Productivity rises

Output per hour of all persons engaged in the operation of drugstores grew more than 125 percent during 1958–79. While sales per store increased dramatically, employee-hours per store grew at a much lower rate, leading to the large productivity gains.

Although the average number of paid employees per store rose from 6.2 in 1958 to 10.7 in 1979, an increase of 73 percent, employee-hours per store rose only 44 percent because of increased use of part-time workers. These increases in employees and hours per store, how-

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ever, are far outweighed by the rise in real sales per store, which nearly doubled.

Productivity growth can be divided into three distinct subperiods, 1958–65, 1965–73, and 1973–79. In the first period, productivity grew at a rate of 3.8 percent per year. This period coincides with the growth in the number of large, more efficient drugstores, as well as a decline in the number of small, marginal stores. Output grew 4.6 percent per year from 1958–65. Hours of all persons, however, only increased at the rate of 0.9 percent annually during the same period, resulting in moderate productivity gains.

Productivity increased more sharply in the second period, 1965–73, gaining at an average annual rate of 6.2 percent per year. The growth in number of large stores and decline of small, marginal stores accelerated during this time. This period was also marked by the widespread use of technological innovations which aid operations in pharmacy departments, streamline inventory procedures, and increase efficiency in warehousing operations. Output grew at a rate of 5.5 percent per year, while hours of all persons declined at a rate of 0.6 percent, resulting in large productivity gains.

. . . then slows

In the third period, 1973–79, productivity slowed to an average annual rate of only 1.0 percent mostly because of a general slackening in the economy, which was marked by a decline in the growth of spending (in terms of real dollars) in many retail industries. During this period, output growth slowed to a rate of 1.4 percent per year. In the recession year of 1975, both output and productivity declined. Output fell 0.1 percent, while hours of all persons had a relatively large increase of 3.1 percent, resulting in a 1975 productivity drop of 3.1 percent. The industry had productivity increases in 1976 and 1977, but productivity declined 2.7 percent in 1978. A increase of 0.8 percent was registered in 1979.

Table 1. Productivity and related indexes for the drugstore industry, 1958–79

[1967=100]

Year	Output per hour of all persons	Output per person	Output	Hours of all persons	All persons
1958	68.0	73.7	63.1	92.8	85.6
1959	70.8	76.9	67.5	95.4	87.8
1960	73.1	78.7	71.1	97.2	90.3
1961	75.7	81.3	73.3	96.8	90.2
1962	77.3	84.7	77.5	100.2	91.5
1963	81.0	87.3	79.9	98.7	91.5
1964	84.0	89.0	83.0	98.8	93.3
1965	89.3	92.9	88.6	99.2	95.4
1966	93.0	95.3	94.2	101.3	98.8
1967	100.0	100.0	100.0	100.0	100.0
1968	110.2	106.3	107.7	97.7	101.3
1969	114.4	108.8	112.1	98.0	103.0
1970	124.4	116.5	120.3	96.7	103.3
1971	126.9	119.1	121.8	96.0	102.3
1972	131.7	122.6	127.6	96.9	104.1
1973	146.2	133.2	139.5	95.4	104.7
1974	149.4	136.7	143.9	96.3	105.3
1975	144.8	136.3	143.8	99.3	105.5
1976	150.6	138.4	147.7	98.1	106.7
1977	156.7	139.0	150.1	95.8	108.0
1978	152.4	136.8	149.8	98.3	109.5
1979	153.6	137.9	152.7	99.4	110.7
	Average annual rates of change (in percent)				
1958–79 . .	4.6	3.4	4.7	0.0	1.2
1973–79 . .	1.0	0.4	1.4	0.5	1.0

Developments in the prescription department may have added to the negative pressures on output and productivity during 1973–79. Restrictions on refills for controlled substances such as prescription pain relievers and tranquilizers became more stringent. Third-party payments for prescriptions grew strongly during this period; and medicaid and many private insurance plans required that long-term prescriptions be filled in larger orders. These influences led to a decline in the number of refill prescriptions.[5] The paperwork involved in third-party payments and recordkeeping for controlled substances also added to unit labor requirements in the prescription department.

Drugstore industry output was further slowed in the 1973–79 period by increased competition from other retail industries. Food stores and variety merchandise stores increased the number of prescription drug, over-the-counter-drug, and health and beauty aid departments in their stores, which took sales away from the drugstore industry.[6]

During 1973–79, the number of drugstores declined slightly. However, chains continued to build new, larger stores, while many small chainstores and small independents went out of business. These new stores accounted for above average growth in hours of all persons during this period which, coupled with a sluggish output growth, brought productivity levels down. Hours of all persons increased 2.6 percent in 1978 and 1.1 percent in 1979, reaching its highest level since 1967.

Employment increases moderately

The industry's employment grew at an average annual rate of 1.2 percent during 1958–79. All-person-hours increased at an average annual rate of 0.9 percent during 1958–66, but actually declined slightly during 1966–79. This occurred because of a generally shorter workweek, which stemmed from the use of more part-time workers. Overall, all-person-hours showed no growth in 1958–79. There was a sharp drop in the average weekly hours of nonsupervisory workers, declining from 37.7 in 1958 to 30.9 in 1979.

Nonsupervisory workers make up more than 80 percent of all persons working in the industry. They include cashiers, floor assistants, fountain workers, and stock workers. There has been a substantial increase in the number of part-time workers, usually unskilled workers of school age—who work during the evenings and weekends.

Proprietors and partners accounted for 4.9 percent of all persons working in drugstores in 1979. Their proportion of employment declined from more than 13 percent in 1958 because the majority of stores going out of business were privately owned, smaller stores. Most self-employed workers are pharmacists who average more than 50 hours of work per week in fulfilling both their professional and business duties.

As corporate stores grew in importance, managers accounted for a higher percentage of employment. Some proprietors and partners also hired managers, especially those owning more than one store. The number of supervisory workers almost tripled during 1958–79.

Industry structure changes

The 1958–79 period showed marked change in industry structure. The number of chainstores as a proportion of all drugstores remained fairly constant from 1930 to 1960.[7] In 1958, independents accounted for 78.5 percent of industry sales, and chainstores accounted for only 21.5 percent. During 1958–66, chains were opening from 700 to 1,000 new stores per year, primarily in shopping centers, and even more opened in the late 1960's and early 1970's.[8] By 1967, the independents' share of industry sales had declined to 66.9 percent. By 1977, the growing domination of chains was quite clear as they rang up more than 53 percent of all drug and proprietary store sales, while accounting for only 23 percent of all stores.

There is evidence that the increase in the number of larger stores, including large independents, has spurred productivity growth. In 1967, drugstores having sales of more than $500,000 sold $32,600 worth of goods and services per paid employee, compared with only $24,500 for stores doing less than $500,000.

Small independents frequently cannot compete on price and variety of merchandise because their low sales and small space limit volume discounts. Some independents are able to overcome price problems by joining or forming a wholesale group (voluntary or cooperative) which can obtain volume discounts for its members. Drugstores joining such organizations have access to marketing conditions and technology similar to chains.[9] In 1973, the unaffiliated independent drugstore had $175,000 in sales on the average, whereas, an affiliated store had $250,000. During the early 1970's, cooperatives and voluntaries grew rapidly. In 1972, there were 7,000 drugstores affiliated with this type of organization, nearly 14,000 by 1979.[10]

Technology and store operations improve

A number of technological innovations have been introduced into drugstore operations and became widespread by the late 1960's. Tape recorders, calculators, and code-dating machines are being used to improve store inventory procedures.[11] There has also been increased use of electronic price-marking machines and electronic prescription-filling and logging machines.[12] Electronic cash registers now tabulate and keep accurate sales and inventory records.[13]

Computers have played a growing role in nearly all of the industry's operations. Their impact upon productivity has been uncertain since their use became extensive in the late 1970's, a period of slow productivity growth. Computers are used for bookkeeping operations, data processing, and inventory control. In addition, they are being used to forecast seasonal needs in both stores and warehouses.[14] Computers have also been installed in prescription departments to handle the increased paperwork involved in third-party payment plans.[15]

Central purchasing and warehousing went hand in hand with the growth of chains, cooperatives, and voluntaries in the industry. Warehouses serving large numbers of retail outlets can afford advanced technological aids. Improved conveyor systems, elevators, mechanized waste disposal, and high capacity incinerators have been installed, and have cut labor requirements in warehousing operations.[16] Labor requirements have also been reduced in warehouse operations by the introduction of computers, used for documentation of warehouse to store transfers and inventory control.[17]

Drugstores, especially chains and affiliated stores, emphasize marketing techniques designed to increase shopper traffic. Advertising is one of the more important marketing devices, particularly in newspapers. Displays in the stores are regularly revised and improved to attract more impulse buying. Increased advertising, along with trends toward expanding product mix, have probably increased sales per customer stop.

There has been a trend toward the use of clerical employees in the pharmacy department.[18] This allows pharmacists to concentrate on their professional duties and may lead to output per hour gains. In 1961, the average chainstore filled 40 prescriptions a day, and by 1978, 135.[19]

Future trends

In the short run, future changes in drugstore industry productivity are uncertain and depend greatly upon changes in consumer purchasing power. The current productivity slowdown may continue because of the general falloff in economic activity in early 1980. However, in the long run, efforts to increase productivity will continue, with stores belonging to chains, cooperatives, and voluntaries continuing to grow to the detriment of small independent stores. Large independents will also probably continue to grow.[20] Efforts will be made to develop the optimum-size store, in terms of physical volume and product mix for the location.

Chainstores are expanding the types of products offered for sale and are placing more emphasis on productivity.[21] New product lines, such as in optical centers, are being added. There also appears to be a trend toward adding prescription departments to some proprietary stores.[22]

The use of computers and other electronic equipment within the industry is expected to continue to grow. Such equipment has proven to be highly useful in the pharmacy department and for inventory purposes. Electronic cash registers, which keep inventory records, have already made strong inroads into the industry and will continue to grow in use. However, computerized automatic checkout units, which have recently been introduced in the food store industry, are not expected to be used widely in drugstores in the near future. Drugstores do not have enough inventory turnover to justify the capital costs of this equipment. □

APPENDIX: Measurement techniques and limitations

Indexes of output per hour of all persons measure the change in the relationship between the output of an industry and the hours expended on that output. An index of output per hour is derived by dividing an index of output by an index of industry hours.

The preferred output index for retail trade industries would be obtained from data on quantities of the various goods sold by the industry, each weighted (that is, multiplied) by the employee-hours required to sell one unit of each good in some specified base period. This concept also embodies the services associated with moving the goods from the retail establishment to the consumer. Thus, those goods which require more retail labor are given more importance in the output index.

Data on the quantities of goods sold usually are not available for trade industries, including drugstores. Therefore, real output was estimated by removing the effects of changing price levels from the current dollar value of sales. Because an adjustment for changing price levels usually lowers the dollar value, such a series is usually referred to as a deflated value measure. Output measures based on deflated value have two major characteristics. First, shifts in sales can occur among products of different value which have the same unit labor requirements. (For example, if customers begin to purchase more store brands instead of "nationally advertised" brands, dollar sales will decrease if the store brand is priced lower.) Such a phenomenon can occur in times of economic recession, and the reverse may be true in times of economic prosperity. Thus, a change can occur in the output per hour index even if the labor required to sell the merchandise does not change.

FOOTNOTES

[1] The drugstore and proprietary store industry consists of establishments which are included on the basis of their usual trade designation rather than the more strict interpretation of commodities handled or services offered. It is designated industry 5912 in the 1972 Standard Industrial Classification Manual. Proprietary stores are like small drugstores without a prescription department and sometimes are called health and beauty aid stores.

[2] All average rates of change are based on the linear least squares trends of the logarithms of the index numbers.

[3] A chain comprises four retail stores or more and an independent, three stores or fewer. Most chains are owned by corporations and most independents by partnerships or proprietorships.

[4] Cooperatives are groups of independent retailers combined to gain wholesale buying power similar to chains. Voluntaries are groups of independent retailers organized by a wholesaler, who not only offers bulk-rate buying but also helps organize advertising and promotional needs.

[5] Based on statistics from *American Druggist.*

[6] Conversation with Pat Donohue, National Association of Chain Drug Stores.

[7] Glenn Sonnedecker, Ph.D. *History of Pharmacy,* Rev. ed. (Philadelphia, Pa., J.B. Lippincott Co., 1963), ch. 16.

[8] "Introduction to Annual Report," *Chain Store Age—Drug Edition,* April 1967, p. 84. "1,125 opened, 890 more remodeled," *Chain Store Age—Drug Edition,* April 1970, p. 116. "Chains rev up growth pace; unveil 2,000 new units," *Chain Store Age—Drug Edition,* April 1978, p. 90.

[9] "Affiliated Retailers' Ranks Swell," *Chain Store Age—Drug Edition,* May 1977, p. 70.

[10] "Coops/Voluntaries: A Viable Market Factor," *Chain Store Age—Drug Edition,* May 1976, p. 111. "Affiliated Stores Push On," *Drug Store News,* Apr. 28, 1980, p. 47.

[11] "Chains Automate Inventory Control," *Chain Store Age—Drug Edition,* April 1965, p. 88.

[12] "Cut R_x Keeping Chore by 67 Percent," *American Druggist,* July 31, 1967.

[13] "Inventory Control at the Store Level," *Chain Store Age—Drug Edition,* December 1966, p. 42.

[14] "How Computers Control R_x Department Productivity," *Chain Store Age—Drug Edition,* October 1968, p. 52.

[15] "Saving Druggists in a Paper Storm," *Business Week,* June 2, 1980, p. 84.

[16] "Peoples' Mechanized Warehouse Speeds Flow of Merchandise," *Chain Store Age—Drug Edition,* October 1958, p. 54.

[17] "A Small Chain Makes Computers Pay," *Chain Store Age—Drug Edition,* November 1965, p. 50.

[18] "How Chains Step-Up R_x Department Productivity," *Chain Store Age—Drug Edition,* October 1963, p. 93 and "Labor Costs or Sales Costs," September 1973, p. 182.

[19] "Chains Soar 21.9 Percent in R_x Sales," *Chain Store Age—Drug Edition,* April 1967, p. 95. *Drug Store News,* May 28, 1979.

[20] "Who's the competition," *Chain Store Age—Drug Edition,* May 1978, p. 102.

[21] "1977: Drug Chains Emerge as Big Business," *Chain Store Age—Drug Edition,* April 1978, p. 82.

[22] "Chains expand, revamp to widen merchandise mix," *Chain Store Age—Drug Edition,* April 1978, p. 97.

Second, the sales level, both in current and constant dollars, reflects differences in unit values for identical products sold in different types of establishments. For example, the unit values associated with a product sold in a self-service "discount" store may be lower than the unit value associated with the same product sold in a store that provides many sales clerks and delivery service. The output measure, therefore, reflects changes in the level of service provided to customers, insofar as differences in unit values reflect the difference in service among the various types of establishments.

In addition to the deflated value technique, weights relating to labor importance (that is, employee-hours) were used to combine segments of the output index into a total output measure. These procedures result in a final output index that is closer, conceptually, to the preferred output measure.

The index of hours for the drugstore industry is for all persons—that is, hours for paid employees, partners and proprietors, and unpaid family workers. As in all of the output per hour measures published by Bureau of Labor Statistics, hours and employment in drugstores are each considered homogeneous and additive. Adequate information does not exist to weight the various types of labor separately.

The indexes of output per hour relate total output to one input—labor time. The indexes do not measure the specific contribution of labor, capital, or any other single factor. Rather, they reflect the joint effect of many interrelated influences such as changes in technology, capital investment, capacity utilization, store design and layout, skill and effort of the work force, managerial ability, and labor-management relations.

No explicit adjustments were made to the measure for drugstores to take into account increases or decreases in some services provided to the consumer. With the growth of large stores, there has been a continuation of the trend of self-service operations. This has shifted some of the hours in retailing from employee to consumer. However, data are not available to measure the impact of this change. Adjustments for changes in product quality are made to the extent that changes in quality have been accounted for in the price indexes used to deflate the current dollar value of sales.

The basic sources for the output series for this measure consist of the total sales data and sales by merchandise line data reported by the Department of Commerce. The deflators were developed using various Consumer Price Indexes published by BLS. The employee-hour weights were developed from data reported by BLS and the Department of Commerce.

The basic sources for the all-persons-hour series consist of data on employment and hours published by BLS, supplemented by data reported by the Internal Revenue Service and special tabulations compiled for BLS by the Bureau of the Census.

The profits regulation confers

Such economists as George Stigler have offered a theory to explain why, as a rule, "regulation is acquired by the industry and is designed and operated primarily for its benefit." All firms seek to maximize profits, and profits can be increased if competition is reduced or governmental subsidies are obtained. Though firms will not refuse subsidies if they are offered, subsidies have the disadvantage of increasing profitability without necessarily restricting entry into the industry. The prospect of these benefits will encourage new companies to form, increase competition, and thus reduce each firm's share of subsidies.

Far better are government regulations that restrict entry by requiring a firm or a member of an occupation to be licensed. By creating such political barriers to entry, the per-firm or per-person profits of truck operators, airline companies, dry cleaners, beauticians, doctors, lawyers, broadcasters, and other protected enterprises are increased . . .

—JAMES Q. WILSON, ED.
The Politics of Regulation
(New York, Basic Books, Inc., 1980), p. 358.

Child care and family benefits: policies of six industrialized countries

Increasing numbers of mothers with very young children
continue to enter the labor force—
resulting in the emergence of a new family lifestyle
in the U.S. and five European countries;
expanded child-care services, cash benefits, and extended leave
are some of the options now available to working parents

SHEILA B. KAMERMAN

The pattern of segregated roles of men and women in work and family life has changed dramatically over the past two decades throughout the industrialized world as many more women, especially married mothers, have entered the labor market.[1] At present, more than half the children under 18 years of age in the United States have mothers in the labor force. Our country's most prevalent family type is now the two-parent, two-wage-earner family. If we add to this group the many single-parent families in which the sole parent (overwhelmingly likely to be a woman) works, then the "typical" American family in the 1980's is one with working parents.

"Working families" have previously established themselves as the norm in many European countries and are becoming prevalent in others. (See table 1.) Governments and employers are now beginning to react to this change by initiating activities in response. This article discusses the nature of the resultant lifestyle and analyzes the different types of benefits that the United States and several European countries have provided to help working parents to cope.

Clearly, work and family life can no longer be viewed as separate domains. This is especially true because of the high U.S. labor force participation rates of young women of childbearing age, 25 to 34 years. In 1978, the highest rate ever for this age group were in the labor force—62 percent—which was nearly the highest rate for women of any age. Included among these were close to 40 percent of those mothers with children under age 3 (41 percent in 1979). (See table 2.) Therefore, women are now working during the peak of their childbearing years, whereas in the past, it was common to stay at home once one married or had children.

Society places demands on the individual

As these changes occur, two issues emerge of central importance:

- How are adults, regardless of gender, likely to manage increasingly demanding daily routines involving home as well as job responsibilities?
- How will society respond to individual family lifestyles in which most adults are likely to be in the labor force during the same years that they are at the peak of their childbearing and child rearing responsibilities?

Given an earlier history of growth in female labor force participation rates, we studied several European countries to explore alternative public policy responses to the growing proportion of working families. We chose five countries with similar levels of industrializa-

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tion and the following characteristics: (1) about half of the adult women or more are in the labor force, (2) where women with school-age children are expected to be in the work force and a similar pattern is emerging for those with preschool-age children, and (3) where recent government attention has focused on the problems of working parents with children under age 3—when the demands of child-care responsibilities are the heaviest and the tension between work and family life is most severe, and most visible.[2] The countries were selected initially because each suggested a distinctive policy stance:

- supporting mothers at home (Hungary)
- supporting mothers in the labor force (German Democratic Republic)
- supporting parental choice in selecting how to allocate work and family roles (France)
- supporting the opportunity for all adults to manage work and family roles simultaneously (Sweden)
- assuming that adults make personal and private arrangements in adapting to this lifestyle (Federal Republic of Germany)

Over time, there has been some tendency towards convergence among these countries although the particular emphasis still varies.

Countries have similar problems

As we explore what is occuring in other countries, there is the emergence of a common list of problems needing attention. Although not all these needs arise simultaneously in every country, gradually the lists become very similar.

The concerns tend to be in 1 of 4 areas:

The need for some financial assistance to help with the costs of childrearing.

The need to care for children while parents are away from home at work.

The need to make possible a more equitable sharing between men and women of home and family tasks and responsibilities.

Table 1. Labor force participation rates of women by age of child, 1976

[In percent]

Country	0-3 years	3-6 years	School age
France	43	44	48
Federal Republic of Germany	32	34	41
German Democratic Republic	80	85	85
Hungary	82[1]	75	75
Sweden	58	64	78
United States	35	46	56

[1] Thirty-three percent excluding women home on child-care leave; 82 percent if women home on child-care leave are included.

Source: Sheila B. Kamerman and Alfred J. Kahn, *Child-Care, Family Benefits and Working Parents* (New York: Columbia University Press, forthcoming).

Table 2. Employment status, by parity and age of youngest child, for women age 18 to 34, living with their husbands, June 1978

Age of youngest child	Total women [In thousands]	In labor force [In thousands]	Participation rate [In percent]
Less than 1 year	2,460	713	29.0
1 year	2,034	686	33.7
2 years	1,711	701	41.0
3 years	1,358	603	44.4

Source: *Fertility of American Women, June 1978, Current Population Reports*, Series P-20, No. 341 (Washington: Bureau of the Census, 1979), Tables A and 18.

The need to facilitate a better balance between work and home so that adults may fulfill their roles as parents without either gender suffering penalties in the labor market.

Emergence of family benefits

The European countries have a long history of acknowledging that children are a major societal resource and that the whole society should share in the costs of rearing them. The cash benefits provided families with children are increasingly being referred to as a "family benefit system", part of a country's social security system but distinguishable from traditional social insurance and assistance.

This principle was reflected first in family or child allowances, in the form of cash benefits provided monthly (or weekly) for every child (or second or subsequent children), usually regardless of family income and the labor force attachment of the parents. Family allowances began first in France in the 1930's; in Sweden, Finland, and several other countries by the 1940's. By now, 67 countries, including all the developed countries except the United States, provide such a supplement to the income of adults who are rearing children. The benefits, which are usually tax free, range in the western European countries from $300 to $600 or more per year. In both eastern and western Europe, these benefits represent a significant percentage of median wages, usually between 5 and 10 percent (where there is one child) and substantially higher for single mothers (whose wages are likely to be low), and families with several children.

Regardless of the specifics, these benefits provide a significant supplementary contribution to family income, particularly for low and median wage earners, for whom the cost of rearing even two children can be a financial burden. They reflect a recognition of the lack of correspondence between wages and family responsibilities—and of the societies' stakes in child rearing.

An alternative approach to providing income supplementation to families with children is the provision of a similar child benefit through the tax system. In contrast to the $1,000 tax exemption for dependents in the United States (many countries have such exemptions), of value only to those who pay taxes and of more value to those with higher incomes, the child benefit tax credit is provided at a fixed amount and paid to families at all income levels. Furthermore, it is refundable to those whose incomes are so low as to preclude any tax obligations.

France provides an additional, income-tested special supplement to low- and middle-income families with children under age 3 or with three children or more. The assumption here is that very young or many children make it increasingly unlikely that a woman can be in the labor force and, therefore, such families may suffer an extra financial hardship in trying to manage, even briefly, on the wages of one adult.

If income supplementation for families with children is a longstanding policy in many European countries, defining childbirth as a social risk which may result in temporary unemployment, and providing a cash benefit as an earnings replacement under such circumstances, is a much more recent policy. Accordingly, there are two parallel policies in most European countries to protect family income at the time of childbirth in those families where mothers are employed.

First, there is a guarantee of a right, around the time of childbirth, to leave work for a minimum of 3 months (Denmark and several other countries), a maximum of 3 years (Hungary), and an average of 6 months to 1 year, with the assurance of full job protection, seniority, and pension entitlement. In Sweden, this right can be shared equally by both parents. Some countries have supplementary rights to extended leaves, but with more limited protection.

Social security covers maternity leave

The second, parallel policy is the provision (in connection with leave right before childbirth and after it) of a cash benefit through the social security system, replacing the full wage covered under social security (or a significant portion of it). These benefits are available to almost all employed women of childbearing age and under certain circumstances—or in certain countries, such as Sweden—to their husbands, too. The benefits may be tax free or considered as taxable income.

In effect, these two parallel policies comprise what is usually described as the statutory provision of maternity or parental benefits and leaves. The key portion of the policy is the leave from work which is covered by a cash benefit replacing earnings forgone at the time of childbirth. In France, this covers 16 weeks, including 6 weeks before childbirth, and is equal to full wage replacement. In West Germany, 7½ months are covered, the first 14 weeks with a statutory flat rate benefit equal to the wage of about 70 percent of the working women, but supplemented to full wage by the employer for those women earning more, and the remainder of the time at the statutory benefit level only. The German Democratic Republic provides full wage replacement for 26 weeks (and for an additional 26 weeks at the birth of second and subsequent children). Sweden is unique in providing a benefit covering 9 months, available to either parent, and capable of being prorated so that parents can use the benefits to cover full-time work, half-time work, or three-quarter time, while the children are young. This enables parents to share all child-care responsibilities between them for the child's first year to year and a half of life.

The Hungarians provide an unusual benefit from the end of maternity leave until the child is 3 years old. Here, the mother is entitled to a cash allowance equal to about 40 percent of an average female wage, as long as she remains at home to care for her child. During this time, she continues to be defined as a member of the labor force and therefore maintains her seniority and pension entitlements, while assured of job protection.

These benefits are all contingent on prior labor force attachment and represent some attempt by the larger society to replace all or a significant portion of earnings at the time of childbirth and for some limited period of child-caring time thereafter. Although not yet widely implemented, one growing trend in Europe seems to be to extend these rights to both parents and to parents of adopted children.

The benefits thus far discussed *supplement* incomes of parents rearing children or *replace* income in connection with the period right after childbirth. Very few countries provide a *substitute* for earned income beyond the time a child is age 3, and the scale and scope of Aid to Families with Dependent Children in the United States is rare, even though Britain, West Germany, Canada, Israel, and Sweden do give some cash benefits to single mothers with low incomes. Canada and Britain have the closest equivalent of the U.S. system.

Meeting child-care needs

The paid leaves from work following childbirth range from 3 months to 3 years. In most countries, 6 months is typical, with growing discussions about extending the leave to 9 months or a maximum of 1 year. All European countries permit additional unpaid but job-protected leaves of somewhere between 6 months and 2 years, although few women avail themselves of this benefit. This means that most working families in Europe need some form of out-of-home child-care service beginning when a child is about 6 months old, except where one adult works part time. Compulsory school usually begins at age 6, as it does in the United States; but in Britain 5 years is the age of entry, and in Sweden, Poland, and several other countries it is age 7, although all 6 year-olds in these countries already attend a preschool.

For the typical working family in Europe, all day, out-of-home child-care services are needed for children who are about 6 months to 6 years old. What is provided for these children now?

Most children age 3 to 6 years are already attending a free public preschool program, based in the educational system, covering the normal school day and attend it on a voluntary basis regardless of whether or not they have "working mothers."

France has the most extensive such provision in any European country—serving 95 percent of the 3 to 6 year-old age group. Moreover, 32 percent of the 2 year-olds (largely those age 2½ are now attending and the programs are expected to serve close to half this age group within the next 2 years. (Hungary and West Germany also recently have opened kindergarten to the 2 year-olds as space has become available.)

Belgium has a similar program serving about 95 percent of its 3 to 6 year-olds. West Germany serves about 75 percent of this age group in such a program, although it is still largely for half a day (8:00–1:00), as in all primary schools in Germany. (But a "long school day" is becoming more prevalent, especially in schools located in working class neighborhoods.) Italy has place for about 70 percent of the age group, but most of the eastern European countries serve between 75 and 90 percent of this group in full-day preschool programs, with the highest coverage in East Germany. Sweden has only a little more than half this age group in their child-care programs which, in contrast to the others, are part of an independent, free-standing program, not part of the public education system.

Preschools viewed as healthy

Most of Europe assumes that children from age 3 (and increasingly from age 2½ or 2) will attend a preschool program, because these programs are viewed as being good for children, whether or not mothers work. Incidentally, as does primary school, preschools fulfill important child-care needs of working parents. Thus, for most working families in Europe, child care is available from the age of 2, 2½, or 3 on, at least to cover the normal school day.

Only the United States, Britain, Canada, and Israel continue to maintain an artificial distinction between child care under social welfare auspices and that under education auspices; and only these countries continue to support two parallel systems for all children under compulsory school age. In Israel about 90 percent of the 3 to 5 year-olds already attend a preschool in any case, although these are largely under private auspices as they are in the United States, where more than half of this age group now attend such schools.

Except for Sweden and Finland, which have a separate but integrated special child-care program for children up to age 7, day care is viewed largely as the care of children under age 3 in Europe, and in most countries is administrated under health ministry or department auspices. Infant and toddler care for children of working families is not nearly as extensive as care for children from about the age of 2 or 3 and older.

East Germany has by far the most extensive group provision for infants and toddlers—with 60 percent between the ages of 6 months and 3 years in care (48 percent of children from birth to age 3), and plans to expand provision to include space for 70 percent. France leads among the western countries, with about one-third of the under 3's in some kind of out-of-home care. The public preschool program serves a significant number of 2 year-olds and another small percentage are served in publicly-subsidized day-care centers, subject to income-related fees. The largest group is cared for by licensed family day-care mothers; France has the most extensive provision of this type of care. Hungary has only a limited amount of group care, because its primary policy focus for the under 3's is to subsidize the mothers' own care. In contrast, Sweden has an official policy of expanding such coverage to meet most existing needs. However, only about 14 percent of the children under age 3 can be served in publicly subsidized care today, while an equivalent amount are still cared for in private, informal, family day-care arrangements. (See table 3 for more details.)

Family day care versus group care

Thus, most countries still have a long way to go before there are enough out-of-home places to care for children aged 6 months to 3 years, while their mothers are at work, but the policy is clear for the 2 year-olds already and emerging, too, for younger children. (See table 3.) While family day care dominates currently, es-

Table 3. Type of care provided for young children in six countries, 1975

[In percent]

Country	Under age 3			Ages 3 to 6 in preschool[1]
	Total [In thousands]	Type of care [In percent]		
		Center care	Family day care	
Sweden	323,463	7	16	28
France	2,400,000	11	20	95+
German Democratic Republic	532,048	46	0	85
Hungary	519,000	12	0	78
Federal Republic of Germany	1,800,000	4[2]	5[2]	75+
United States	9,700,000	3–4	7	64

[1] The 3 to 6 year-old coverage for the U.S. includes preschool, kindergarten, and day care, much of it part-day.

[2] Children of working mothers only.

Source: Sheila B. Kamerman and Alfred J. Kahn, *Child-Care, Family Benefits and Working Parents* (New York: Columbia University Press, forthcoming).

pecially given the unlicensed, unregulated provision, many experts now assume group care will ultimately predominate as more and more women are working and the potential labor force for family day care disappears and the costs increase (as standards are raised). If and when this occurs, family day care may be available, but is likely to be viewed as a high-priced therapeutic program intended for children with special needs.

Before- and after-school care, for the pre- and primary school age children of working parents when school hours and days do not coincide with work schedules, is recognized as a universal need. No country provides adequate coverage or even has systematic data indicating where children of this age are cared for now. Several of the eastern European countries do provide extensive after-school programs or a long school day. French schools, especially those in large metropolitan areas and in working class districts, often provide children with supervised care before and after school hours and on holidays. The Swedes are encouraging the establishment of separate after-school programs called leisure-time centers, often located adjacent to the preschool programs where children of different ages have an opportunity for interchange in "sibling groups." Similar provision is expected to grow in Germany. Such programs are important and their scarcity represents a significant weakness of child-care services.

None of the research reported here covered intra-familial adaptations or workplace response to the new realities of work and family life.[3] We would note, however, that for some years policies in many countries have supported, or been predicated on, traditional role assignments within the family. Modifications will be necessary if intrafamilial equity is to increase.

Most adaptation in the home will reflect the values and behavioral changes of the adults living there, but there is evidence (particularly among the younger cohorts) that as women have entered the labor market, men do participate more actively in home and family responsibilities. We assume that such changes also would affect children: they may begin to get more attention from their fathers than they have previously.

Table 4. Child-care benefits and services package (major components) by country

Benefits and services	Hungary	France	German Democratic Republic	Sweden	Federal Republic of Germany	United States
BENEFITS						
Cash: Income replacement	Maternity	Maternity	Maternity	Parental	Maternity	......
			Supplementary maternity			......
	To care for an ill child at home	......	To care for an ill child at home	To care for an ill child at home	To care for an ill child at home	......
Income substitution	Child-care allowance	......	......	......	......	Aid to Families with Dependent Children
Income supplementation	Family allowance Housing allowance Child health services	Family allowance Housing allowance Child health services	Family allowance Housing allowance Child health services	Child allowance Housing allowance Child health services	Child allowance Housing allowance Child health services	......
		Complementary family allowance Single parent allowance				
		Family-based tax system		Tax allowance for dependents	Child-care tax credit	Tax allowances for dependents Earned income tax credit Child-care tax credit
Employment: Right to leave work and job security	Maternity (20 weeks) Child care up to child's 3rd birthday	Maternity (16 weeks) Parental education (unpaid) 2 years	Maternity (26 weeks) Supplementary (26 weeks)	Parental (9 months) Unpaid 18 months; 6-hour day up to child's 8th birthday	Maternity (7½ months)	......
SERVICES (1975) Percentage of cohort 0–3 in out-of-home-care	12 percent (Mainly 1/2 to 3 year-olds)	31 percent	50 percent (80% of 1 to 2 year-olds)	23 percent	3 percent	10–11 percent
Major care mode	Center care (almost completely)	Co-equal in policy but family day care predominates	Center care (completely)	Policy favors center care but present reality is family day care primarily	Family day care primarily in policy but co-equal in provision	Family day care predominates

Employers provide important rights

The workplace itself remains an essential arena for change; here we refer both to marketplace and statutory benefits and to the organization of work. Special attention is currently being directed in a number of countries to the social security status of women (for example, in the work force, homemakers, and widows). We already have described Swedish parent insurance as a major innovation. Among countries making provisions for supplementary but unpaid post-childbirth leaves, France offers a 2-year leave for either parent under certain circumstances. Norway provides a parental leave of up to 1 year. Sweden permits an unpaid leave after the conclusion of the parent insurance benefit until a child is 18 months old, and guarantees parents the right to work part time (a 6-hour day) until their child is age 8. Assuring workers a right to take a specified number of days off from work to care for an ill child at home, or to visit a child in school, while receiving the same wages they would receive if they were ill themselves, is receiving attention in Europe, too.

There are also efforts by industry to modify employment practices or to provide selected benefits through labor contracts or as part of private fringe benefit systems. Similarly, there is growing experience with flexitime and other alternative work schedules such as part-time and shared work.

IF ADULTS ARE to manage work and family life simultaneously, attention will have to be paid to all four arenas we have discussed.

Government policies have been the major focus of what we have studied in Europe; and one major finding, apart from the specifics mentioned above, is the trend towards the development of family or child policy "packages" that go far beyond any single policy strategy. The European experience clearly suggests the need for a policy strategy that includes income transfers, child-care services, and employment policies as central elements even if the specifics may vary as they are modified to fit the ideology, demography, and needs of each country. (See table 4 for the components of these policy "packages" in six countries.)

This discussion is predicated on the recognition that employment and labor market policies are a cornerstone of social policy in industrialized countries. Work remains the primary role for all adults and a central ethic. It seems likely that unless it becomes possible for adults to manage work and family life without undue strain for themselves and their children, society will suffer a significant productivity loss in the labor market and economy, and perhaps an even more important loss in the quantity and quality of future generations. The developments now occurring in other countries can provide the basis for discussion in the United States. ☐

FOOTNOTES

[1] For U.S. data, see Janet L. Norwood and Elizabeth Waldman, *Women in the Labor Force: Some New Data Series*, Report 575 (Bureau of Labor Statistics, 1979); Elizabeth Waldman and others, "Working mothers in the 1970's: a look at the statistics," *Monthly Labor Review*, October 1979, pp. 39–49; and Beverly L. Johnson, "Marital and family characteristics of the labor force, March 1979," *Monthly Labor Review*, April 1980, pp. 48–52.

For comparative data, see *Equal Opportunities for Women* (Paris, Organization for Economic Cooperation and Development, 1979).

[2] A full report of this study will be forthcoming by Columbia University Press, as Sheila B. Kamerman and Alfred J. Kahn, *Child Care, Family Benefits and Working Parents*. We acknowledge the support of this research by the U.S. German Marshall Fund.

Additional data are included here as relevant from an eight country study now in process of "Income Maintenance Policies From a Family Policy Perspective," and a report by Sheila B. Kamerman, *Maternity and Parental Benefits and Leaves: An International Review* (New York: Columbia University Center for the Social Sciences, 1980).

[3] The report of a U.S. study of how a sample of suburban working families manage this family lifestyle is: Sheila B. Kamerman, *Parenting in an Unresponsive Society: Managing Work and Family Life* (New York: The Free Press, 1980).

Research Summaries

Results of experimental study on flexitime and family life

Richard A. Winett and Michael S. Neale

Federal workers with young children, when given the perogative of changing their work schedule, choose to arrive at and depart from work earlier, according to two small experimental studies of flexible workhours at two Government agencies. The change in work schedules allowed the workers to increase the time spent with their families in the evening and led to less perceived difficulty in engaging in familial, recreational, and educational activities and household chores.[1]

Time spent with the family in the morning was reduced for workers who changed their schedule, but this time was never extensive (about 35 minutes) and rarely was it rated as an "enjoyable" time. When scored on a 5-point scale (where "dislike a great deal" equals 1 point and "enjoy a great deal" equals 5), morning-time activities had a mean of 2.9, while evening activities were rated 3.8.

Overall, the flexitime program received positive ratings (about 4.5 out of a possible 5.0) and few managerial problems were reported. Workers who remained on regular hours were either limited to these hours by commuter arrangements, spouse hours, or simply preferred the regular hours. The altered schedules did not change workers' weekend activities or the division of labor at home (childcare and home chores).

Two experimental, longitudinal studies in two large Federal agencies addressed the issue of the effects of flexitime on families with young children. This report briefly describes several methodological aspects of the studies and the main results.

Advantages of experimental methods

Experimental research methods generally follow several strategies including carefully defining, recording, and monitoring behavior over a relatively long period of time; collecting reasonable baseline data for comparison purposes; and using a true experimental or quasi-experimental design (suitable comparison group) to evaluate effects. For true experimental flexitime studies, workers or departments are randomly assigned to flexitime or usual work schedules. Completely random assignment often is not feasible, necessitating that the test become a quasi-experiment, with results that still are interpretable.[2] Experimental strategies often involve a series of relatively small-scale studies designed to replicate and expand upon previous findings.[3]

What are the advantages of the experimental approach, compared with other methods (for example, surveying thousands of people at one time)? Basically, the advantage is that cause and effect relationships are the product of the research. Cross-sectional surveys (for example, surveying those on flexitime and those not on flexitime) obviously serve important functions by describing events and attitudes, but such research cannot be used to infer causality. This is true of any correlational research.

The best experimental evaluations are often designed so that the same individuals are observed under several conditions. For example, the same people may be studied as they systematically are shifted to different kinds of flexible work schedules. With this design, it is possible to identify critical elements of a program that are beneficial or detrimental to employees, management, and the overall agency. When properly conducted, the experimental approach also yields important feedback on a program's effects, providing a mechanism to change a program for maximum benefits.

Although our studies were exploratory, two hypotheses were tested. We predicted that change in the work schedule would result in (a) more time spent with the worker's family, and (b) less difficulty in performing home chores and other activities. In other words, we believed that even in limited flexitime programs, altering the work schedule would not simply lead to a change in time when activities were performed, but would result in the reproportioning of time, thus, facilitating some family functions. Organizational and political constraints did not permit us to conduct true-experiments; a quasi-experimental, nonequivalent control group design was used—an evaluation strategy that is becoming more popular among social scientists.[4]

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The experiments and its participants

The experiments included secretarial and administrative personnel at the Washington, D.C., headquarters of the two Federal agencies. Thirty-two of Agency A's 600 employees participated and 65 of Agency B's 2,200 employees participated. Participants had at least one child under 13 years. The participants represented a cross-section of job levels, had an average annual salary in 1978 of approximately $20,000 and had been in their jobs an average of 5.7 years. They were allowed to complete the research forms during work hours and received $75 for home interviews which generally focused on the division of childcare and household chores.

At Agency A, the original work schedule set arrival time at 8:45 a.m., a half-hour lunch between 11:30 a.m. and 12:30 p.m., and departure at 5:15 p.m. Under the flexitime system, workers could arrive any time between 7:30 and 9:30 in the morning and leave (depending on arrival time) between 4 and 6 in the evening. The 30-minute lunch could be taken between 11:30 a.m. and 2 p.m., and "core" times were 9:30–11:30 a.m. and 2–4 p.m. An 8-hour day was required with no carryover of hours between days or weeks. Potentially, on flexitime, a worker could adopt a schedule that was 75 minutes earlier or 45 minutes later than the regular working hours. Workers were required to stay with a new schedule for at least one pay period. A sign-in, sign-out system was used, rather than a time clock or other equipment. Data were collected for 5 weeks before the flexitime program started and were collected for 14 weeks during the program.

A similar flexitime system was adopted at Agency B. However, the regular work hours at this agency were 8:15 a.m. to 4:45 p.m.; therefore, the maximum potential change under flexitime was 45 minutes earlier or later. Data were collected for 7 weeks prior to the start of flexitime and for 28 weeks during the program.

In each agency, alteration of work schedule followed three distinct patterns: (1) employees altered their schedule by a designated criterion and remained on this fixed flexible schedule for the duration of the study, (2) employees retained their original schedule, and (3) employees varied their schedule—sometimes arriving and departing work early, sometimes late, and sometimes working regular work hours—true flexitime. Because the true flexitime group only varied their schedule minimally and showed no significant changes on time or rating measures at Agency A and showed only minimal changes at Agency B, only data for those working fixed flexible hours and those keeping the original work schedules are presented in this report.

The main measures of the two studies were time-activity logs and a 15-item questionnaire. The time-activity log was completed about twice per week and required participants to indicate on a standard form for every activity the time it began and ended; the setting in which the activity took place; the people who were present during the activity, and secondary activities (for example, watching television while eating dinner). Each activity was rated on a 5-point scale from 1 ("dislike a great deal") to 5 ("enjoy a great deal").

Participants at Agency A received only minimal training on the use of the log, and no reliability checks were made on the data. At Agency B, participants received training and more than 2,000 checks of the reliability of the data were made using four techniques: random phone calls to participants; correspondence of log data to a known event; log reports of spouse collected at a later date; and correspondence of office archival data to log data. Reliability of log information was 80 percent.

At Agency A, log data were reduced to eight standard categories (morning or evening time with spouse, children, spouse and children, or alone). At Agency B, "time at work" was added to these eight categories and log data were reduced to nine main categories, plus 37 subcategories (for example, dinner, exercise, watching television).

Once a week at Agency A, or semimonthly at Agency B, participants completed a questionnaire on which they rated (on a 7-point scale) the ease or difficulty involved in coordinating aspects of work and family life, particularly with respect to hours of work (for example, "The hours I work make spending time in the evening with my child(ren) _______"). Additional questions were asked to ascertain any change in status at work or conditions at home that could interact with work schedule and home-life relationships. The purpose of the scale was to pinpoint situations affected by the flexitime program, as perceived by the participant. The scale could also be used to confirm the importance of time allocation changes derived from the logs.

Several additional research methods were used. Sample participants and their spouses (or single parents alone) were interviewed together (once at Agency A and three times at Agency B), following a standard interview schedule that focused on the division of childcare and household chores. The purposes of the interviews were to ascertain if specific divisions of childcare and household chores were predictive of adopting flexitime and, if at Agency B, changes occurred as a result of adopting flexitime.

A checklist was used to examine changes in weekend activities alone and with family members and another measure focused on particular problems experienced by two-earner, single-parent, or one-earner families. Finally, surveys were conducted with a random sample of employees not included in the sample to gain an impression of the effects of flexitime at the work site. The results of these additional measures are not presented formally here, but are discussed as they pertain to the log or interview data.

Experience at Agency A

Workers who opted for fixed flexible hours at Agency A were younger, with fewer and younger children, and fewer years on the job than those who kept the regular hours (see table 1). Sample participants were at a mean mid-level for their jobs and about one-third were men.

Log data. Log data was categorized by coders as engaged in with spouse, with children, with spouse and children, or alone. An average time per activity was then calculated (see table 2). The group on fixed flexible hours arose about 38 minutes earlier and arrived at work about 56 minutes earlier. However, bedtime for them was only 13 minutes earlier. There was almost no change for those who remained on regular hours.

Evening time with spouse and children and with spouse alone differed significantly between the two groups. Such differences may have resulted because of the difference in age of the groups' children, with the presence of older children reducing the necessity of both parents spending time with children. However, the analysis indicates that time with children increased for the workers on fixed flexible hours, and decreased for those who remained on regular hours. Both work groups showed an increase in time spent with spouse and children, and time with spouse increased for those on fixed flexible hours and decreased for those on regular hours. Overall, family time increased by more than an hour for workers on fixed flexible hours and remained about the same for those on regular hours. Seven of ten workers on fixed flexible hours increased the time they spent with their families by more than 35 percent, compared with only 2 of 11 workers who remained on regular hours. There was no significant difference between the two groups in change in time for the evening alone category and morning categories.

Table 1. Profile of study participants

[In means]

Characteristic	Flexitime	Regular time
Agency A:		
Men	3.0	4.0
Women	7.0	7.0
Age	28.1	32.4
Age of spouse	29.0	33.2
Number of children	1.3	1.8
Age of children	4.1	6.8
Years on job	3.7	5.2
Families of male participants:		
Two earner	2.0	2.0
Single earner (male)	1.0	1.0
Part-time working wife	.0	1.0
Families of female participants:		
Two earner	6.0	4.0
Single parent	1.0	3.0
Agency B:		
Men	13.0	14.0
Women	11.0	12.0
Age	33.4	34.4
Age of spouse	31.1	32.6
Number of children	1.8	1.8
Age of children	5.7	5.9
Years on job	5.3	7.4
Families of male participants:		
Two earner	4.0	2.0
Single earner (male)	7.0	10.0
Part-time working wife	2.0	2.0
Families of female participants:		
Two earner	5.0	5.0
Single parent	6.0	7.0

Table 2. Time data for participants of flexitime experiment at Agency A

[In means]

Item	Fixed flexible hours group		Regular hours group	
	Before flexitime	During flexitime	Before flexitime	During flexitime
Time arise	6.48	[1]5.83	6.51	6.57
Time to sleep	10.87	10.65	11.01	11.00
Start work	8.68	[1]7.75	8.58	8.57
Time spent (in minutes):				
With children	58	[1]82	88	68
With spouse	31	[2]37	84	71
With spouse and children	88	130	40	64
With family, overall	177	[1]249	212	203

[1] Significant at 0.01.
[2] Significant at 0.05.

Questionnaire data. A mean score for each item in the questionnaire was obtained for each participant before and during flexitime periods. The pre-flexitime scores of the two groups did not differ significantly. However, during the flexitime period, significant differences were found for eight items for workers on fixed flexible hours. They perceived that it was easier to spend afternoon time with their child(ren), and spend time with their spouse during the week; see friends during the week; and in the evening spend time with their child(ren), pursue additional education, engage in recreation and hobbies, complete shopping and chores, or just relax.

Experience at Agency B

Those who chose flexible hours at Agency B and those who remained on regular hours had similar family characteristics (see table 1). However, those who worked regular hours had more years on the job. Also, this group included five supervisory personnel, whereas the fixed flexitime group had no supervisors. Participants were at a mean mid-job level and more than half of them were men.

Log data. Mean time for each participant was calculated before flexitime and for three periods during flexitime: spring, summer, and fall. The phases allowed for

Table 3. Time data for participants of flexitime experiment at Agency B

[In means]

Item	Fixed flexible hours group				Regular hours group			
	Before flexitime	During flexitime			Before flexitime	During flexitime		
		Spring	Summer	Fall		Spring	Summer	Fall
Time arise	5.92	[1]5.74	[1]5.74	[1]5.67	6.09	6.08	6.18	6.16
Time to sleep	10.97	10.74	10.90	10.85	10.86	10.92	10.96	11.05
Start work	8.23	[1]7.62	[1]7.63	[1]7.58	8.13	8.01	8.05	8.09
End work	4.75	[2]4.16	[1]4.16	[1]4.21	4.85	4.84	4.81	4.84
Time spent (in minutes):								
With children	76	[3]89	[2]91	90	79	77	67	90
With spouse	72	64	58	62	66	71	[1]82	75
With spouse and children	103	[3]134	147	[2]130	96	90	110	75
With family, overall	251	[2]287	[3]296	282	241	238	259	240
Commuting home	63	[3]60	[3]57	[2]55	54	55	55	57

[1] Significant at 0.01.
[2] Significant at 0.05.
[3] Significant at 0.10.

examination of seasonal effects and corresponded to the school attendance of children.

During flexitime the 24 participants on fixed flexible hours altered their mean time of starting work from 8:15 a.m. to 7:37 a.m. and departed from work at 4:11 p.m. instead of 4:45. The mean arising time became earlier for the workers on fixed flexible hours (by about 12 minutes), while those keeping regular hours arose about 5 minutes later. Workers on fixed flexible hours went to bed 8 minutes earlier; the other group went to bed 7 minutes later (see table 3).

Time with spouse increased during the summer for those on regular hours. Time spent with children increased significantly for workers on fixed flexible hours during the spring and summer. The time they spent with their spouse and children increased during the spring, summer, and fall.

Overall time spent with family increased about 37 minutes for those on fixed flexible hours, compared with an increase of only about 5 minutes for those on regular hours. Both groups tended to increase family-related time during the summer. Generally, differences between groups somewhat dissipated by the fall. The increase in time spent with spouse during the summer for workers on regular hours may be attributed to the presence of supervisors in this group. During the summer, supervisors were involved in labor negotiations and tended to arrive home later than usual. Their later arrival at home also may have contributed to the large reduction in time with children during the summer for the group who kept regular hours. When supervisors were removed from the sample, there was no difference in time with spouse during the summer.

Workers on fixed flexitime showed a greater mean percentage of participants increasing their time spent with children and spouse and with the family in the evening, than workers on regular hours. Time spent with family differed by type of family; for example, men from single-earner families spent less evening time with their children than women from two-earner families. There were no differences between the two groups on other items involving work time. Generally, the group on regular hours worked about 13 minutes longer each day.

Although the workers on fixed flexible hours took longer to commute to work before flexitime, the difference was not significant and can be attributed to the slightly longer distance traveled to and from work. During flexitime, time spent commuting decreased for this group—commuting home time decreased by about 5 minutes, while for those on regular hours, commuting home time increased by about 2 minutes.

An examination of the modes of commuting (for example, car, carpool, bus) indicated that those on regular hours decreased their use of carpools by about 10 percent and increased their use of other methods. However, carpool use did not decrease for those on fixed flexible hours, suggesting that their decrease in time commuting home was not accomplished by changing transportation mode (for example, increased use of private cars).

Questionnaire data. Workers on fixed flexible hours at Agency B rated the same items on the questionnaire as "easier" during flexitime as at Agency A. Ratings of commuting time showed minimal change, possibly indicating that the "real" time saved in commuting was not perceived as meaningful, or was not noticeable. ☐

FOOTNOTES

[1] Similarly, Federal workers on flexible schedules in 1977 reported that such schedules allowed them to spend more time with their families. See "Concept wins converts at Federal agency," *Monthly Labor Review*, February 1977, pp. 71–74.

[2] See D. T. Campbell, "Reforms as Experiments," *American Psychologist*, 1969, pp. 409–29.

[3] See M. Herson and D. Barlow, *Single Case Experimental Designs: Strategies for Studying Behavior Change* (New York, Pergamon Press, 1976).

[4] Campbell, "Reforms as Experiments."

Record white-collar pay increase closes decade but trails inflation

FELICE PORTER

White-collar salaries, as reported by the Bureau of Labor Statistics' survey of professional, administrative, technical, and clerical pay rose a record 9.1 percent during the year ended March 1980.[1] This was the second time that increases hit 9 percent in a decade that saw white-collar salaries double, while prices slightly exceeded that rate—up 106 percent. (See table 1.) These movements contrasted to those of the preceding decade when white-collar salaries went up roughly 46 percent and prices, approximately 30 percent.

Not all white-collar salaries increased at the same rate. During the first half of the 1970's, for example, clerical salaries outpaced those of professional, administrative, and technical personnel; in the last half the reverse was true. The key salary increase periods for clerical workers outpacing professional, administrative, and technical workers were 1971–72 and 1974–75. For the latter group, the key periods were 1976–77, 1977–78, and 1979–80, and in this last year their salaries rose an unprecedented 9.3 percent.

From March 1979 to March 1980, 7 of the 13 survey occupations comprising the professional, administrative, and technical support group (see below) had the largest annual increases for their respective occupations since the survey began in 1960. These occupations were auditors, chief accountants, attorneys, directors of personnel, engineers, engineering technicians, and drafters. During the same period, only two clerical jobs—accounting clerks and secretaries (not surveyed in 1975)—registered the highest salary gains in two decades. For the clerical group as a whole, average salaries rose 8.8 percent in the 1979–80 period. Increases for occupations within both groups are listed in the following tabulation:

Professional, administrative, and technical support occupations		*Clerical occupations*	
Accountants	9.2	Accounting clerks	8.9
Public accountants	4.2	File clerks	9.3
Auditors	8.8	Key entry operators	9.1
Chief accountants	11.3	Messengers	5.5
Attorneys	9.3	Personnel clerks	8.6
Buyers	8.1	Secretaries	9.6
Job analysts	8.1	Stenographers	10.1
Directors of personnel	11.2	Typists	8.9
Chemists	9.8		
Engineers	9.8		
Computer operators	8.3		
Engineering technicians	11.0		
Drafters	11.8		

Table 1. Percent increases of average salaries, 1970–80

Survey periods[1]	All survey occupations	Professional, administrative, and technical occupations	Clerical occupations	Consumer Price Index[3]
1970–1980	100.1	99.0	100.1	106.2[4]
1970–1971	6.6	6.7	6.5	4.5
1971–1972[2]	5.8	5.5	6.1	2.9
1972–1973	5.4	5.4	5.4	4.7
1973–1974	6.4	6.3	6.4	10.2
1974–1975	9.0	8.3	9.6	10.3
1975–1976	7.0	6.7	7.3	6.1
1976–1977	6.9	7.1	6.6	6.4
1977–1978	7.9	8.3	7.4	6.5
1978–1979	7.8	7.7	7.8	10.2
1979–1980	9.1	9.3	8.8	14.7
1970–1975	37.9	36.6	38.9	35.7
1975–1980	45.2	45.7	44.1	52.0

[1] A March payroll period has been used since the 1972 survey. The 1970 and 1971 surveys had a June reference period for all occupations.

[2] The wage survey data did not represent a 12-month period due to a change in survey timing. Data have been prorated to represent a 12-month interval.

[3] Changes in the Consumer Price Index represent a June to June period for 1970–71 and 1971–72 and a March to March period for all subsequent years shown.

[4] This period is June 1970 to March 1980.

NOTE: Mandatory wage and price controls were in effect for most industries from August 31, 1971 to April 30, 1974.

The 91 occupational work levels covered by the March 1980 survey represented a wide range of duties and responsibilities. Salaries for professional and administrative occupations averaged from $1,238 per month for buyers I and auditors I (the lowest levels of these two job series) to $5,053 per month for attorneys VI (the top of the attorney series). (See table 2.) At the other end of the salary spectrum, clericals averaged from $657 per month for file clerks performing routine filing, to $1,653 for level V personnel clerks. The latter, generally found in large manufacturing establishments, function more as staff assistants or technicians than as clerical workers.

Despite wide differences in the occupational pay levels reported by the survey, the findings show that salary averages for jobs of equivalent levels of work fall within relatively narrow bands. For example, monthly averages for the following work-level equivalents barely spanned $300 in March 1980, with the exception of public accountant III.[3]

Accountant IV	$2,180
Auditor IV	2,232
Attorney II	2,129
Buyer IV	2,315
Chemist IV	2,307
Chief accountant I	2,362
Director of personnel I	2,060
Engineer IV	2,374
Job analyst IV	2,193
Public accountant III	1,650

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Table 2. Average salaries of employees in selected white-collar occupations in private establishments, March 1980

Occupation and level	Number of employees[1]	Mean	Monthly salaries[2]		
			Median	Middle range[3]	
				1st quartile	3rd quartile
ACCOUNTANTS AND AUDITORS					
Accountants I	12,142	$1,262	$1,245	$1,130	$1,374
Accountants II	19,560	1,536	1,475	1,333	1,699
Accountants III	32,903	1,775	1,733	1,558	1,962
Accountants IV	20,312	2,180	2,144	1,958	2,388
Accountants V	7,452	2,661	2,624	2,405	2,899
Accountants VI	1,100	3,358	3,290	3,043	3,665
Auditors I	1,770	1,238	1,255	1,090	1,333
Auditors II	3,521	1,500	1,480	1,299	1,665
Auditors III	4,437	1,836	1,805	1,616	2,028
Auditors IV	3,076	2,232	2,229	2,000	2,415
Public accountants I	7,980	1,247	1,250	1,200	1,299
Public accountants II	7,649	1,391	1,374	1,308	1,458
Public accountants III	6,799	1,650	1,616	1,500	1,766
Public accountants IV	2,972	1,992	1,942	1,774	2,149
Chief accountants I	559	2,362	2,430	2,235	2,500
Chief accountants II	891	2,722	2,782	2,500	2,924
Chief accountants III	656	3,424	3,333	3,120	3,677
Chief accountants IV	100	4,173	4,057	3,750	4,628
ATTORNEYS					
Attorneys I	1,629	1,743	1,700	1,460	2,000
Attorneys II	2,776	2,129	2,124	1,900	2,356
Attorneys III	3,174	2,753	2,717	2,450	3,035
Attorneys IV	2,753	3,405	3,332	3,000	3,770
Attorneys V	1,802	4,155	4,115	3,583	4,623
Attorneys VI	622	5,053	4,833	4,417	5,750
BUYERS					
Buyers I	6,520	1,238	1,207	1,080	1,350
Buyers II	18,432	1,539	1,515	1,360	1,675
Buyers III	16,479	1,909	1,874	1,674	2,086
Buyers IV	5,187	2,315	2,249	2,025	2,583
PERSONNEL MANAGEMENT					
Job analysts I	130	1,338	1,294	1,100	1,510
Job analysts II	436	1,400	1,325	1,205	1,562
Job analysts III	648	1,790	1,711	1,575	1,949
Job analysts IV	546	2,193	2,165	1,916	2,457
Directors of personnel I	1,200	2,060	1,999	1,816	2,282
Directors of personnel II	1,459	2,653	2,582	2,312	2,966
Directors of personnel III	921	3,151	3,100	2,750	3,511
Directors of personnel IV	326	4,144	4,068	3,685	4,632
CHEMISTS AND ENGINEERS					
Chemists I	2,824	1,350	1,333	1,208	1,454
Chemists II	5,299	1,631	1,585	1,438	1,785
Chemists III	10,192	1,946	1,929	1,716	2,141
Chemists IV	10,519	2,307	2,285	2,074	2,526
Chemists V	8,135	2,816	2,795	2,500	3,074
Chemists VI	4,532	$3,178	$3,066	$2,850	$3,440
Chemists VII	1,695	3,824	3,565	3,418	4,200
Engineers I	20,813	1,618	1,624	1,500	1,739
Engineers II	41,742	1,774	1,750	1,624	1,910
Engineers III	95,382	2,013	1,985	1,820	2,188
Engineers IV	123,829	2,374	2,350	2,142	2,593
Engineers V	92,315	2,762	2,737	2,503	3,000
Engineers VI	42,719	3,188	3,160	2,909	3,441
Engineers VII	14,297	3,604	3,590	3,291	3,909
Engineers VIII	3,027	4,173	4,082	3,825	4,451
TECHNICAL SUPPORT					
Engineering technicians I	4,782	1,019	984	878	1,112
Engineering technicians II	17,441	1,184	1,156	1,050	1,280
Engineering technicians III	29,527	1,396	1,364	1,226	1,534
Engineering technicians IV	34,128	1,629	1,614	1,460	1,773
Engineering technicians V	18,054	1,860	1,840	1,686	2,022
Drafters I	2,581	851	821	750	930
Drafters II	11,764	974	946	850	1,072
Drafters III	22,813	1,192	1,150	1,040	1,304
Drafters IV	26,622	1,435	1,400	1,251	1,580
Drafters V	20,485	1,807	1,751	1,556	1,999
Computer operators I	6,837	847	819	725	946
Computer operators II	6,285	1,001	956	851	1,158
Computer operators III	29,710	1,060	1,050	916	1,186
Computer operators IV	16,430	1,337	1,294	1,142	1,479
Computer operators V	3,729	1,538	1,477	1,297	1,747
Computer operators VI	734	1,626	1,609	1,535	1,758
CLERICAL					
Accounting clerks I	31,935	734	702	626	802
Accounting clerks II	88,878	865	820	728	947
Accounting clerks III	62,378	1,027	983	869	1,150
Accounting clerks IV	21,803	1,280	1,250	1,060	1,489
File clerks I	27,876	657	630	569	706
File clerks II	14,721	736	687	616	789
File clerks III	4,040	919	868	756	1,000
Key entry operators I	66,771	832	782	695	905
Key entry operators II	44,532	977	937	808	1,085
Messengers	18,360	713	663	600	760
Personnel clerks I	2,273	799	760	700	850
Personnel clerks II	5,343	961	904	805	1,047
Personnel clerks III	3,930	1,075	1,043	915	1,187
Personnel clerks IV	1,942	1,311	1,243	1,108	1,480
Personnel clerks V	584	1,653	1,530	1,380	1,965
Secretaries I	42,766	941	920	823	1,040
Secretaries II	83,137	1,051	1,019	894	1,183
Secretaries III	90,534	1,168	1,133	980	1,308
Secretaries IV	50,005	1,282	1,245	1,066	1,460
Secretaries V	16,200	1,428	1,398	1,177	1,642
Stenographers, general	20,980	992	925	791	1,147
Stenographers, senior	19,333	1,156	1,152	963	1,313
Typists I	43,586	763	720	650	817
Typists II	27,621	918	866	750	1,021

[1] Occupational employment estimates relate to the total of all establishments within the survey and not to the number actually surveyed.

[2] Salaries reported relate to the standard salaries that were paid for standard work schedules, that is, the straight-time salary corresponding to the employee's normal work schedule excluding overtime hours. Nonproduction bonuses are excluded, but cost-of-living bonuses and incentive payments are included.

[3] The middle range (interquartile) is the central part of the array excluding the upper and lower fourths of the employee distribution.

NOTE: The following occupational levels were surveyed but data did not meet publication criteria: Chief accountant V, director of personnel V, and chemist VIII.

Other job groupings by work level showed similar results. Such salary structures produced by the survey do not necessarily correspond to those found within individual firms. They do not take into account the effect of industry mix on the averages or the disproportionate contribution of employment to any of the job categories by high-paying or low-paying firms. What the survey structures do show is that companies, on the average, pay in relation to the level of duties and responsibilities and recognize the equivalencies that exist among a wide range of occupations within broad categories, such as professional and administrative workers.

A more detailed analysis of white-collar salaries and complete survey results are contained in a bulletin, *National Survey of Professional, Administrative, Technical, and Clerical Pay, March 1980.* □

FOOTNOTES

[1] The survey is conducted annually with a March reference period in metropolitan areas and nonmetropolitan counties in the United States, except Alaska and Hawaii. It currently covers establishments employing a minimum of either 50, 100, or 250 employees, depending upon the private-sector industry.

[2] For a complete grouping of equivalent job levels covered by the survey, see *National Survey of Professional, Administrative, Technical, and Clerical Pay, March 1980,* (BLS Bulletin 2081), table D-1.

[3] The survey's public accountant job is unique on several counts. The job is found in only one industry classification, that of accounting, auditing, and bookkeeping services. The public accountant job as defined by the survey is often used as a career path for workers gaining experience for a public accounting certification or those working towards partnerships in public accounting firms. The salaries reported by the survey do not reflect nonproduction bonuses which are commonly provided to public accountants. (It should be noted that in the survey coding structure, the level designations among various accounting jobs are not synonymous, for example, public accountants I-IV equate to accountants II-V.)

The sounds of silence: little aid awarded for job-related hearing loss

The Environmental Protection Agency has examined a health problem that, until now, has not received much attention or financial compensation—permanent hearing loss resulting from continual exposure to noise at the workplace. The report, which looks at the compensation practices of the States and the Federal Government, claims the lack of compensation can be attributed to unrealistic medical standards for determining hearing loss, and gross inequities in the present system which leaves questions of compensation to the discretion of the States, many of which do not award compensation for hearing loss or set up prohibitive restrictions on worker eligibility and award only small sums.

According to the report, occupational hearing loss affects a surprisingly large number of workers. Results of two studies[1] show 30 percent of the workers interviewed were exposed to what they considered excessive noise on the job, and that hearing loss made up 28 percent of the probable occupational disease cases of the workers sampled. Ten percent of the workers participating in the studies had suffered some hearing loss. Thus, the report concluded it is not just a few, but a rather substantial number of workers who are potentially affected by arbitrary medical and legal criteria for compensation.

The inadequacies of current programs are partially a result of the nature of the disease itself. Noise-induced hearing loss (caused by the swelling and distortion of the nerves in the inner ear) takes place gradually over a working life; consequently, medical data are more difficult to obtain and once obtained, more difficult to analyze. An equally thorny problem is that of relating the findings of audiometric tests to everyday problems of communication. What does so esoteric a problem as impaired pure tone hearing mean for a worker's social activities, family life, and career opportunities? The elusiveness of hearing impairment has severely hampered efforts to set up a more equitable compensation system.

The medical thresholds used to measure hearing loss have been controversial since the end of the Second World War, when workers in war-related industries began to file hearing loss claims. In 1959, the American Academy of Ophthalmology and Otolaryngology established a widely accepted hearing loss formula which stated "hearing impairment should be evaluated in terms of ability to hear everyday speech under everyday conditions," everyday conditions being "the ability to hear sentences and repeat them correctly in a quiet environment." This definition made uncompensable a number of noise-induced hearing disorders such as high frequency hearing loss (which damages the ability to hear speech above background noise) and tinnitus (ringing in the ears). Most importantly, it did not consider thresholds for measuring impairment to the functions of discriminating and understanding speech. The academy formula only measured pure tone and hearing speech; and such measurements drastically understate the difficulties encountered by the hearing impaired in their daily lives, where background noise, accents, and other distractions create obstacles not found in laboratory tests. Despite these shortcomings, the 1959 formula became the medical standard of the compensation laws of a majority of the States.

As audiometrics became more sophisticated, the 1959 formula came under increasing attack, and in 1978, the academy revised the old formula to include impairments to high frequency hearing. Nevertheless, the 1959 version remains law in 18 States, and its restrictive criteria severely constrain worker eligibility for compensation benefits. Yet, according to the study even the new standard has serious weaknesses, including inadequate research of several key hearing problems (for instance, the formula makes no attempt to establish a realistic assessment of the rate of growth of hearing impairment). Environmental Protection Agency researchers recommend that both the 1959 and the 1978 academy formulas be replaced by that of the National Institute for Occupational Safety and Health which has lower thresholds, thus assessing hearing loss more realistically, and furthermore, that the upper threshold used to mark total hearing loss be lowered to reflect the point where practical hearing ability is irrevocably damaged.

Compensation barriers under State programs

Medical ambiguities are not the only obstacles a worker encounters when trying to claim hearing loss compensation. Laws and application procedures in many States have kept the number of eligible claimants low. Data on claims paid showed only nine States (with New Jersey and California heading the list) award a fairly substantial number of claims. At the other end of the spectrum, nine States with a third of all industrial workers (among them Pennsylvania, Ohio, Michigan, and Indiana) have legal restrictions that for all practical purposes make hearing loss uncompensable. The other 32 States fall somewhere in the middle with their statutory restrictions, but in reality, they compensate only a few cases. According to this breakdown, 70 percent of all the Nation's industrial workers live in States that pay few or no claims.

The most prohibitive barrier to compensation is the waiting period instituted by most States to allow for recovery of any temporary hearing loss. While otologists and compensation authorities agree that a waiting period is necessary for an accurate appraisal of hearing impairment, none recommend a period of more than 2 weeks. Most States have waiting periods of 2 to 6 months after removal from the noisy employment. Many employees die, move away, or change companies before qualifying for a claim. Also, because most hearing loss occurs during the first ten years of noise exposure, a waiting period that postpones compensation maximizes the damage done to a worker's ears.

Several States also place an excessive burden of proof on the claimant. While most compensation laws do require a claimant to demonstrate exposure to hazardous conditions, too strong a burden could defeat an otherwise justified claim. Utah, which requires a "professional" noise test showing noise levels exceeding 95 dBA, is cited as an example of a State with an oppressively strong burden of proof. Problems arise when changes in the workplace have brought about reductions in the noise level and made it impossible for the worker to show previous exposure to higher, harmful levels. To resolve these problems, the study suggests a claim be considered in light of a reasonable presumption based on a worker's career history and the testimony of the claimant's doctor, rather than compelling the worker to prove prolonged exposure to a set threshold ceiling.

The filing time limits, which give the worker a specific period in which to file his claim after his last exposure, are still another obstacle to compensation. States with more liberal compensation policies have "discovery" rules which mean statutory filing time limits do not begin until the worker has become aware of his impairment. In other States, filing limits extend from 6 months to 2 years after the date of injury (in the case of hearing impairment, some States define date of injury as the last day of employment with a particular employer). These flining limits can disqualify an otherwise eligible claimant if he is unaware of his compensation rights or the work-relatedness of his hearing loss. To assure maximum worker eligibility, the study urges that the statute of limitations for hearing loss (as well as all occupational diseases) be removed.

Federal workers fare better

The author takes a much kinder view of Federal hearing loss compensation programs. The Federal program covers all employees and blue-collar workers in Federal installations. Compensation is paid for physical impairment without consideration of loss of earnings. The Bureau of Federal Employees Compensation in the Department of Labor examines each claim and decides whether or not the claim is justified. The employing agency plays no part in the proceedings, it can only present related facts to the Bureau. In awarding compensation, the Bureau looks to see if work exposure to noise exceeds 85 dBA, and if a claimant's average hearing level falls outside normal hearing thresholds. Funding comes out of general revenue. The lack of outside scrutiny and the rising number of hearing loss claims by Federal employees have created a number of administrative problems for the Bureau, and changes in current procedures are being contemplated.

This study finds that workers are being denied adequate compensation for hearing loss as a result of unrealistic and severe medical formulas and State compensation laws, while Federal workers fare better, thanks to more realistic hearing thresholds and a nonadversary approach to compensation. Its final recommendations are made in the hope that by liberalizing compensation practices so that the true extent of occupational hearing loss is realized, steps will be taken to prevent as well as compensate it.

Occupational Hearing Loss: Workers Compensation Under State and Federal Programs prepared by Richard E. Ginnold for the Environmental Protection Agency, is available from the agency's Office of Noise Abatement and Control, Washington, D.C., 20460. ☐

FOOTNOTE

[1] David P. Discher and others, *National Occupational Hazard Survey: Pilot Study for Development of an Occupational Disease Surveillance Method,* (Cincinnati, Ohio, National Institute for Occupational Safety and Health, 1975); and, Robert P. Quinn and Graham L. Staines, *The 1977 Quality of Employment Survey,* (Ann Arbor, Mich., University of Michigan, Survey Research Center, 1978).

Occupational wage trends in the printing industry

Wage rates for members of printing trades unions, in cities with populations of 100,000 or more, increased by an average of 7.0 percent between July 1, 1977 and September 1, 1978, or 6.0 percent if prorated to cover a 12-month period, according to a Bureau of Labor Statistics survey. The prorated increase was the smallest in 9 years and follows 2 years of moderate gains. (See table 1.) Increases for union members averaged 4.8 percent in newspaper plants, 6.2 percent in book and job shops, and 7.3 percent in lithography shops.

Variations in average wage increases for the three printing trades studied separately reflect, in part, differences in the proportion of workers receiving increases between July 1, 1977 and September 1, 1978, 92 percent in book and job, 72 percent in newspapers, and 99 percent in lithography. For workers receiving rate increases, however, gains fell within a similar range, regardless of printing branch. Excluding the upper and lower fourths of the wage rate arrays, increases for the middle half of the workers ranged from 6.1 to 10.1 percent in book and job shops, 5.4 to 10.3 percent in newspaper plants, and 7.4 to 9.8 percent in lithography shops.

Among regions, the Pacific reported the largest average wage rate increase, 9.6 percent. The smallest regional increases were reported for New England, 5.5 percent, and the Middle Atlantic, 5.2 percent, largely reflecting the relatively small gains in Boston and New York City, the predominant cities in the two regions. For the Great Lakes, the region with the largest printing trades membership outside the Middle Atlantic states, the increase was 7.9 percent.

On September 1, 1978, union printing trades workers averaged $9.07 an hour. Day-shift rates in lithography shops averaged $10.03 an hour compared with $8.97 for those in newspaper plants ($9.23 including night-shift rates) and $8.51 for those in book and job shops.

Occupational rates in book and job shops ranged from an average of $5.90 for bindery workers to $10.51 for photoengravers. The range of average daywork rates in newspaper plants was from $8.55 for mailers to $9.84 for photoengravers. In commercial lithography shops, the average for press assistants and feeders was lowest, $8.96, while that for scanner operators was the highest, $12.13; the latter also was the highest day-shift average for the survey as a whole.

Average pay levels in the Pacific region were $9.62, in the Middle Atlantic, $9.51, and in the Great Lakes, $9.11. In contrast, they were $7.29 in the Southwest and $7.13 in the Southeast. Although less important than location, city population size also seemed to be related to wage levels. For example, on September 1, 1978, wage rates in cities of at least 1 million inhabitants averaged $9.86, about 10 percent more than the $8.97 rate in cities of 500,000 to 1 million; 14 percent more than the $8.67 rate in cities of 250,000 to 500,000; and 22 percent more than the $8.06 rate in cities of 100,000 to 250,000.

On request, the Bureau or any of its regional offices will provide listings of union wage rates and employer payments for selected employee benefit funds in each of the 66 cities studied. A more detailed bulletin, providing national, regional, and city averages, and wage trends dating back to 1907, is for sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. ☐

Table 1. Average annual wage gains for printing trades, by year and trade branch, 1968–78

Year	Total	Book and job	Newspaper	Lithography
1968–69	6.6	6.3	6.8	7.6
1969–70	8.3	8.2	7.9	9.7
1970–71	10.2	10.5	10.2	9.5
1971–72	8.0	8.0	8.3	6.9
1972–73	6.3	7.4	5.6	5.5
1973–74	8.1	7.1	8.6	9.1
1974–75	8.5	8.8	8.2	8.4
1975–76	6.9	6.9	7.1	6.5
1976–77	6.6	7.0	6.2	6.6
1977–78[1]	6.0	6.2	4.8	7.3

[1] Increases were prorated to a 12-month period to account for the change in the survey reference month.

Communications industry record slow wage gains

During 1978, wage levels for principal telephone carriers rose 6.2 percent; for international telegraph carriers, 5.2 percent; and for the Western Union Telegraph Co., 7.0 percent, according to an annual wage survey by the Bureau of Labor Statistics. The late 1977–78 increases for telephone carriers and for Western Union were their smallest annual gains of the 1970's. Yearly increases between 1970 and 1977 averaged 10.7 percent for telephone carriers and 9.5 percent for each type of telegraph carrier.

The 1978 survey of the communications industry covered 870,100 workers of major telephone carriers and nearly 16,000 telegraph workers. Combined, they accounted for approximately nine-tenths of the almost 1 million workers in telephone and wire-telegraph communications.

In December 1978, straight-time hourly earnings of workers employed by the principal telephone carriers averaged $8.43. Employees of Bell System carriers, slightly over nine-tenths of the surveyed telephone workers, averaged 22 percent more than those of other carriers—$8.55 compared with $7.02. Individual earnings of just over four-fifths of the workers fell within a range of $3.50 to $11.50 an hour; about one-eighth earned over $11.50. Hourly earnings for the middle 50 percent of the work force ranged between $6.47 and $9.44 an hour. Some factors contributing to the wide dispersion of earnings were the numerous types of skills required by the telephone industry, differences in pay by carrier and locality, and varying lengths of employee service.

Average hourly earnings among the major occupational categories in telephone communications ranged from $12.97 for professional and semiprofessional employees to $6.26 for telephone operators at the time of the survey. Construction, installation, and maintenance employees were the largest employment group, with just over 316,000 workers; hourly earnings for these workers averaged $8.79. Some other numerically important job classifications and their hourly averages were: business office and sales employees ($8.27); building, supplies, and motor vehicle employees ($7.79), and clerical employees ($7.10).

Wage rates for the nonmessenger work force of five international telegraph carriers averaged $9.70 an hour compared with $7.84 for similiar employees of the Western Union Telegraph Company in October 1978. Messengers averaged $5.02 an hour at Western Union and $3.59 for the international carriers. At the time of the survey, hourly pay levels for construction, installation, and maintenance employees—a heavily populated group—were $8.72 at Western Union and $9.76 for the international carriers.

Annual BLS studies of communications, which cover the full spectrum of activities performed by employees in the telephone and telegraph industries, are based on data submitted to the Federal Communications Commission. The data are provided by telephone carriers subject to the full jurisdiction of the Commission and with annual operating revenues exceeding $1 million, the Western Union Telegraph Co., and five international telegraph carriers with annual revenues of more than $50,000.

A comprehensive report, *Industry Wage Survey: Communications, October–December 1978* (BLS Bulletin 2071) is available. □

The age of specialization (B.C.)

I am reminded that we are not all alike; there are diversities of natures among us which are adapted to different occupations.

Very true.

And will you have a work better done when the workman has many occupations, or when he has only one?

When he has only one.

—PLATO,
The Republic, Book II

Foreign Labor Developments

ILO meeting supported older workers, improved standards supervision

PETER ACCOLLA

The 1980 Conference of the International Labor Organization, the first major ILO gathering since the United States formally rejoined the tripartite organization,[1] dealt constructively with a number of crucial labor issues. The 66th Session, held in Geneva during June 4–25, addressed, among other topics, the needs of older workers, workplace safety and health, and the application of all ILO standards. Although discussion of political issues consumed much of its 3-week session, the conference nevertheless completed its technical work in good order and produced a comprehensive report on the observance of ILO human rights standards.

Government, employer, and worker delegates from 138 countries participated in this year's conference, including those representing the new member states of Saint Lucia, Grenada, Vietnam, Zimbabwe and Lesotho. Gerhard Weissenberg, Austria's minister for social affairs, was elected conference president.

Conference actions

A new standard on the employment of older workers was adopted unanimously. It promotes antidiscrimination laws and better working conditions for millions of older workers throughout the world. The conference also endorsed a number of proposals which, after further committee review in 1981, may lead to the adoption of new standards on collective bargaining, equality of treatment for workers with family responsibilities, and safety and health in the workplace.

The conference adopted the report submitted by the committee that supervises the implementation of ILO standards. Serious violations of human rights in Czechoslovakia were highlighted, the first time in 4 years that an Eastern bloc country has been cited by the conference as a whole for noncompliance with ILO standards. The report also criticized the human rights policies of Argentina, Guatemala, Zaire, and a number of other countries. In addition, the Committee on the Application of Conventions and Recommendations reported the adoption of new measures to improve the presentation of conclusions to the conference. Countries that achieve greater compliance will be cited, and more detailed explanation of compliance problems will be provided when available. The adoption of this new approach followed extensive debate on a Soviet bloc proposal to eliminate the so-called "special list" and "special paragraphs" used to elicit compliance with standards. Rejection of the proposal allows the ILO to continue to highlight flagrant violations of workers' human and social rights.

The conference endorsed specific recommendations for action by governments, employers, and workers and by the ILO against apartheid labor practices in the Republic of South Africa. The recommendations, proposed by the Committee on Apartheid, included a request to update the 1964 Declaration Concerning the Policy of Apartheid and to organize within 1 year an international tripartite meeting in one of the "front-line" African states to plan a joint international program of action.

A resolution criticizing Israeli settlements in Palestine and other occupied Arab territories was adopted in the first use of secret-ballot voting. Under the ILO's unique rules, abstentions are not counted towards a quorum. The resolution achieved the necessary quorum (257) for adoption in plenary when 15 delegates voted against the resolution, 249 in favor, and 156 abstained. Many states charged that the resolution violated existing due process machinery of the ILO and that it diverted the attention of the resolutions committee from consideration of issues more germane to the work of the ILO.

A resolution concerning newly independent Zimbabwe was unanimously adopted by the conference. The resolution requires the ILO to develop a program designed to address critical issues of resettlement, training, and worker education. A third resolution, also

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adopted unanimously, outlines the need for a rural development program, including agrarian reform to eradicate poverty and provide adequate nutrition, full employment, and useful education under conditions of freedom of association and equal treatment.

Finally, the conference responded favorably to a number of U.S. initiatives committing the ILO to study the need for minimum international labor standards and to examine the relationship between energy and employment.

Supervising ILO standards

This year, the Committee on the Application of Conventions and Recommendations examined closely its working methods and its manner of informing the conference of its conclusions in individual cases. As before, its 1980 report highlighted the shortcomings on the part of governments in ensuring the implementation of ratified conventions or otherwise complying with their constitutional obligations. Cases of continued failure over several years to eliminate serious deficiencies were, as usual, given great attention. For the first time, however, emphasis was also given to cases of government progress in ensuring the application of conventions and recommendations. A further innovation was that the committee will now report on the nature of the difficulties which governments—particularly in developing countries—may face in the discharge of their obligations. Such explanations were provided by nine governments, while the committee noted the absence of reports or requested information in 30 cases concerning 17 countries. Direct contacts between representatives of the ILO and governments, technical cooperation, seminars, study courses, and fellowships were cited by the committee as means of assisting governments in overcoming reported difficulties.

Satisfactory progress toward standards compliance, resulting from changes made in law and practice, was noted for four countries (Gabon, Honduras, Kuwait, and the Philippines). Seven countries were reported in "special cases" paragraphs (notices of major violations); Argentina, Czechoslovakia, Guatemala, Tanzania, and Zaire were cited for severe violations of important ILO human rights conventions.

After examining member states' compliance with standards, the Committee of Experts on the Application of Standards provides an initial report outlining deficiencies. This analysis serves as the basis for discussion by the Committee on the Application of Conventions and Recommendations. Explanations given by government representatives and comments of employer and worker members in committee sessions permit a frank and constructive dialogue. These discussions are the final and most crucial phase of ILO supervision of ratified conventions. It is also the only forum in international organizations where national workers' and employers' organizations have the opportunity to question their own or another government's labor policies as they relate to specific issues or cases under discussion. This year, the committee discussed in depth a number of cases dealing with the key human rights conventions on forced labor, discrimination, and freedom of association.

Noting the constructive spirit that prevailed in the work of the Committee on the Application of Conventions and Recommendations, the conference unanimously adopted the committee's report. In addition, the conference noted changes made by countries during the past year (more than 70 cases) to comply with their international obligations.

Progress also was noted in the implementation of standards concerning migrant workers, and the conference expressed hope that a general survey made by the committee of experts would help overcome obstacles to their ratification and difficulties in their application.

Far-reaching resolutions finally emerge

This year, the Committee on Resolutions focused almost exclusively on the merits and objectives of a resolution presented by the government delegation of Jordan "deploring" Israeli settlements in Palestine and other occupied Arab territories. The resolution was one of five resolutions selected for priority consideration by the committee from a group of 17 resolutions submitted to the conference earlier.

Many committee members considered the resolution to be an extraneous political issue; nevertheless, it occupied the complete attention of the committee delegates for 2 weeks. As a result, other labor-related resolutions concerning rural aid, job training, migrant workers, and programs to eliminate child labor failed to receive adequate consideration. Representatives of governments, employers, and workers argued that the Arab charges of possible harmful impacts on employment and conditions of work in Israeli-occupied areas should be investigated through existing ILO due process procedures before a preemptory judgment was reached.

After committee approval, the resolution on Israeli settlements was further discussed in the plenary of the conference, where it was ultimately adopted by a secret-ballot vote.

A proposed resolution concerning technical and other forms of assistance for the newly created State of Zimbabwe emerged with a degree of unanimity which was in sharp contrast to the divisive atmosphere provoked by the debate on the resolution concerning Israeli settlements. Similarly, a proposed resolution providing for ILO program activities emphasizing rural development also won the endorsement of the full committee. Two other proposed resolutions selected for priority consideration dealt with the ILO contribution to the training and retraining of managers, with special reference to developing countries. Neither was considered by the committee, but both may be reintroduced in following meetings.

The fifth proposed resolution accorded priority status—but also not considered—applied to the overall issue of training, a theme treated extensively by Francis Blanchard, the Director General, in his annual report to the conference.

Technical committees

Older workers. The extensive debate in the Committee on Older Workers reflected the general desire for actions both at the national and international levels to ensure the most equitable treatment and all necessary protection for these workers. The committee recommendation, which was adopted by the conference, encourages governments to solve the unique problems of older workers through full-employment strategies and social policies that consider all population groups and ensure that employment problems are not shifted from one group to another.

The major protective labor standards emphasized in the recommendation include the following: special laws and regulations to prevent employment-related discrimination against older workers; measures which enable continuation of employment despite age; and policies that enhance preparation for and access to retirement, ensuring a gradual transition between work and voluntary retirement with a pension. Specific measures suggested to achieve these objectives include a review of mandatory retirement provisions; special benefit compensation for reduced hours of work; special benefits in cases of extended unemployment or early cessation of work in arduous or unhealthy occupations; flexible eligibility age for old-age benefits; and retirement preparation programs.

Governments are particularly urged to formulate measures in cooperation with employers and workers to prevent discrimination against older women in areas such as choice of employment, job security, pay and benefits, working conditions, and vocational training. The instrument also recommends special efforts to provide retraining for displaced older workers and assistance in securing new employment. These measures might also apply to older persons returning to the labor force following a commitment to family responsibilities.

Work organization and working time could be modified to reduce stress or excessive work pace, and the job and its content could be adopted to the older worker. These suggestions might involve part-time employment, flexible working hours, and transitional retirement programs.

The recommendation may be implemented through laws or regulations, collective agreements, or as appropriate and consistent with national practice taking into account national economic and social conditions. The instrument adds that older workers, employers, and unions should be kept informed as to rights, opportunities, and measures designed to assist older workers.

The United States fully supported the adoption of the recommendation after successfully introducing provisions that encouraged access for older workers, trade union organizations, and employers to agencies responsible for investigating complaints regarding discrimination and that suggested changes in national measures specifying a mandatory retirement age to conform with the principle of equal employment opportunity. Progressive U.S. laws in this area could be used as examples for other nations.[2]

Safety and health. Issues relating to workplace safety and health were among the most important discussed by a technical committee at the 66th Session. The ILO has considerable experience in this area with some 50 instruments adopted to date.

This year, the Committee on Safety and Health was concerned with the prevention of occupational hazards, improving the working environment, as well as ways of promoting the progressive application of new and far-reaching safety and health measures at the national level. Numerous committee delegates, while pointing to achievements made in many countries, also stressed the importance of a comprehensive instrument, a "framework of principles" to guide efforts to protect workers.

The committee adopted a draft convention together with a recommendation setting overall standards applicable to all branches of economic activity, including the public sector. The two draft instruments will be the subject of a second discussion at the 1981 conference.

The draft convention outlines broad principles for a national policy on workplace safety and health, including the responsibilities of public authorities, employers, workers, and others. The draft recommendation covers the technical areas of such a policy.

Among the responsibilities outlined for the state are the formulation, implementation, and periodic review of a coherent national policy designed to prevent accidents and injuries related to employment. Employers are expected to ensure that workplaces, machinery, equipment, and processes under their control are safe and without risks to health. Additionally, employers shall provide for measures to deal appropriately with emergencies and accidents.

Workers are expected to cooperate in the fulfillment of the obligations and responsibilities by their employers and should have the right to cease work if, in their view, there is an immediate and serious threat of injury or death. Such work stoppage must be reported immediately to the employer or the workers' safety delegate. The right to cease work on the basis of serious threat of injury or death will be discussed further next year when workers and employers will seek to define the issue more clearly, including delineation of responsibilities and conditions of work.

The draft convention also proposes the inclusion of safety, health, and working environment questions at all levels of education and training, including those of higher technical, medical, and professional institutes.

In accepting the report of the committee, the conference also decided to amend the list of occupational diseases appended to Convention No. 121 dealing with employment injury benefits. The newly revised list covers 29 diseases, 14 more than in 1964 when the convention was originally adopted.

Added to the list are hearing impairment caused by noise, disease caused by vibration and work with compressed air devices, certain skin diseases, lung cancer caused by asbestos, bronco-pulmonary diseases caused by cotton dust or flax, by hemp or dust, and by hard-metal dust, occupational asthma, diseases caused by various substances or their components (cadmium, fluorine, nitroglycerin, carbon monoxide, hydrogen cyanide, hydrogen sulfide, alcohols, cycols, and ketones), and extrinsic allergic alveolitis caused by the inhalation of organic dusts. Medical care and income maintenance are some of the benefits that ratifying countries (17 in January 1980) must provide for all listed illnesses and injuries.

Collective bargaining. A new standard to promote collective bargaining was examined in committee in the first stage of a 2-year review. The Committee on Collective Bargaining endorsed the shared decisionmaking process obtained through collective bargaining. It noted that in addition to improving the lot of workers, free bargaining also has increased productivity and permitted important economic and social changes in numerous countries. However, a number of government delegates as well as employer and worker delegates on the committee noted that the weak character of employers' and workers' organizations in some areas represented a "serious obstacle" to effective bargaining, particularly in many developing countries.

The recommendation proposed by the committee, if adopted by the 1981 conference, will emphasize not only the need for negotiation between workers and employers but will also suggest ways of making collective bargaining more effective in all levels of economic activity.

Existing ILO instruments promoting collective bargaining[3] would be reaffirmed under the proposed recommendation. Complementing the earlier standards, the proposed instrument would encourage collective bargaining in all negotiations for the purpose of determining working conditions and terms of employment and regulating labor-management relations. As suggested, bargaining should be possible at all levels, including that of the establishment, the undertaking, the branch of activity, or the regional and national levels.

The proposed recommendation cites the need for independent and representative employers' and workers' organizations, with access to appropriate training and the ability to select their own bargaining representatives. Access to information is required for meaningful negotiations, and the proposal envisions that employers would make available, within limits, information on the economic and social situation of the negotiating unit. Public authorities, likewise, should provide information regarding the economic and social situation of the country and industry concerned, without jeopardizing the national interest.

The report of the committee was adopted by the conference without objection on June 25. Prior to its adoption, however, both worker and employer representatives expressed certain reservations with respect to its content. The workers emphasized that the scope of the instrument "cannot be left to governments to determine" and indicated they would seek instead to strengthen the effect of such standards through a proposed convention in 1981. The employers, on the other hand, expressed concern that a large part of the committee's work was consumed in considering " . . . novel and far-reaching concepts for collective bargaining that are not already accepted in most developed countries . . . " In their view, it would be impossible to impose uniform collective bargaining regulations throughout the world.

Workers with family responsibilities. The Committee on Workers with Family Responsibilities examined measures which would ensure equal opportunities and equal treatment for workers—both men and women—with family responsibilities. Conditions of employment, child-care services and facilities, and social security programs were identified as areas of special concern for such workers.

Proposals for both a convention and a recommendation, to be considered for possible adoption during the 1981 conference, provide for training measures to facilitate the integration of workers into the labor force for the first time and after an absence from employment for family responsibilities. The instruments specifically provide for safeguards against job loss because of family or marital commitments.

The proposed recommendation addresses hours of work, protection of part-time and temporary workers and homeworkers, and parental leave.

Previous instruments adopted by the ILO[4] contributed to the employment of women in certain countries, but many difficulties prevent the attainment of full equality of opportunity and treatment. Obstacles cited by the committee were social attitudes, preconceived ideas as to the capabilities and aptitudes of women, their lesser access to educational and job training programs, and limited employment experience.

Noting the progress achieved by the committee with regard to employment rights and privileges of women with family responsibilities, the U.S. Government and Labor delegates supported committee efforts to balance family responsibilities with demands of the workplace.

1980 achievements reflect potential

An objective review of the 1980 conference proceedings confirms that progress was achieved in a number of significant areas. The machinery for overseeing the implementation of ILO conventions in member states was strengthened. As a consequence, efforts to promote compliance with ILO standards should be more effective, particularly in such areas as freedom of association, forced labor, and discrimination in employment.

Moreover, in supporting a sound recommendation on older workers as well as proposals of new standards in such areas as workplace safety and health, collective bargaining, and workers with family responsibilities, the conference reaffirmed the ability of the ILO to tackle serious technical issues for which it has a unique competence.

These achievements, along with the adoption of resolutions providing for training and technical assistance, demonstrate the ability of the ILO to deal with labor issues concerning member states. In the future, the attention given this work should far exceed that devoted to extraneous political issues. Although political questions are inevitably related to issues discussed by the labor conference, member states should exercise restraint so as not to lose sight of the principles and purposes of the tripartite organization. □

FOOTNOTES

[1] In November 1977, the United States withdrew from active membership in the ILO.

For a discussion of the decision to withdraw and the subsequent decision to rejoin, see Tadd Linsenmayer, "U.S. rejoins ILO: agenda for 1980's stresses human rights," *Monthly Labor Review*, May 1980, pp. 50–51.

[2] The United States is one of the few countries in the world with substantial legal protection against age discrimination in employment through the Age Discrimination in Employment Act which protects workers age 40 to 70.

[3] Current ILO standards covering the right to collective bargaining include Convention No. 98 (1949), ratified by 109 member states, and Recommendation No. 91 (1951).

[4] Notably, the Employment (Women with Family Responsibilities) Recommendation No. 123, 1965.

Exploitation of children widespread, ILO reports

TANYA KUCHEROV

Nearly 55 million children not yet 15 years old are working in violation of the minimum age set by a 1973 International Labor Organization convention. Realistically, the number of children involved is probably even higher because they usually work illegally and along with their employers are reluctant to provide data.

This information is found in the ILO study "Children at Work," which investigates the use of child labor in 10 ILO members of Asia, Latin America, Africa, and southern Europe—none is among the 20 countries that have ratified the ILO agreement. Almost 53 million of these children are working in underdeveloped regions and 1.5 million in industrialized regions. Furthermore, the ILO suggests that in some areas the number of employed children may even be rising, but this increase could be counterbalanced by more children attending school.

Child labor in practice

Agricultural work is by far the most important sector for child labor. Argentine children, for example, are employed intensively in harvesting cotton, tobacco, mate, tea, and sugar cane, as well as growing paprika. In one province the ILO reports that 88 percent of the 10- to 13 year-olds are working on cotton plantations, and in another region 75 percent of this age group were already working on tobacco plantations. In both areas, virtually all children over age 14 were at work. Similarly, Mexican children usually begin working in agriculture at the age of 6 by sowing and harvesting crops such as cotton, tomatoes, and sugar cane. In Peru, Greece, and India, well over half the child labor force is involved in some form of agricultural work. One particular crop, the coffee bean is harvested mainly by women and their children in almost all regions of the world.

Another common form of child labor according to this study is the tradition of handing children over to families or future employers who will "adopt" or hire them as a subordinate member of the household. Young girls are usually "adopted" as domestic servants while boys are laborers or shepherd boys in return for a small loan or payment to their parents. These children then become dependent on their adopted parents who usually exercise total control over their working conditions, leaving the child vulnerable to abuse.

Thirty-seven percent of all female domestic servants

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in Peru are 14 to 19 years old. In addition, 88 percent of the domestic servants have immigrated from rural areas to the big cities such as Lima. Few of these women are members of trade unions, leaving the majority unprotected by, or ignorant of the possibility of, legal defense against abuses. Italian girls in the domestic service, however, have been replaced to a large extent by other nationalities. In Nigeria, the number of girls performing this service is also declining.

Other children may continue living at home while serving as so-called apprentices to employers or artisans for no pay. Usually these children are performing menial tasks rather than learning a job or trade that will be useful in the future. However, in some cases, when the child is working directly for an adult worker he may actually serve an apprenticeship and receive a share of the adult's earnings. This practice is common in Greece, where in certain trades such as shoemaking and tailoring a worker will hire an assistant. The Pakistani shoe industry reveals many children working alongside their parents for informal on-the-job training; this kind of apprenticeship may last from 2 to 4 years.

Commonly witnessed is the child who is forced to survive by taking to the streets, where he will peddle goods, run errands, beg, or collect junk. In some countries parents have even been known to deliberately maim their children, leaving them to beg on the streets to supplement the family income. Other outgrowths of child labor on the streets are drug-running and prostitution. City children in Peru enter street life as soon as they can leave home (around 7 years old) and can be seen working "in the markets, cinema entrances, bus and railway terminals, [parking lots], and the main squares."

In the manufacturing sector children usually work in smaller enterprises or cottage industries. Some of the most commonly performed tasks are packing, gluing, and labeling, as well as actual production-line jobs in the textile industries, tailoring and leather industries, leather and woodwork shops, pottery shops, cigarette factories, and the construction industries. In India, for example, the children are still commonly employed in the manufacturing of watches and carpet, and the processing of cashew nuts, with hours of work as long as those of adults. The Anti-Slavery Society of London has reported that over 20,000 children are employed in match factories for 16 hours a day beginning at 3 a.m. Indonesian girls, under an ostensibly voluntary arrangement, usually work in the cigarette industry from 5 a.m. until 5 p.m. with one hour for lunch.

Many children in Pakistan still work in the handwoven carpet industry, a traditional family occupation in which children with manual dexterity excel. Exploitation of child labor in Pakistan is most severe in the building industry and quarrying. According to the ILO, children are "in effect abducted from their homes and confined in camps, where they are closely watched and severely punished and humiliated if they try to escape."

In Thailand, child labor is prevalent among glass industries, cold storage services and canned food industries. Working 6 days a week, 8 to 9 hours a day, a child in the glass factory is exposed for long periods to high temperatures and inevitably suffers from the heat. In cold storage factories, with similar hours, children often have to stand on floors flooded with water used for cleaning the seafood.

Safety and health at stake

Illegal and subject to exploitation, the child labor force has little or no influence over the working environment even with its numerous safety and health hazards. A child's body is extremely vulnerable to such hazards, more so than an adult because of soft bone tissue, shorter attention span, lower resistance to disease, and less endurance under strenuous and long working hours.

According to the ILO, street children generally feel freer than children who work in other sectors, but are still exposed to harmful weather conditions, often until late at night, to traffic hazards, street diseases, and detention by the police for vagrancy. Peddlers of petrol have been known to receive entire body burns during their work; while rubbish collectors, bent from the weight of the load, often permanently damage their spinal cord growth.

Perhaps the most harmful child labor sector is agriculture, which also includes the largest number of children. Dangerous machinery and pesticides, as well as prolonged exposure to heat, sun, dust, wind, and insects (disease carriers), all contribute to a particularly unsafe and unhealthy environment.

Employment in the manufacturing industry may be equally dangerous. Not only are the hours long, but children are more prone to accidents involving machinery because of their shorter attention span. Also, they are more susceptible to the harmful effects of toxic substances such as glues which can produce paralysis, or the absorption of wool dust into the lungs which causes tuberculosis and possibly cancer. Anemia and chronic bronchitis are common among children in the cigarette industry in India.

An unbalanced diet or malnutrition only compounds the child's predicament. Lack of proteins combined with fatigue from work can seriously damage the central nervous system. In Nigeria the working child's problem is finding the time during the workday, and supply, for food. This improper diet too often results in malnutrition and contraction of the disease kwashiorkor (which causes edema, anemia, potbelly, and loss of hair). Similarly, in India 25 percent of the children working on plantations were in an advanced stage of vitamin A deficiency.

Violations of labor standards

Twenty members have ratified ILO Convention No. 138 on minimum age, but child labor is a long way from being eliminated. Convention No. 138 generally sets the minimum age for employment at 15 years and specifies that no person under age 18 should be exposed to hazardous working conditions. The corresponding Recommendation No. 146 states that young workers should enjoy equal pay for equal work, should be allowed 12 hours off at night for rest, customary weekly rest days, annual paid holidays, social security, medical care and benefit schemes, and satisfactory standards of safety and health.

However, most working children are now between 13 and 15 years old and many begin even younger. Domestic servants, for example, usually start between ages 9 and 10, whereas apprentices may begin as early as the age of 6 or 7. Depending on the sector and regional traditions, children may begin agricultural labor at very early ages; the rural child in Peru and in Mexico begins at about 6 years; children in India usually set out at the age of 8 or 9; and in Argentina at 6 or 7 years old.

Equal remuneration is clearly an anomaly, when applied to working children, who are either unpaid or receive negligible wages—about half the normal adult salary for the same work. Similarly, children's medical care and social security are rare. Also, children often conceal injuries from employers for fear of losing their job, and employers will let injuries go untreated for fear of drawing the attention of authorities to their illicit employment practices.

A good example of the lack of job security for children is given by the Anti-Slavery Society of London. In the Moroccan carpet industry, female apprentices under age 13 may work for no pay because of the skills they are learning. Once 13 years old, however, they are usually fired because Moroccan law stipulates that any worker 13 or over must be salaried as an adult.

Social and economic roots

The overriding cause of child labor, reports the ILO, is poverty. Parents who do not have the means to support the child or themselves, may have no choice but to send the child to work illegally or to have the child help them in their own work. A second contributing factor is the conflict between education and work, in terms of both availability and parental attitudes.

Economic need was seen in Nigeria as the major cause for urban child labor. Urbanization and modernization have tempted rural families with prospects for better jobs, causing a great influx of rural dwellers to the cities. When faced with the problem of paying for food and shelter, however, these families are forced to send their children to work.

In addition to economic need, the traditional attitudes of parents toward work, as opposed to education, may encourage the child to seek work rather than pursue an education. In some cases there may not even be a choice between work and school because of the severe shortage of educational facilities in rural areas. But the ILO suggests that usually where such a choice exists, the parents' traditional objections to education may cause the child to drop out at an early age or to not attend school at all.

A survey among children in Bangkok, for example, showed that the main reasons for working were: poverty; need to assist parents in household economic activity; parents want them to work; need to earn their own living; and better than doing nothing. In Italy where access to education is much better but the number of children working is high, the reasons given were: little desire to study; prefer to work; slow progress at school; illness; difficult family situation; and poor relationship with teachers.

Striving for improvement

The ILO's program for future action on child labor sets forth both short- and long-term goals. In the short term, efforts must be made to improve the working conditions of children, while the long-term goal is to eliminate child labor. To meet these goals the ILO recommends the following:

- launch a major information campaign on the physical and mental needs of children and the detrimental affects of arduous work
- better enforcement of existing legislation
- extension of compulsory schooling to all children
- encouraging trade unions to fight for the eradication of child labor, and thus for increased employment opportunities and higher wages for adults

It is interesting that the latter recommendation has been successfully tried in one country. According to the ILO some Pakistan trade unions proposed in 1969 that children be paid the same rate as adults for the same work in textile industries; since then the number of children employed in the textile industry in Karachi has dropped significantly.

Whatever measures are taken against child labor, ending it will involve modifying the economic and social organization and traditional attitudes of the societies concerned—which will require worldwide efforts and cooperation. □

Significant Decisions In Labor Cases

Innovative work preservation

Technological innovation increases worker productivity, thus usually reducing the number of workers required for specific jobs. At the docks, for example, the introduction of large containers offered great economic advantage to the shipping industry but threatened the jobs of longshoremen by dramatically increasing their productivity. To mitigate the full impact of this innovation on longshore employment, the International Longshoremen's Association negotiated an agreement with the shipping industry to pack and unpack only certain types of containers crossing the piers in New York, Baltimore, and Hampton Roads. According to the agreement, longshoremen would pack and unpack goods from containers that would otherwise be handled by non-ILA workers within 50 miles of the pier. As a result, 80 percent of the containers typically pass through the piers intact, while the remaining 20 percent are packed or unpacked despite any duplication of work done by non-ILA members away from the pier. Violations of the agreement called for fines imposed on the shipping companies.

Under the National Labor Relations Act, unions may enter into labor contracts that preserve work traditionally done by their members. But such agreements must be carefully constructed: not only must the work be traditionally part of the union members' work, but the contracting employer must have the power to give the employees such work.[1] When the ILA's container-handling agreements were challenged by non-ILA cargo handlers and transporters, the National Labor Relations Board ruled that the agreements did not attempt to preserve traditional longshoring work but illegally sought to obtain work traditionally performed by others. The Board reasoned that the packing and unpacking of containers away from the pier had never been performed by longshoremen. Rather, such work had always been done by employees of transportation or consolidation companies.

The Federal appeals court for the District of Columbia refused to enforce the Board's decision because it felt that the Board had incorrectly examined the nature of the work involved.[2] The Supreme Court agreed,[3] resolving a conflict among the Circuit courts.[4]

Writing for a 5-4 majority, Justice Thurgood Marshall found that container technology replaced the entire method of handling goods between ocean and motor transportation and was therefore unlike technologies at issue in earlier work preservation cases. In the past, unions completely rejected innovations that would have altered their work procedures, so that courts applied the law to circumstances where the "traditional work" could be easily and narrowly defined. But Marshall reasoned that Congress intended the work preservation doctrine to be more flexible: the law also must protect union actions that "attempt to accommodate change while preserving as much of their traditional work patterns as possible." After clarifying the scope of permissible work preservation, Marshall examined the basis for the Board's application of the law to the container-handling rules:

> The Board's approach reflects a fundamental misconception of the work preservation doctrine as it has been applied in our previous cases. Identification of the work at issue in a complex case of technological displacement requires a careful analysis of the traditional work patterns that the parties are allegedly seeking to preserve, and of how the agreement seeks to accomplish that result under the changed circumstances created by the technological advance.
>
> . . . [T]o determine whether an agreement seeks no more than to preserve the work of bargaining unit members, the Board must focus on the work of the bargaining unit employees, not on the work of other employees who may be doing the same or similar work, and examine the relationship between the work as it existed before the innovation and as the agreement proposes to preserve it.
>
> The Board, by contrast, focused on the work done by the employees of . . . the truckers and consolidators after the introduction of containerized shipping. It found that work similar to work those employees had done before the innovation and concluded that ILA was trying to acquire the traditional work of those employees . . . .
>
> By focusing on the work as performed after the innovation took place, by the employees who allegedly have displaced the longshoremen's work, the Board foreclosed—by definition—any possibility that the longshoremen could negotiate an agreement to permit them to continue to play any part in the loading or unloading of containerized cargo. For the very reason the rules were negotiated was that longshoremen do not perform that work away from the pier, and never have. Thus, it is apparent that under the Board's approach, in the words of the Court of Appeals, the 'work preservation doctrine is sapped of all life.'

"Significant Decisions in Labor Cases" is written by Gregory J. Mounts of the *Monthly Labor Review* staff.

The Board must now reconsider whether the ILA contract preserves traditional longshoring work—or its functional equivalent; if so, it must determine whether the shipping companies have the right to control the packing and unpacking of containers. Despite the Court's claim that both questions remain unresolved, the Board's decision on the agreement's work preservation objective could be constrained by the Court's characterization of the rules as "a thoroughly bargained and apparently reasonable accommodation to technological change." The Court also required the Board to consider the congressional preference for collectively bargained solutions to such disputes. The "right to control" test, however, presents far more difficult questions involving possible government regulatory constraints and the ability of shipping companies to enforce the contract rules after containers have been released to motor carriers. The Court suggested that the shippers' right to control work on containers they own or lease and in their "possession and control" might be the most appropriate focus for the Board's analysis of this issue.

Chief Justice Warren Burger wrote in dissent that the Board had correctly found that the work at issue has been traditionally performed by inland workers. Joined by Justices Potter Stewart, William Rehnquist, and John Paul Stevens, Burger charged that the ILA container-handling rules represented classic "featherbedding" and that the Court's action excessively widened the work preservation doctrine.

Secondary picketing of products limited

On the same day it clarified the scope of the work preservation doctrine, the Supreme Court also resolved a conflict between Circuit courts on the dimensions of permissible secondary boycotts under the National Labor Relations Act. The standard established by the Court's 1964 *Tree Fruits* ruling[5] permitted secondary picketing against a struck product (apples in a retail food store). In its recent decision in *NLRB v. Retail Store Employees*,[6] however, a 6–3 Court majority agreed with the Board that unions cannot follow a struck product to a secondary location and picket a neutral employer if the product accounts for substantially all of that employer's business.

In this case, the primary employer, Safeco Title Insurance Co., underwrites real estate title insurance in Washington State. Five local title companies, partially owned by Safeco, sell Safeco insurance; revenues from these sales make up more than 90 percent of the companies' gross income. At an impasse in contract talks with Safeco, the retail employees union picketed the five title companies and asked consumers to cancel existing policies. On charges filed by Safeco and one of the companies, the National Labor Relations Board ruled that the union had violated the prohibition against secondary boycotts. Even though the union had directed its efforts against Safeco insurance policies, the Board found that because the product represented nearly all of the firms' business, the union's action was "reasonably calculated to induce customers not to patronize the neutral parties at all." The appeals court for the District of Columbia refused to enforce a Board order against the union, reasoning that *Tree Fruits* permitted such picketing despite the relationship of the product to the secondary employer's revenues.

Writing for the Supreme Court, Justice Lewis Powell found that the economic impact of a union's primary-product picketing on a neutral employer is the critical factor in deciding whether such activity is lawful.

> . . . Product picketing that reasonably can be expected to threaten neutral parties with ruin or substantial loss simply does not square with the language or the purpose of [the NLRA's limitation on secondary boycotts]. Since successful secondary picketing would put the title companies to a choice between their survival and the severance of their ties with Safeco, the picketing plainly violates the statutory ban on the coercion of neutrals with the object of 'forcing or requiring them to cease . . . dealing in the primary product . . . or to cease doing business with' the primary employer.

Only four Justices could agree on the First Amendment implications of the decision. The Chief Justice and Justices Potter Stewart and William Rehnquist joined Powell in reasoning that Congress may prohibit, within the bounds of the First Amendment, specified secondary picketing that "spreads labor discord by coercing a neutral party to join the fray." Justices Blackmun and Stevens refused to take such a simple view of the constitutional issue; both wrote separate opinions troubled by the Powell's content-based ban on picketing. However, both agreed that barring the union's secondary picketing in this case was constitutionally permissible.

Justice William Brennan, joined by Justices Byron White and Thurgood Marshall, argued in dissent that the NLRA's prohibition against the coercion of secondary employers to join union interests should not be based on that employer's potential economic loss. Rather, the legality of secondary picketing, as established in *Tree Fruits*, should be based only on the union's focus on the primary product.

> . . . *Tree Fruits* expressly rejected the notion that the coerciveness of picketing should depend on the extent of loss suffered by the secondary firm through diminished purchases of the primary product. Nevertheless, the Court has now apparently abandoned the *Tree Fruits* approach, choosing instead to identify coerciveness with the percentage of the secondary firm's business made up by the primary product.

Brennan also charged that the Court's new standard would create great uncertainty among unions and the lower courts as to when secondary picketing is permissible.

> By shifting its focus from the nature of the product boycotted to the composition of the secondary firm's business, today's decision substitutes a confusing and unsteady standard for *Tree Fruits'* clear approach to secondary site picketing. Labor unions will no longer be able to assure that their secondary site picketing is lawful by restricting advocacy of a boycott to the primary product, as ordained by *Tree Fruits.* Instead, picketers will be compelled to guess whether the primary product makes up a sufficient proportion of the retailer's business to trigger the displeasure of the courts or the Labor Relations Board. Indeed, the Court's general disapproval of '[p]roduct picketing that reasonably can be expected to threaten neutral parties with ruin or substantial loss. . . .' leaves one wondering whether unions will also have to inspect balance sheets to determine whether the primary product they wish to picket is too profitable for the secondary firm.

Veterans' service added to SUB formula

Veterans whose employment is interrupted by their military service are entitled to seniority benefits calculated as if they had been continuously employed. The Supreme Court has ruled that such seniority benefits include severance pay[7] and pension benefits[8] but not vacation benefits.[9] Recently, a unanimous Court ruled that union-negotiated supplemental unemployment benefits also are perquisites of seniority and military service must be included in the determination of SUB payments. (*Coffey v. Republic Steel Corp.*[10])

In its 1977 *Alabama Power* ruling,[11] the Court included pension benefits as seniority perquisites and established a two-pronged test for determining the benefits of seniority that Congress sought to preserve for returning veterans under the Vietnam Era Veterans' Readjustment Assistance Act of 1974. First, there must be a reasonable certainty that the benefit would have accrued if the employee had not gone into the military service. Second, the nature of the benefit must be "a reward for length of service," rather than a form of "short-term compensation for services rendered."

Writing for the Court, Justice Thurgood Marshall analyzed the steel industry's SUB plan under the *Alabama Power* criteria. A steel industry employee accrues a one-half SUB credit for each week in which he worked any hours, or was paid for any hours not worked, or lost any hours because he was disabled or was performing certain union duties. To receive any SUB payments, an employee must have completed 2 years continuous service. Marshall concluded that Thomas Coffey, a Republic Steel employee laid off after a period of nearly 3 years (including 2 years of military service), would have accumulated the maximum 52 SUB credits if he had been continuously employed by Republic. Turning to the nature of supplemental unemployment benefits, Marshall concluded that they are not "a form of deferred short-term compensation, but are a reward for length of service closely analogous to traditional forms of seniority."

Marshall traced the origin of the SUB plan concept as an alternative to the unmet demand by organized labor for a guaranteed annual wage.

> . . . From the beginning . . . the purpose of SUB plans was to provide employment security regardless of the hours worked rather than to afford additional compensation for work actually performed. From the employer's standpoint, SUBs, like pension benefits, help to assure a stable work force through periods of short-term layoffs and, like severance payments, may increase management flexibility in implementing technological advances.
>
> The essential function of SUB plans is to provide economic security for regular employees in the event that they are laid off. Protection against layoff is, of course, one of the traditional attributes of seniority. SUB payments provide a second-level protection against layoff. If an employee does not have sufficient seniority to avoid being laid off, he may still have achieved the minimum level of seniority necessary to receive SUB payments during his layoff.

Although steel industry SUB payments are partly based on hours worked, Marshall emphasized that the nature of the benefits rather than the formula used to calculate them is the "crucial factor." The 2-year work requirement for benefit eligibility is a "significant period of service" for which laid-off employees are rewarded, and the fact that benefits do not continue to increase as seniority increases is unimportant, he concluded. ☐

FOOTNOTES

[1] See *NLRB v. Enterprise Assn. of Pipefitters,* 429 U.S. 507 (1977), establishing the so called "right to control" test for work preservation agreements; see *Monthly Labor Review,* June 1977, pp. 57–58.

[2] *International Longshoremen's Assn. v. NLRB,* 613 F. 2d 890 (D.C. Cir., 1979).

[3] *NLRB v. International Longshoremen's Assn.*, 48 U.S.L.W. 4765 (U.S., June 20, 1980).

[4] Results contrary to that reached by the D.C. Circuit were in *International Longshoremen's Assn. Local 1575 v. NLRB,* 560 F. 2d 439 (1st Cir. 1977), and in *International Longshoremen's Assn. v. NLRB,* 537 F. 2d 706 (2d Cir. 1976).

[5] *NLRB v. Fruit Packers (Tree Fruits),* 377 U.S. 58 (1964); see *Monthly Labor Review,* June 1964, pp. 687–88.

[6] *NLRB v. Retail Store Employees Union, Local 1001,* 48 U.S.L.W. 4796 (U.S., June 20, 1980).

[7] *Accardi v. Pennsylvania R. Co.*, 383 U.S. 225 (1966), see *Monthly Labor Review,* April 1966, pp. 417–18.

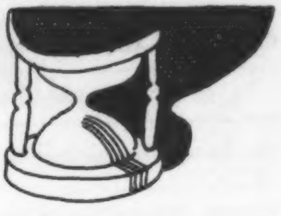
[8] *Alabama Power Co. v. Davis,* 431 U.S. 581 (1977), see *Monthly Labor Review,* October 1977, p. 71.

[9] *Foster v. Dravo Corp.*, 420 U.S. 92 (1975), see *Monthly Labor Review,* May 1975, p. 65.

[10] *Coffy v. Republic Steel Corp.*, 48 U.S.L.W. 4683 (U.S., June 10, 1980).

[11] 431 U.S. 581 (1977).

Major Agreements Expiring Next Month



This list of collective bargaining agreements expiring in December is based on contracts on file in the Bureau's Office of Wages and Industrial Relations. The list includes agreements covering 1,000 workers or more.

Employer and location	Industry	Union[1]	Number of workers
Associated Press (Interstate)	Services	Newspaper Guild	1,200
Boeing Co. (Interstate)	Transportation equipment	Seattle Professional Engineering Employees Association (Ind.)	10,300
Boeing Co., and Boeing Computer Services, Inc. (Washington)	Transportation equipment	Seattle Professional Engineering Employees Association (Ind.)	6,500
Braniff Airways, Flight Attendants (Interstate)[2]	Air transportation	Airline Pilots	1,400
Construction Association of Western Pennsylvania (Pennsylvania)	Construction	Operating Engineers	7,800
Construction Association of Western Pennsylvania (Pennsylvania)	Construction	Teamsters (Ind.)	2,000
Federals, Inc. (Detroit, Mich.)	Retail trade	Clothing and Textile Workers	1,000
Frontier Airlines, Inc., Agents (Interstate)[2]	Air transportation	Airline Pilots	1,800
Heavy Engineering, Railroad Contracting, Highway and Utilities Construction Agreement (Pennsylvania)[3]	Construction	Laborers	2,000
International Nickel Co., Inc., Huntington Alloys, Inc. (West Virginia)	Primary metals	Steelworkers	1,550
Lykes Pasco Packing Co. (Dade County, Fla.)	Food products	Retail, Wholesale, and Department Store	1,100
Marriott Corp., Bob's Big Boy Restaurants (California)	Restaurants	Bob's Employees' Association (Ind.)	4,700
Plastic Soft Materials Manufacturers Association, Inc. (New York, N.Y.)	Apparel	Ladies' Garment Workers	3,500
Realty Advisory Board on Labor Relations, Inc. (New York, N.Y.)	Real estate	Service Employees	15,000
Tanners Association of Fulton County, Inc. (New York, N.Y.)	Leather	Clothing and Textile Workers	1,000
Tenneco, Inc., Monroe Auto Equipment Division (Hartwell, Ga.)	Transportation equipment	Auto Workers (Ind.)	1,000
	Government activity	**Employee organization[1]**	
Maryland: Baltimore Mass Transit Administration	Transportation	American Federation of State, County and Municipal Employees	1,850
Massachusetts: Massachusetts Bay Transportation Authority	Transportation	Amalgamated Transit Union	4,000
New Jersey: Morris County Board of Chosen Freeholders	Multidepartments	Civil Service Employees Association (Ind.)	1,500
Trenton Municipal Employees	Multidepartments	American Federation of State, County and Municipal Employees	1,050
New York: Chautauqua County Municipal Employees	Multidepartments	American Federation of State, County and Municipal Employees	1,300
Erie County Blue Collar Employees	Multidepartments	American Federation of State, County and Municipal Employees	2,400
Orange County Municipal Employees	Multidepartments	American Federation of State, County and Municipal Employees	1,800
Saratoga County Municipal Employees	Multidepartments	American Federation of State, County and Municipal Employees	2,600
Suffolk County Blue Collar Unit	Multidepartments	American Federation of State, County and Municipal Employees	1,700
Suffolk County Police Department	Law enforcement	Suffolk County Patrolmen's Benevolent Association, Inc. (Ind.)	2,100
Westchester County Municipal Employees	Multidepartments	American Federation of State, County and Municipal Employees	6,000

See footnotes at end of table.

Continued—Major Agreements Expiring Next Month

Employer and location	Industry	Union[1]	Number of workers
Ohio: Cleveland Municipal Employees	Multidepartments	American Federation of State, County and Municipal Employees	2,300
Wisconsin: Milwaukee Municipal Employees	Multidepartments	American Federation of State, County and Municipal Employees	7,300
Milwaukee Municipal Employees	Multidepartments	American Federation of State, County and Municipal Employees	3,000
Milwaukee Police Department	Law enforcement	Milwaukee Police Association (Ind.)	1,750

[1] Affiliated with AFL-CIO except where noted as independent (Ind.).

[2] Information is from newspaper reports.

[3] Industry area (group of companies signing same contract).

ERRATA

The work reported on by Paul F. Gerhart and John E. Drotning in their September 1980 communication, "Do uncertain cost/benefit estimates prolong public-sector disputes?" was sponsored by the Labor Management Services Administration, U.S. Department of Labor.

Tables 1, 2, and 3, appearing below, were inadvertently omitted from David E. Bloom's September 1980 communication, "Customized 'final offer': New Jersey's arbitration law."

Table 1. Arbitrator, mediator, and factfinder appointments in public-sector cases in New Jersey, November 1, 1977 to June 30, 1978

Prior settlement steps	Arbitrator appointed	Arbitrator not appointed
Total	180	79
Mediator appointed	26	42
Factfinder appointed	0	3
Both mediator and factfinder appointed	3	6
Neither mediator nor factfinder appointed	151	28

SOURCE: New Jersey Public Employment Relations Commission.

Table 2. Arbitrator appointments in public-sector cases by type of union and employer, under New Jersey law, November 1, 1977 to June 30, 1978

Bargaining parties	Arbitrator appointments
Employer type	
Total	180
Municipality	159
County	19
State	2
Union type	
Total	180
Patrolmen's Benevolent Association	128
Fraternal Order of Police	4
Independent police	13
Firemen's Mutual Benevolent Association	18
International Association of Fire Fighters	7
Independent fire	7
Independent—other law	3

SOURCE: New Jersey Public Employment Relations Commission.

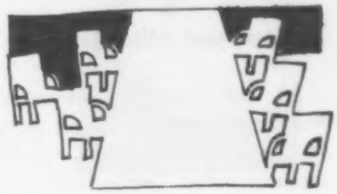
Table 3. Final public-sector case actions under the New Jersey arbitration law, November 1, 1977 to June 30, 1978

Stage of settlement	Number of cases	Percent of cases[1]
Total	259	100.0
1. Voluntary settlement with no appointments	22	9.4
2. Voluntary settlement with appointment of mediator	43	18.4
3. Voluntary settlement after issuance of factfinder's report	0	.0
4. Voluntary settlement after appointment of arbitrator but before commencement of arbitration proceedings	24	10.3
5. Voluntary settlement with arbitrator acting as mediator or issuing a 'consent award'	50	21.3
6. Settlement with issuance of final-offer or conventional arbitration award	95	40.6
Unknown	25	

[1] The percentages were calculated excluding the cases with unknown stage of settlement from the denominator.

SOURCE: New Jersey Public Employment Relations Commission.

Developments in Industrial Relations



Pattern contract in copper industry

The first break in a 2-month strike against 10 major copper companies in 9 States occurred when the Steelworkers and 12 other unions settled with Kennecott Corp. Overall, the bargaining involved 40,000 workers and 23 unions. The strike began when contracts expired on June 30 and July 31.

A Steelworkers' official called the wage and benefit improvements of the copper agreement "somewhere between the package won by the union in steel and what was achieved in negotiations with aluminum, the costlier of the two agreements." (See *Monthly Labor Review*, August 1980, pp. 49–50 and June 1980, pp. 55–56.)

The major variation in the Steelworkers settlements in the three industries appeared to be in the wage escalator provisions. At Kennecott, the workers received the quarterly adjustment that was due under the prior contract, and the new contract provided for continuation of the quarterly escalator formula at the rate of 1 cent an hour for each 0.3-point movement in the Consumer Price Index for Urban Wage Earners and Clerical Workers (1967 = 100). This settlement also provided for an immediate lump-sum payment of $25 to each worker, a result of a "calculation change." In the steel settlement, the 1-cent-for-0.3-point formula was retained, but the last adjustment under the prior contract was used to help meet the cost of pension improvements. In aluminum, the employees received the last cost-of-living increase under the prior contract, and the formula in the new agreement was liberalized, providing for 1-cent adjustments for each 0.26-point movement in the index, beginning in the third year.

The "set" wage rises at Kennecott included 25-cent-an-hour general increases, plus a half-cent increase in the increment between each of the job grades, effective immediately; a 20-cent increase plus a half-cent increment increase on the first anniversary; and a 15-cent increase plus a 1-cent increment increase on the second anniversary. The afternoon, evening, and night shift premiums were increased to 30, 37.5, and 45 cents an hour, from 20, 25, and 30 cents.

Pensions for current retirees were increased by $33 to $70 a month, in steps, over the term of the agreement. For future retirees, the benefit rates were increased, in steps, up to a total of $4 a month for each year of credited service. This will bring the pension rate to a maximum of $20 for employees in the top pay grades.

Sickness and accident benefits were increased by a total of $25, bringing the average benefit to $194 a week in 1983. There also were improvements in hospital, medical, surgical, and dental insurance, and a vision care plan was established.

Teamsters unwilling to reopen contract

After brief, informal discussions, the Teamsters turned down the trucking industry's request for a reopening of their labor contract. Trucking Management, Inc., the companies' major bargaining arm, contended that a reopening of negotiations was necessary to obtain labor cost concessions from union members to permit the carriers to compete with nonunion firms. The firms were particularly interested in eliminating or delaying automatic cost-of-living increases scheduled for October of 1980 and 1981, lowering some wage scales, and changing work rules that would result in the loss of jobs. The companies contended that much of their problems stemmed from the Motor Carrier Act of 1980, which deregulated the industry, making it difficult to pass along labor cost increases through shipping prices.

The union rejected the request for negotiations because of "insufficient proof that there has been injury to the companies caused by conditions of the contract." However, the union indicated that its study of the impact of deregulation and current recession on the industry could lead to further discussions on reopening the agreement. According to an official, one eventual result could be that regional units would be advised to negotiate wage and work rules concessions for locals in depressed areas. Reportedly, about 60,000 of the 300,000 Teamsters in the industry are on layoff.

Some concessions were already being granted in a few areas. For example, locals in Omaha, Neb., and Louisville, Ky., adopted a 7-day workweek. This means that normal schedules include weekend work at straight-time pay rates. Management officials said this move would also save money for shippers because freight could be moved faster and storage costs reduced.

"Developments in Industrial Relations" is prepared by George Ruben and other members of the staff of the Division of Trends in Employee Compensation, Bureau of Labor Statistics, and is largely based on information from secondary sources.

Molders and Allied Workers resume merger talks

At the Molders convention, President Carl W. Studenrolt announced that merger talks with the Allied Industrial Workers will probably resume in several months. Allied Industrial Workers President Dominic D'Ambrosio, a guest speaker, also called for a resumption of the talks.

In other business, the union's executive board was reduced to 13 members by merging the elected editor's position into the president's position and by combining the secretary's and treasurer's positions. Also, monthly dues were raised to $12 (from $10.50) in January 1981 and to the equivalent of 2 hours of work (average of $13–$15) in 1982.

Firefighters elect new president in close vote

The biennial convention of the Fire Fighters union elected John A. Gannon, age 56, as its president. He succeeds William H. McClennan, who retired after six 2-year terms. Gannon, who had been vice president of the union for 6 years, defeated incumbent secretary-treasurer Frank Palumbo by a vote of 73,668 to 73,448, with each of the 1,400 delegates given a vote proportional to the number of members in their local union.

McClennan, who had served as a vice president from New England for 20 years prior to ascending to the leadership of the 180,000-member union, was unanimously named president emeritus.

Pregnancy discrimination suits settled

A recent settlement ended a 1974 suit which alleged that Westinghouse Electric Corp. violated the Civil Rights Act of 1964 by discriminating against pregnant employees. The suit was filed by the International Union of Electrical Workers, two of its locals, and 22 IUE members. It claimed that Westinghouse did not credit seniority to employees when they were on maternity leave; denied certain health benefits to pregnant employees; and forced them to take unpaid maternity leave after a certain time, regardless of the employee's desire and physical capacity to work.

The Pregnancy Discrimination Act of 1978 prohibits pregnancy-related discrimination; this settlement corrected certain previous practices found to be discriminatory. Provisions included a total of $305,000 in payments to women who suffered pay losses from 1971 to 1978; seniority credit for absences for reasons related to pregnancy since the July 1, 1965, effective date of the equal employment opportunity provisions of the Civil Rights Act; and specific assurances of equal treatment for pregnant women. Also involved in the suit was the White-Westinghouse Corp., which purchased five Westinghouse appliance plants in 1975 and the Equal Employment Opportunity Commission, which joined the union side in 1978 after passage of the Pregnancy Discrimination Act.

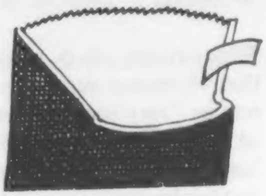
In another suit, the Fourth U.S. Circuit Court of Appeals in Richmond, Va., agreed with a U.S. District Judge that Eastern Airlines could not ground flight attendants during the first 13 weeks of pregnancy. However, three of the nine judges dissented, contending that even during the first 13 weeks of pregnancy, attendants are subject to physical problems that could hinder their ability in emergencies. In another aspect of the ruling, five of the judges held that only the carrier should determine if attendants could work during the 13th through 20th weeks of pregnancy. This overturned the decision of U.S. District Judge Robert R. Merhige, Jr., who had ruled that pregnant attendants could work during these weeks, with their doctor's permission. The appeals court unanimously concurred with Merhige that Eastern could ground attendants after the 20th week of pregnancy and that the company could not strip attendants of their seniority after they are transferred to ground duty because of pregnancy.

Eastern indicated that it was satisfied with the decision. There was no immediate comment from the Transport Workers Union, which represents the attendants and which had initiated the suit.

Work-sharing urged by job bias panel

In a move to minimize the effect of the current recession on women and minorities, the Equal Employment Opportunity Commission asked employers to consider "work sharing" and other alternatives to layoffs. The Commission said this was necessary to protect women and members of minority groups from layoff under the prevailing "last-hired, first-fired" system, which is "beginning to eradicate" the recent gains in employment they have achieved. The Commission also suggested that layoffs be based on plantwide seniority, rather than departmental seniority, saying this may reduce the adverse impact on minorities and women.

In another development involving equal employment opportunity, United States Steel Corp. agreed to hire women for 25 percent of job openings over a 2-year period at its coal mine No. 20 near Thacker, W. Va. The company's settlement with the West Virginia Human Rights Commission resolved a complaint by three women that U.S. Steel had refused to hire them because of their sex. The settlement provided that each of the three women will receive $20,000. However, the hiring of women will not begin until all employees currently on layoff at the mine are recalled. □



Book Reviews

Job creation program for researchers

CETA: Assessment of Public Service Employment Programs. By William Mirengoff, Lester Rindler, Harry Greenspan, Scott Seablom. Washington, National Academy of Sciences, National Research Council, Committee on Evaluation of Employment and Training Programs, 1980. 197 pp.

Involving Private Employers in CETA Programs. By Leonard A. Lecht and Marc A. Matland. New York, The Conference Board, 1979. 18 pp. (Information Bulletin 63.)

Areawide Planning in CETA. By Randall B. Ripley, Donald Baumer, and Carl Van Horn. Washington, U.S. Department of Labor, Employment and Training Administration, 1979, 128 pp. (R&D Monograph, 74.) Stock No. 029-000-00388-4. $4.50, Superintendent of Documents, Washington 20402.

Each year, the Employment and Training Administration provides hundreds of thousands of dollars for research on manpower programs. To persons in consulting firms and universities involved in the research, there is a real sense of professionalism in the work. The researchers usually visit a number of program sites, talk with program officials and local businessmen, collect data, and write reports, including recommendations for program improvement.

However, to persons outside the research world, the reports often are of little value. The site visits, interviews, and data collection usually only capture the program surfaces, and further, only those surfaces that the program operators want to be seen. The recommendations usually are statements of the obvious, or excessive praise for the programs, or highly impractical (or misdirected) schemes.

In the following review, I'd like to discuss three recent reports which illustrate these criticisms.

CETA: Assessment of Public Service Employment Programs is the most recent in a series of works on CETA by the National Research Council. Its authors, William Mirengoff, Lester Rindler, Harry Greenspan, and Scott Seablom, focus on the public service employment component of CETA.

Established in 1973 as an appendage of the main training programs, public service employment was increased sharply as a measure to combat unemployment during the recession of the 1970's, and had up to 725,000 workers by 1978. In 1978, it was cut, but still had over 400,000 workers by the end of 1979.

Public service employment had many reasons to be successful: it promised work rather than welfare, it promised to move participants steadily into permanent jobs, and it promised to accomplish socially-valuable work. But it has not come off as was hoped and has encountered criticism from many quarters. Unions have complained that public service jobs have been used to substitute for regularly funded jobs. Community groups have complained that jobs have not gone to the lower-skilled and less-directed among the unemployed. Newspapers have complained about the make-work nature of the jobs. Nearly everyone has complained that participants have not moved into unsubsidized jobs.

Mirengoff and his coauthors considered these complaints. They collected information (through field associates) from 28 programs throughout the country. There is much of value in the report. For example, the authors point out some of the reasons why even with the greater targeting brought by the amendments of 1976, the "structurally unemployed" have not been hired in proportion to their numbers among the eligible unemployed. They also point out that the 1976 amendments have not fully succeeded in preventing the use of public service employment jobs in the place of regularly funded jobs.

However, the report also suffers in many sections from its reliance on field associates and interviews and data collection, and distance from the subtleties and complexities of local operations. For example, commenting on the work done by participants, the authors state firmly that "as the law required, projects did provide public services that were useful," that were not make-work; and further that "project enrollees were found to perform their duties as well as regular employees in similar positions."

But there is little focus on local programs to convince readers that this is so, or give readers a feel for the actual accomplishments of public service employment.

What we do get is a survey of local officials showing that 95 percent support public service employment projects as "very useful," not surprising given that at least 95 percent of local officials prefer Federal to local funding of services; and the view of most field associates that make-work was "negligible." It would have been more useful to have a more detailed picture of a few programs, a connecting of the statistics with the tasks performed and the faces behind the statistics. Further, we get no feel for the personnel problems connected with public service employment. In the programs I've observed, public service employment has performed many valuable tasks, but also has been limited in effectiveness by the resentment and hostility of some regular employees.

On the transition of these workers into unsubsidized employment, the authors urge that public service employment projects "combine training with public service jobs that furnish marketable skills and experience" and that "greater stress should be placed on transition of public service employment enrollees to unsubsidized jobs."

But there is little discussion of the practical tradeoffs connected with this recommendation: tradeoffs between training and other goals of hiring the structurally unemployed and of performing useful work. To illustrate: jobs such as child-care worker, librarian, or dance instructor may have considerable social value, but have little demand in the private sector. By contrast, clerical jobs which are in demand in the private sector, may contribute less to public service.

In *Involving Private Employers in CETA Programs*, Leonard A. Lecht and Marc A. Matland examine strategies for increasing participation of private sector employers in local CETA programs. Again, the subject is interesting and important. Training by private employers consistently has been the most successful. Yet, only a small proportion of employers in any city gets involved.

In order to find out reasons for the low participation (and what might be done to increase participation), the authors survey nine programs across the Nation. They spend time at each site interviewing CETA staff, planning council members, and employers—in all an impressive total of 275 interviews.

They begin the report by identifying four factors as influencing business participation: "community socioeconomic environment," "CETA enrollee characteristics," "prime sponsor-employer linkages," and "prime sponsor's organization and program orientation." Of these, they describe the latter two as most important and go on to note recommendations for greater business involvement. These include representation of business on planning councils, ties with the National Alliance of Businessmen and the local chamber of commerce, understanding by program staff of the needs of local business, less paperwork, and greater use of tax credits rather than subsidies.

How valuable are these recommendations?

Most are well-known to local officials. A personal recollection: my first job in the manpower field was with the CETA program in Alameda County, Calif. Soon after I began working, I approached the program director and suggested that our program look into ways that additional businesses could be brought into the program. The director took out paper and wrote a list of the reasons for limited business involvement. They included nearly all of the findings of this report.

The director also spoke of the general strategies for business involvement. What might have been of value to him and other local officials were specific studies of programs that did and did not succeed with businesses. But such studies require more than merely conducting interviews with local officials or even with employers.

Further, the limited detail which the authors bring to their recommendations indicates little recognition of the practicalities of local operations. One example is the authors' suggestion that program officials be required to include in their annual plans detailed information about business involvement. The authors state that the plan should indicate "placements in unsubsidized employment by class of employer; placements in private for profit firms for individual programs such as on-the-job training; makeup of the council membership; and linkages with the local business community."

This sounds good in theory, but from a local perspective, annual plans take up considerable time, do not appear to me to be read seriously by Department of Labor officials, and rarely spark reflection among local planning staffs who generally put together the required information as a "going through the motions."

Another of the authors' suggestions is that additional funds be spent for public relations. Again this sounds good in theory, as there is limited understanding of CETA by businesses and the general public. However, in practice the money spent by local programs on public relations has not, in my opinion, been well spent. It has been spent on films and pamphlets (such as *CETA Works* by the National Association of Counties) that have been uncritical whitewashes which convince no one.

The third and poorest of the reports is *Areawide Planning in CETA* prepared by Randall B. Ripley, Donald Baumer, and Carl Van Horn. Again, we have a study based on site visits. The authors visited 12 sites around the country, selected "because they were reputed to take planning seriously."

The authors then test the models against a number of performance indicators (positive terminations, cost per placement) to come to the wholly predictable conclusion that the "future-oriented" programs perform best, followed by the "operations management," and then the "crises management" programs. The authors conclude that programs work well that have key staff of the highest quality who are encouraged to remain with the program, a monitoring system that yields accurate and complete information, control of service deliverer participation in key decisions which affect who the program services, involvement of the business community in more than token activities, and political officials who support decisions made by staff. More of the obvious.

The authors begin by setting three models of planning: a *crises management* model characterized by "unstable relations among actors," "unmanaged conflict," "lack of routing," and "malfunctioning feedback system"; an *operations management* model characterized by "stable relations among actors," "well-managed conflict," "many routine procedures," and "feedback mechanism in place and utilized"; and the *future-oriented* model, characterized by the four characteristics of the "operations management" model as well as by "deliberate attention to long-range decisions."

Of the 12 programs surveyed, only one is categorized as "crises management." Eight are "operations management" and three are "future-oriented."

But do these models have practical value?

The authors first test them against a number of local labor market and economic growth characteristics, and against characteristics of the size and structure of programs. They come to the predictable conclusion that none of the factors determines the type of planning operation, that a good planning operation can exist in a program of any size or structure or local economy.

Other conclusions are embarrassingly uncritical. The authors praise a number of programs, which would be better served by a more balanced, harder look. For example, the authors praise the evaluation system of a large program in the East, which traces participants for 6 months or more. In fact, the system is of little value. Its reports tell little more than that a participant is working or not working. These reports do not go beyond the statistics, do not probe into why the training might have been sufficient or insufficient, or why some participants decided to return to the netherworld of welfare and hustle.

Uncriticalness, generality, distance from programs, especially from participants, characterize not only the three reports considered here, but also most research reports today. The persons who put together these reports usually are bright, with fine educational backgrounds. However, their evaluation of site visits, interviews, and reliance on statistical data usually yields little of value to national or local officials.

What is needed is for these researchers to get out of their offices; to spend months, not days, studying local programs; and most of all to be far more questioning of the claims of program officials.

—MICHAEL S. BERNICK
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Big is beautiful

World Economic Development: 1979 and Beyond. By Herman Kahn. Boulder, Colo., Westview Press, 1979, 510 pp.

In distinct contrast to what is rapidly appearing to be the mainstream of the literature on development, Herman Kahn argues that policies promoting high economic growth in a basically market-economy are physically practicable, socially desirable, and perhaps even morally necessary. To make this argument, Kahn faces off against ideas that are currently enjoying great power in the imaginations of the scholarly, opinionmaking, and policymaking elites of the advanced, market-oriented countries. Among these ideas are the (physical) limits-to-growth school, the small-is-beautiful movement, the concern for protection of an ecology at almost any economic cost, the approach of something close to a "health and safety authoritarianism," and increasing favor for social control and overall planning of the economy.

All of these ideas, and more, are parts of, or extensions of, what Kahn has termed the "Fourteen New Emphases" in the socioeconomic and political cultures of the advanced industrial nations in general, and their upper-middle and intellectual classes in particular. His development and elaboration of these emphases in the third chapter is the keynote of his section on "Framework, Concepts, Perspectives." This section is the more provocative in the book, the second bogging itself down in case study and admitted progrowth polemic and proselytism. The whole spirit, however, is one of vigorous and open opposition to what Kahn feels is an unfair and unwise overpublicization of the antigrowth position.

World Economic Development is an exercise in macrohistory and futurology that can (perhaps should) be taken with a grain of salt, or what its author would call the "agnostic use of information and concepts." I did, however, find it refreshing to read an optimistic scenario of the long-run economic future.

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The service sector in perspective

Understanding the Service Economy: Employment, Productivity, Location. By Thomas M. Stanback, Jr. Baltimore, The Johns Hopkins University Press, 1979. 122 pp. $9.50.

This concise and enlightening book analyzes several aspects of the service sector of our economy: the demand for services, productivity in services, and the nature and location of service employment. Thomas M. Stanback defines "services" to include wholesale and retail trade, government, finance, insurance, and real estate, and professional, personal, business and repair services; he excludes the capital-intensive transportation, communication, and public utility industries.

Stanback begins by refuting the common belief that consumption in the United States is rapidly becoming more service-oriented. He shows that consumption of services did increase faster than disposable income during the 1950's, but that from 1960 to 1977 the portion of consumption expenditures (adjusted for price changes) devoted to services increased only from 42 to 45 percent. As a brake on the growth of service consumption relative to that of goods, Stanback cites the high degree of "complementarity" between many goods and services. For example, the increased use of the automobile generates an increased demand for maintenance services, and the increased demand for recreation services raises the demand for goods such as skis and tennis rackets.

Stanback notes that productivity gains in services have not matched those in nonservices. However, he cites several factors—such as the application of new managerial approaches to service firms, and the use of computerized checkout systems in retailing—that may herald significant productivity advances in services.

In his analysis of service employment, Stanback shows that compared to nonservices, service work is characterized by lower earnings, higher proportions of women, minority, and part-time workers, and fewer institutional arrangements to enhance job security. Probably the most useful part of the book is the analysis of the location of service employment. The author shows that while the location of jobs in consumer services is related to that of population, jobs in business services are more concentrated geographically. Stanback, the coauthor of two previous books on urban economics, presents many interesting findings, such as: metropolitan areas that were centers of business services in 1960 experienced the greatest growth in business services during the following decade, while areas that were manufacturing centers in 1960 made little progress during the following decade in attracting business service employment.

Stanback concludes with a discussion of the spatial labor market adjustments required for future service employment growth. Under conditions of rapid growth in aggregate demand, "Employment levels remain relatively high in areas least favored, while in areas where shortages develop demand is met by upgrading, by migration, and by utilizing personnel who might otherwise have left or never entered the labor market." However, if aggregate demand grows slowly, labor market maladjustments will result that "are likely to take their toll disproportionately on those who are least skilled, least experienced, and least able to make difficult adjustments through migration. . . ." Citing the slow growth of the economy in recent years, Stanback promises little immediate relief for these sufferers of migration headaches.

By combining skillful data analysis and penetrating observations on the nature of the service sector, Stanback has produced a readable and incisive book that will be of great value to economists and noneconomists alike.

—EDWARD STEINBERG
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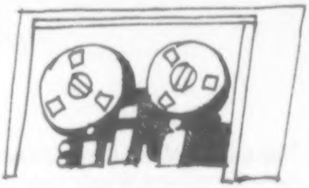
Current Labor Statistics



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NOTES ON CURRENT LABOR STATISTICS

This section of the *Review* presents the principal statistical series collected and calculated by the Bureau of Labor Statistics. A brief introduction to each group of tables provides definitions, notes on the data, sources, and other material usually found in footnotes.

Readers who need additional information are invited to consult the BLS regional offices listed on the inside front cover of this issue of the *Review*. Some general notes applicable to several series are given below.

Seasonal adjustment. Certain monthly and quarterly data are adjusted to eliminate the effect of such factors as climatic conditions, industry production schedules, opening and closing of schools, holiday buying periods, and vacation practices, which might otherwise mask short-term movements of the statistical series. Tables containing these data are identified as "seasonally adjusted." Seasonal effects are estimated on the basis of past experience. When new seasonal factors are computed each year, revisions may affect seasonally adjusted data for several preceding years. For a technical discussion of the method used to make seasonal adjustments, see *X-11 Variant of the Census Method II Seasonal Adjustment Program*, Technical Paper No. 15 (Bureau of the Census, 1967).

Seasonally adjusted labor force data in tables 2–7 were last revised in the February 1980 issue of the *Review* to reflect the preceding year's experience. Beginning in January 1980, the BLS introduced two major modifications in the seasonal adjustment methodology for labor force data. First, the data are being seasonally adjusted with a new procedure called X-11/ARIMA, which was developed at Statistics Canada as an extension of the standard X-11 method. A detailed description of the procedure appears in *The X-11 ARIMA Seasonal Adjustment Method* by Estela Bee Dagum (Statistics Canada Catalogue No. 12-564E, September 1979). The second change is that seasonal factors are now being calculated for use during the first 6 months of the year, rather than for the entire year, and then are calculated at mid-year for the July-December period. Revisions of historical data continue to be made only at the end of each calendar year.

Annual revision of the seasonally adjusted payroll data in tables 11, 13, 16, and 18 begins with the August 1980 issue using the X-11 ARIMA seasonal adjustment methodology. New seasonal factors for productivity data in tables 33 and 34 are usually introduced in the September issue. Seasonally adjusted indexes and percent changes from month to month and from quarter to quarter are published for numerous Consumer and Producer Price Index series. However, seasonally adjusted indexes are not published for the U.S. average All Items CPI. Only seasonally adjusted percent changes are available for this series.

Adjustments for price changes. Some data are adjusted to eliminate the effect of changes in price. These adjustments are made by dividing current dollar values by the Consumer Price Index or the appropriate component of the index, then multiplying by 100. For example, given a current hourly wage rate of $3 and a current price index number of 150, where 1967 = 100, the hourly rate expressed in 1967 dollars is $2 ($3/150 × 100 = $2). The resulting values are described as "real," "constant," or "1967" dollars.

Availability of information. Data that supplement the tables in this section are published by the Bureau of Labor Statistics in a variety of sources. Press releases provide the latest statistical information published by the Bureau; the major recurring releases are published according to the schedule given below. The *Handbook of Labor Statistics 1978*, Bulletin 2000, provides more detailed data and greater historical coverage for most of the statistical series presented in the *Monthly Labor Review*. More information from the household and establishment surveys is provided in *Employment and Earnings*, a monthly publication of the Bureau, and in two comprehensive data books issued annually—*Employment and Earnings, United States* and *Employment and Earnings, States and Areas*. More detailed information on wages and other aspects of collective bargaining appears in the monthly periodical, *Current Wage Developments*. More detailed price information is published each month in the periodicals, the *CPI Detailed Report* and *Producer Prices and Price Indexes*.

Symbols

p = preliminary. To improve the timeliness of some series, preliminary figures are issued based on representative but incomplete returns.
r = revised. Generally this revision reflects the availability of later data but may also reflect other adjustments.
n.e.c. = not elsewhere classified.

Schedule of release dates for major BLS statistical series

Title and frequency (monthly except where indicated)	Release date	Period covered	Release date	Period covered	MLR table number
Employment situation	November 7	October	December 5	November	1–11
Producer Price Index	November 7	October	December 5	November	26–30
Consumer Price Index	November 25	October	December 23	November	22–25
Real earnings	November 25	October	December 23	November	14–20
Productivity and costs (quarterly):					
Nonfinancial corporations	November 26	3d quarter	....	....	31–34
Work stoppages	November 28	October	December 30	November	37
Labor turnover in manufacturing	November 28	October	December 31	November	12–13

EMPLOYMENT DATA FROM THE HOUSEHOLD SURVEY

EMPLOYMENT DATA in this section are obtained from the Current Population Survey, a program of personal interviews conducted monthly by the Bureau of the Census for the Bureau of Labor Statistics. The sample consists of about 65,000 households beginning in January 1980, selected to represent the U.S. population 16 years of age and older. Households are interviewed on a rotating basis, so that three-fourths of the sample is the same for any 2 consecutive months.

Definitions

Employed persons are (1) those who worked for pay any time during the week which includes the 12th day of the month or who worked unpaid for 15 hours or more in a family-operated enterprise and (2) those who were temporarily absent from their regular jobs because of illness, vacation, industrial dispute, or similar reasons. A person working at more than one job is counted only in the job at which he or she worked the greatest number of hours.

Unemployed persons are those who did not work during the survey week, but were available for work except for temporary illness and had looked for jobs within the preceding 4 weeks. Persons who did not look for work because they were on layoff or waiting to start new jobs within the next 30 days are also counted among the unemployed. The **unemployment rate** represents the number unemployed as a percent of the civilian labor force.

The **civilian labor force** consists of all employed or unemployed persons in the civilian noninstitutional population; the **total labor force** includes military personnel. Persons **not in the labor force** are those not classified as employed or unemployed; this group includes persons retired, those engaged in their own housework, those not working while attending school, those unable to work because of longterm illness, those discouraged from seeking work because of personal or job market factors, and those who are voluntarily idle. The **noninstitutional population** comprises all persons 16 years of age and older who are not inmates of penal or mental institutions, sanitariums, or homes for the aged, infirm, or needy.

Full-time workers are those employed at least 35 hours a week; **part-time workers** are those who work fewer hours. Workers on part-time schedules for economic reasons (such as slack work, terminating or starting a job during the week, material shortages, or inability to find full-time work) are among those counted as being on full-time status, under the assumption that they would be working full time if conditions permitted. The survey classifies unemployed persons in full-time or part-time status by their reported preferences for full-time or part-time work.

Notes on the data

From time to time, and especially after a decennial census, adjustments are made in the Current Population Survey figures to correct for estimating errors during the preceding years. These adjustments affect the comparability of historical data presented in table 1. A description of these adjustments and their effect on the various data series appear in the Explanatory Notes of *Employment and Earnings*.

Data in tables 2–7 are seasonally adjusted, based on the seasonal experience through December 1979.

1. Employment status of the noninstitutional population, 16 years and over, selected years, 1950–79

[Numbers in thousands]

Year	Total noninstitutional population	Total labor force		Civilian labor force						Not in labor force
					Employed			Unemployed		
		Number	Percent of population	Total	Total	Agriculture	Nonagricultural industries	Number	Percent of labor force	
1950	106,645	63,858	59.9	62,208	58,918	7,160	51,758	3,288	5.3	42,787
1955	112,732	68,072	60.4	65,023	62,170	6,450	55,722	2,852	4.4	44,660
1960	119,759	72,142	60.2	69,628	65,778	5,458	60,318	3,852	5.5	47,617
1964	127,224	75,830	59.6	73,091	69,305	4,523	64,782	3,786	5.2	51,394
1965	129,236	77,178	59.7	74,455	71,088	4,361	66,726	3,366	4.5	52,058
1966	131,180	78,893	60.1	75,770	72,895	3,979	68,915	2,875	3.8	52,288
1967	133,319	80,793	60.6	77,347	74,372	3,844	70,527	2,975	3.8	52,527
1968	135,562	82,272	60.7	78,737	75,920	3,817	72,103	2,817	3.6	53,291
1969	137,841	84,240	61.1	80,734	77,902	3,606	74,296	2,832	3.5	53,602
1970	140,182	85,903	61.3	82,715	78,627	3,462	75,165	4,088	4.9	54,280
1971	142,596	86,929	61.0	84,113	79,120	3,387	75,732	4,993	5.9	55,666
1972	145,775	88,991	61.0	86,542	81,702	3,472	78,230	4,840	5.6	56,785
1973	148,263	91,040	61.4	88,714	84,409	3,452	80,957	4,304	4.9	57,222
1974	150,827	93,240	61.8	91,011	85,935	3,492	82,443	5,076	5.6	57,587
1975	153,449	94,793	61.8	92,613	84,783	3,380	81,403	7,830	8.5	58,655
1976	156,048	96,917	62.1	94,773	87,485	3,297	84,188	7,288	7.7	59,130
1977	158,559	99,534	62.8	97,401	90,546	3,244	87,302	6,855	7.0	59,025
1978	161,058	102,537	63.7	100,420	94,373	3,342	91,031	6,047	6.0	58,521
1979	163,620	104,996	64.2	102,908	96,945	3,297	93,648	5,963	5.8	58,623

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2. Employment status by sex, age, and race, seasonally adjusted

[Numbers in thousands]

Employment status	Annual average		1979				1980								
	1978	1979	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
TOTAL															
Total noninstitutional population[1]	161,058	163,620	164,106	164,468	164,682	164,898	165,101	165,298	165,506	165,693	165,886	166,105	166,391	166,578	166,789
Total labor force	102,537	104,996	105,586	105,088	105,744	106,088	106,310	106,346	106,184	106,511	107,230	106,634	107,302	107,139	107,155
Civilian noninstitutional population[1]	158,941	161,532	162,013	162,375	162,589	162,809	163,020	163,211	163,416	163,601	163,799	164,013	164,293	164,464	164,667
Civilian labor force	100,420	102,908	103,494	103,595	103,652	103,999	104,229	104,260	104,094	104,419	105,142	104,542	105,203	105,025	105,034
Employed	94,373	96,945	97,504	97,474	97,608	97,912	97,804	97,953	97,656	97,154	96,988	96,537	96,996	97,006	97,207
Agriculture	3,342	3,297	3,364	3,294	3,385	3,359	3,270	3,326	3,358	3,242	3,379	3,191	3,257	3,180	3,442
Nonagricultural industries	91,031	93,648	94,140	94,180	94,223	94,553	94,534	94,626	94,298	93,912	93,609	93,346	93,739	93,826	93,765
Unemployed	6,047	5,963	5,990	6,121	6,044	6,087	6,425	6,307	6,438	7,265	8,154	8,006	8,207	8,019	7,827
Unemployment rate	6.0	5.8	5.8	5.9	5.8	5.9	6.2	6.0	6.2	7.0	7.8	7.7	7.8	7.6	7.5
Not in labor force	58,521	58,623	58,519	58,780	58,937	58,810	58,791	58,951	59,322	59,182	58,657	59,471	59,091	59,439	59,633
Men, 20 years and over															
Civilian noninstitutional population[1]	67,006	68,293	68,522	68,687	68,804	68,940	69,047	69,140	69,238	69,329	69,428	69,532	69,664	69,756	69,864
Civilian labor force	53,464	54,486	54,735	54,760	54,709	54,781	54,855	55,038	54,996	55,114	55,467	55,220	55,308	55,474	55,547
Employed	51,212	52,264	52,453	52,443	52,374	52,478	52,279	52,531	52,300	51,868	51,796	51,510	51,668	51,792	51,803
Agriculture	2,361	2,350	2,377	2,371	2,438	2,427	2,387	2,435	2,394	2,320	2,384	2,270	2,292	2,286	2,398
Nonagricultural industries	48,852	49,913	50,076	50,072	49,936	50,051	49,892	50,096	49,906	49,548	49,412	49,240	49,376	49,506	49,405
Unemployed	2,252	2,223	2,282	2,317	2,335	2,303	2,577	2,507	2,696	3,246	3,671	3,710	3,730	3,682	3,744
Unemployment rate	4.2	4.1	4.2	4.2	4.3	4.2	4.7	4.6	4.9	5.9	6.6	6.7	6.7	6.6	6.7
Not in labor force	13,541	13,807	13,787	13,927	14,095	14,159	14,192	14,102	14,242	14,215	13,961	14,312	14,266	14,282	14,317
Women, 20 years and over															
Civilian noninstitutional population[1]	75,489	76,860	77,124	77,308	77,426	77,542	77,656	77,766	77,876	77,981	78,090	78,211	78,360	78,473	78,598
Civilian labor force	37,416	38,910	39,239	39,362	39,445	39,659	39,878	39,857	39,751	40,137	40,246	40,125	40,471	40,589	40,297
Employed	35,180	36,698	37,075	37,112	37,248	37,402	37,574	37,604	37,496	37,602	37,576	37,530	37,769	37,961	37,824
Agriculture	586	591	628	572	612	582	540	567	582	552	616	541	565	548	607
Nonagricultural industries	34,593	36,107	36,447	36,540	36,636	36,820	37,034	37,037	36,914	37,051	36,960	36,989	37,204	37,413	37,216
Unemployed	2,236	2,213	2,164	2,250	2,197	2,257	2,304	2,254	2,255	2,534	2,670	2,596	2,702	2,628	2,473
Unemployment rate	6.0	5.7	5.5	5.7	5.6	5.7	5.8	5.7	5.7	6.3	6.6	6.5	6.7	6.5	6.1
Not in labor force	38,073	37,949	37,885	37,946	37,981	37,883	37,778	37,909	38,125	37,844	37,844	38,086	37,889	37,884	38,301
Both sexes, 16 - 19 years															
Civilian noninstitutional population[1]	16,447	16,379	16,367	16,370	16,360	16,326	16,317	16,305	16,302	16,291	16,281	16,271	16,266	16,235	16,205
Civilian labor force	9,540	9,512	9,520	9,473	9,498	9,559	9,497	9,365	9,346	9,168	9,429	9,197	9,334	8,962	9,190
Employed	7,981	7,984	7,976	7,919	7,986	8,032	7,952	7,818	7,859	7,683	7,616	7,497	7,560	7,253	7,580
Agriculture	395	356	359	351	335	350	344	325	381	370	379	380	401	346	437
Nonagricultural industries	7,586	7,628	7,617	7,568	7,651	7,682	7,608	7,493	7,478	7,313	7,237	7,117	7,159	6,907	7,143
Unemployed	1,559	1,528	1,544	1,554	1,512	1,527	1,545	1,547	1,487	1,485	1,813	1,700	1,774	1,709	1,610
Unemployment rate	16.3	16.1	16.2	16.4	15.9	16.0	16.3	16.5	15.9	16.2	19.2	18.5	19.0	19.1	17.5
Not in labor force	6,907	6,867	6,847	6,897	6,862	6,767	6,820	6,940	6,956	7,123	6,852	7,074	6,934	7,273	7,015
White															
Civilian noninstitutional population[1]	139,580	141,614	141,981	142,296	142,461	142,645	142,806	142,951	143,115	143,254	143,403	143,565	143,770	143,900	144,051
Civilian labor force	88,456	90,602	91,082	91,147	91,242	91,579	91,852	91,977	91,821	92,083	92,535	92,096	92,456	92,294	92,337
Employed	83,836	86,025	86,425	86,454	86,571	86,894	86,895	87,081	86,822	86,385	86,149	85,792	86,063	85,981	86,315
Unemployed	4,620	4,577	4,657	4,693	4,671	4,685	4,957	4,896	4,999	5,698	6,386	6,303	6,392	6,313	6,021
Unemployment rate	5.2	5.1	5.1	5.1	5.1	5.1	5.4	5.3	5.4	6.2	6.9	6.8	6.9	6.8	6.5
Not in labor force	51,124	51,011	50,900	51,149	51,219	51,066	50,954	50,975	51,294	51,171	50,868	51,469	51,314	51,606	51,714
Black and other															
Civilian noninstitutional population[1]	19,361	19,918	20,032	20,079	20,128	20,163	20,214	20,261	20,301	20,346	20,385	20,448	20,523	20,564	20,617
Civilian labor force	11,964	12,306	12,404	12,512	12,391	12,432	12,453	12,362	12,266	12,319	12,559	12,446	12,739	12,650	12,680
Employed	10,537	10,920	11,063	11,076	11,044	11,024	10,979	10,937	10,823	10,771	10,813	10,751	10,932	10,930	10,882
Unemployed	1,427	1,386	1,341	1,436	1,347	1,408	1,474	1,424	1,443	1,549	1,746	1,695	1,807	1,719	1,798
Unemployment rate	11.9	11.3	10.8	11.5	10.9	11.3	11.8	11.5	11.8	12.6	13.9	13.6	14.2	13.6	14.2
Not in labor force	7,397	7,612	7,264	7,567	7,737	7,731	7,761	7,899	8,035	8,027	7,836	8,002	7,784	7,914	7,937

[1] As in table 1, population figures are not seasonally adjusted.

NOTE: The monthly data in this table have been revised to reflect seasonal experience through 1979.

3. Selected employment indicators, seasonally adjusted

[In thousands]

Selected categories	Annual average		1979				1980								
	1978	1979	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
CHARACTERISTIC															
Total employed, 16 years and over	94,373	96,945	97,504	97,474	97,608	97,912	97,804	97,953	97,656	97,154	96,988	96,537	96,996	97,006	97,207
Men	55,491	56,499	56,714	56,629	56,580	56,734	56,486	56,732	56,601	55,998	55,823	55,457	55,629	55,551	55,738
Women	38,882	40,446	40,790	40,845	41,028	41,178	41,318	41,221	41,061	41,156	41,165	41,079	41,367	41,455	41,469
Married men, spouse present	38,088	39,090	39,198	39,124	38,845	38,924	38,749	38,955	38,745	38,342	38,147	38,193	37,999	37,910	37,960
Married women, spouse present	21,881	22,724	22,937	22,919	22,940	23,027	23,111	23,178	23,202	23,080	23,155	23,144	23,097	23,162	23,017
OCCUPATION															
White-collar workers	47,205	49,342	49,816	49,738	49,912	49,911	50,313	50,448	50,302	50,405	50,606	50,861	51,114	51,413	51,149
Professional and technical	14,245	15,050	15,141	15,057	15,131	15,272	15,337	15,444	15,397	15,542	15,551	15,712	15,741	15,761	15,501
Managers and administrators, except farm	10,105	10,516	10,659	10,639	10,617	10,535	10,608	10,971	10,755	10,745	10,882	10,911	11,046	11,153	11,018
Salesworkers	5,951	6,163	6,181	6,201	6,362	6,346	6,452	6,185	6,113	5,988	6,022	5,981	6,128	6,124	6,347
Clerical workers	16,904	17,613	17,835	17,781	17,802	17,758	17,915	17,848	18,037	18,129	18,152	18,256	18,199	18,375	18,284
Blue-collar workers	31,531	32,066	32,209	32,205	32,110	32,302	31,882	31,754	31,670	31,127	30,681	30,243	30,149	29,983	30,444
Craft and kindred workers	12,386	12,880	12,993	13,001	12,925	13,041	12,814	12,728	12,767	12,773	12,523	12,301	12,382	12,233	12,546
Operatives, except transport	10,875	10,909	10,964	10,967	10,963	11,042	10,678	10,661	10,579	10,408	10,336	10,131	10,134	10,066	10,196
Transport equipment operatives	3,541	3,612	3,617	3,593	3,628	3,635	3,616	3,571	3,558	3,483	3,421	3,395	3,335	3,474	3,434
Nonfarm laborers	4,729	4,665	4,635	4,644	4,594	4,584	4,774	4,795	4,767	4,463	4,402	4,416	4,299	4,209	4,268
Service workers	12,839	12,834	12,850	12,937	12,899	12,970	12,979	13,060	12,981	13,034	13,932	12,930	13,045	12,917	12,917
Farmworkers	2,798	2,703	2,722	2,695	2,718	2,694	2,660	2,764	2,733	2,658	2,745	2,806	2,689	2,601	2,779
MAJOR INDUSTRY AND CLASS OF WORKER															
Agriculture:															
Wage and salary workers	1,419	1,413	1,399	1,381	1,475	1,451	1,428	1,417	1,449	1,370	1,405	1,365	1,352	1,263	1,418
Self-employed workers	1,607	1,580	1,642	1,602	1,622	1,596	1,554	1,648	1,600	1,591	1,662	1,590	1,631	1,648	1,706
Unpaid family workers	316	304	325	313	310	310	293	283	300	291	289	269	292	273	315
Nonagricultural industries:															
Wage and salary workers	84,253	86,540	86,912	86,982	87,020	87,384	87,578	87,419	87,221	86,741	86,631	86,257	86,407	86,508	86,331
Government	15,289	15,369	15,407	15,423	15,358	15,397	15,414	15,540	15,622	15,668	15,799	15,891	15,760	15,495	15,538
Private industries	68,966	71,171	71,505	71,559	71,662	71,987	72,163	71,879	71,599	71,072	70,832	70,365	70,647	71,014	70,793
Private households	1,363	1,240	1,313	1,261	1,211	1,228	1,132	1,178	1,115	1,123	1,206	1,219	1,245	1,209	1,113
Other industries	67,603	69,931	70,192	70,298	70,451	70,759	71,031	70,702	70,484	69,949	69,625	69,147	69,402	69,805	69,679
Self-employed workers	6,305	6,652	6,731	6,812	6,781	6,737	6,752	6,899	6,825	6,813	6,648	6,666	6,765	6,879	7,014
Unpaid family workers	472	455	449	430	417	409	379	397	376	383	411	445	441	399	423
PERSONS AT WORK[1]															
Nonagricultural industries	85,693	88,133	88,723	88,638	88,617	89,180	89,454	88,985	88,585	87,660	87,680	87,910	87,454	88,270	88,243
Full-time schedules	70,543	72,647	73,159	73,204	72,997	73,137	73,223	73,110	72,749	71,807	71,224	71,206	70,649	71,478	71,989
Part time for economic reasons	3,216	3,281	3,167	3,315	3,392	3,519	3,513	3,406	3,418	3,816	4,349	3,999	4,113	4,146	4,204
Usually work full time	1,249	1,325	1,273	1,354	1,413	1,491	1,549	1,380	1,463	1,709	2,064	1,781	1,847	1,692	1,695
Usually work part time	1,967	1,956	1,894	1,961	1,979	2,028	1,964	2,026	1,955	2,107	2,285	2,217	2,266	2,456	2,509
Part time for noneconomic reasons	11,934	12,205	12,397	12,119	12,228	12,524	12,718	12,469	12,418	12,037	12,106	12,706	12,892	12,644	12,069

[1] Excludes persons "with a job but not at work" during the survey period for such reasons as vacation, illness, or industrial disputes.

NOTE: The monthly data in this table have been revised to reflect seasonal experience through 1979.

4. Selected unemployment indicators, seasonally adjusted

[Unemployment rates]

Selected categories	Annual average		1979				1980								
	1978	1979	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
CHARACTERISTIC															
Total, 16 years and over	6.0	5.8	5.8	5.9	5.8	5.9	6.2	6.0	6.2	7.0	7.8	7.7	7.8	7.6	7.5
Men, 20 years and over	4.2	4.1	4.2	4.2	4.3	4.2	4.7	4.6	4.9	5.8	6.6	6.7	6.7	6.6	6.7
Women, 20 years and over	6.0	5.7	5.5	5.7	5.6	5.7	5.8	5.7	5.7	6.3	6.6	6.5	6.7	6.5	6.1
Both sexes, 16 – 19 years	16.3	16.1	16.2	16.4	15.9	16.0	16.3	16.5	15.9	16.2	19.2	18.5	19.0	19.1	17.5
White, total	5.2	5.1	5.1	5.1	5.1	5.1	5.4	5.3	5.4	6.2	6.9	6.8	6.9	6.8	6.5
Men, 20 years and over	3.7	3.6	3.7	3.7	3.7	3.7	4.1	4.0	4.4	5.3	5.9	6.0	6.0	5.9	5.9
Women, 20 years and over	5.2	5.0	4.8	5.0	4.9	5.0	5.1	5.2	4.9	5.5	5.8	5.8	5.9	5.8	5.5
Both sexes, 16 – 19 years	13.9	13.9	14.3	14.1	13.9	13.9	14.0	13.8	13.8	14.6	17.4	16.4	16.7	17.0	14.8
Black and other, total	11.9	11.3	10.8	11.5	10.9	11.3	11.8	11.5	11.8	12.6	13.9	13.6	14.2	13.6	14.2
Men, 20 years and over	8.6	8.4	8.0	8.6	8.4	8.6	9.6	9.2	9.3	10.9	12.0	12.6	12.7	12.7	13.5
Women, 20 years and over	10.6	10.1	9.8	10.2	9.5	10.0	10.0	9.0	10.5	11.4	11.9	10.9	11.5	10.6	10.4
Both sexes, 16 – 19 years	36.3	33.5	32.3	35.1	32.8	34.3	34.5	37.9	33.0	29.8	35.2	34.4	36.6	37.4	38.2
Married men, spouse present	2.8	2.7	2.9	2.9	2.9	2.8	3.4	3.1	3.4	4.1	4.7	4.9	5.1	4.9	4.8
Married women, spouse present	5.5	5.1	4.8	5.2	4.8	5.0	5.2	5.4	5.3	5.7	6.3	6.1	6.2	6.1	5.6
Women who head families	8.5	8.3	7.7	8.4	8.4	8.4	9.2	8.5	8.7	9.3	8.3	8.4	8.9	8.9	8.5
Full-time workers	5.5	5.3	5.3	5.4	5.4	5.4	5.7	5.6	5.8	6.6	7.5	7.4	7.6	7.4	7.3
Part-time workers	9.0	8.7	8.4	8.9	8.3	8.5	8.7	8.9	8.3	8.9	9.3	8.8	8.7	8.6	8.6
Unemployed 15 weeks and over	1.4	1.2	1.1	1.2	1.1	1.2	1.3	1.2	1.3	1.6	1.6	1.7	1.8	2.1	2.2
Labor force time lost[1]	6.5	6.3	6.2	6.4	6.4	6.4	6.7	6.6	6.8	7.5	8.8	8.3	8.5	8.3	8.2
OCCUPATION															
White-collar workers	3.5	3.3	3.3	3.4	3.2	3.3	3.4	3.4	3.3	3.7	3.9	3.7	3.7	3.7	3.7
Professional and technical	2.6	2.4	2.4	2.7	2.4	2.3	2.2	2.3	2.3	2.4	2.7	2.6	2.4	2.3	2.4
Managers and administrators, except farm	2.1	2.1	2.2	2.2	1.9	2.0	1.9	2.2	2.4	2.6	2.7	2.4	2.5	2.4	2.4
Salesworkers	4.1	3.9	3.8	3.8	3.7	3.8	4.4	4.5	4.0	4.7	4.5	4.4	4.2	4.1	4.2
Clerical workers	4.9	4.6	4.5	4.7	4.4	4.6	4.8	4.7	4.5	5.1	5.4	5.3	5.4	5.4	5.4
Blue-collar workers	6.9	6.9	7.1	7.2	7.5	7.2	8.0	7.7	8.0	9.7	11.3	11.5	11.5	11.4	10.9
Craft and kindred workers	4.6	4.5	4.3	4.6	4.9	4.4	4.9	4.8	5.4	6.7	8.1	8.0	7.4	8.1	7.7
Operatives, except transport	8.1	8.4	9.0	9.1	9.0	9.0	9.9	9.2	9.3	11.6	14.0	13.8	14.6	13.6	13.0
Transport equipment operatives	5.2	5.4	6.1	5.6	5.2	5.0	6.9	6.7	6.6	8.9	9.0	10.5	10.5	10.0	10.6
Nonfarm laborers	10.7	10.8	11.0	10.7	12.2	12.2	12.3	12.0	13.0	14.1	15.4	16.2	16.1	16.5	15.1
Service workers	7.4	7.1	6.7	6.8	6.6	6.6	6.9	6.9	7.1	8.0	8.5	8.1	8.4	8.6	8.1
Farmworkers	3.8	3.8	4.1	4.3	4.5	4.3	4.4	3.9	4.0	5.0	4.8	4.2	4.8	5.6	4.3
INDUSTRY															
Nonagricultural private wage and salary workers[2]	5.9	5.7	5.8	5.9	5.8	5.8	6.2	6.0	6.2	7.1	8.2	8.3	8.2	8.0	7.8
Construction	10.6	10.2	9.6	9.9	10.2	10.3	10.8	10.5	13.0	15.1	17.5	16.5	16.1	18.3	16.5
Manufacturing	5.5	5.5	6.0	6.0	5.9	5.9	6.7	6.4	6.5	7.9	9.9	9.9	10.3	9.3	9.1
Durable goods	4.9	5.0	5.3	5.5	5.6	5.5	6.7	6.3	6.4	8.3	10.5	11.2	11.2	10.2	10.1
Nondurable goods	6.3	6.4	7.1	6.8	6.3	6.4	6.8	6.7	6.7	7.4	8.8	8.0	8.8	7.9	7.7
Transportation and public utilities	3.7	3.7	4.0	3.6	4.2	4.1	4.4	4.4	3.8	4.6	5.1	5.2	5.8	5.7	5.4
Wholesale and retail trade	6.9	6.5	6.4	6.4	6.5	6.4	6.6	6.4	6.3	7.0	7.6	8.0	7.5	7.6	7.6
Finance and service industries	5.1	4.9	4.7	4.9	4.6	4.7	4.6	4.6	4.9	5.1	5.7	5.7	5.7	5.6	5.3
Government workers	3.9	3.7	3.3	4.0	3.6	3.6	3.8	4.0	4.2	4.4	4.2	3.5	4.1	4.0	4.1
Agricultural wage and salary workers	8.6	9.1	10.0	9.9	10.1	9.4	10.3	9.2	10.2	11.9	11.7	9.7	10.8	13.8	10.9

[1] Aggregate hours lost by the unemployed and persons on part time for economic reasons as a percent of potentially available labor force hours.

[2] Includes mining, not shown separately.

NOTE: The monthly data in this table have been revised to reflect seasonal experience through 1979.

5. Unemployment rates, by sex and age, seasonally adjusted

Sex and age	Annual average		1979				1980								
	1978	1979	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
Total, 16 years and over	6.0	5.8	5.8	5.9	5.8	5.9	6.2	6.0	6.2	7.0	7.8	7.7	7.8	7.6	7.5
16 to 19 years	16.3	16.1	16.2	16.4	15.9	16.0	16.3	16.5	15.9	16.2	19.2	18.5	19.0	19.1	17.5
16 to 17 years	19.3	18.1	16.9	18.4	17.3	18.0	19.0	18.7	17.4	18.7	21.7	19.8	20.9	22.8	19.9
18 to 19 years	14.2	14.6	15.6	15.0	14.7	14.5	14.0	15.1	14.7	14.4	17.7	18.0	17.7	16.6	15.8
20 to 24 years	9.5	9.0	9.2	9.6	8.8	9.8	10.1	9.5	9.7	11.4	12.7	12.4	12.3	11.9	11.9
25 years and over	4.0	3.9	3.9	4.0	4.0	3.8	4.2	4.1	4.4	5.0	5.5	5.5	5.7	5.5	5.4
25 to 54 years	4.2	4.1	4.1	4.2	4.3	4.1	4.4	4.5	4.7	5.4	5.9	6.0	6.1	5.9	6.0
55 years and over	3.2	3.0	2.9	3.0	2.7	2.7	3.5	2.8	2.8	3.4	3.6	3.4	3.5	3.6	3.4
Men, 16 years and over	5.2	5.1	5.2	5.2	5.2	5.2	5.7	5.5	5.7	6.7	7.7	7.8	7.8	7.7	7.7
16 to 19 years	15.7	15.8	16.1	15.7	15.8	15.6	16.2	15.6	14.8	16.1	19.7	19.5	19.7	20.2	18.6
16 to 17 years	19.2	17.9	16.7	17.1	17.8	17.9	19.0	18.0	15.9	18.3	22.0	21.8	20.8	24.6	21.3
18 to 19 years	13.2	14.2	15.3	14.4	14.0	13.6	13.9	14.1	14.0	14.2	17.9	19.3	18.7	17.0	16.6
20 to 24 years	9.1	8.6	8.8	9.5	8.4	9.4	10.4	9.9	10.4	12.3	13.7	13.8	13.4	13.9	13.5
25 years and over	3.3	3.3	3.3	3.4	3.5	3.2	3.7	3.6	3.9	4.7	5.3	5.5	5.6	5.4	5.6
25 to 54 years	3.4	3.4	3.6	3.5	3.8	3.4	3.8	3.5	4.2	5.0	5.7	5.8	6.1	5.7	6.2
55 years and over	3.1	2.9	2.8	2.8	2.6	2.6	3.5	2.6	2.7	3.4	3.5	3.8	3.9	4.0	3.5
Women, 16 years and over	7.2	6.8	6.8	6.9	6.6	6.8	6.8	6.8	6.8	7.3	7.8	7.5	7.8	7.6	7.1
16 to 19 years	17.0	16.4	16.4	17.2	16.1	16.4	16.3	17.6	17.3	16.3	18.7	17.3	18.2	17.8	16.3
16 to 17 years	19.5	18.3	17.2	19.8	18.7	18.0	19.1	19.5	19.2	19.1	21.4	17.6	20.9	20.7	18.3
18 to 19 years	15.3	15.0	15.9	15.6	15.5	15.5	14.2	16.2	15.6	14.6	17.5	16.6	16.6	16.1	15.0
20 to 24 years	10.1	9.6	9.6	9.7	9.3	10.2	9.8	9.1	9.0	10.2	11.6	10.8	11.1	9.7	10.1
25 years and over	5.1	4.8	4.6	4.9	4.7	4.7	4.9	4.9	5.0	5.5	5.7	5.6	5.7	5.7	5.3
25 to 54 years	5.4	5.2	5.0	5.2	5.0	5.1	5.2	5.4	5.5	6.0	6.1	6.1	6.2	6.2	5.8
55 years and over	3.3	3.2	2.9	3.4	2.9	2.9	3.4	3.0	2.9	3.4	3.6	2.8	3.0	3.0	3.2

6. Unemployed persons, by reason for unemployment, seasonally adjusted

[Numbers in thousands]

Reason for unemployment	1979				1980								
	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
NUMBER OF UNEMPLOYED													
Lost last job	2,632	2,731	2,729	2,728	2,988	2,907	3,047	3,611	4,301	4,625	4,558	4,380	4,473
On layoff	855	929	987	944	1,019	1,031	1,129	1,424	1,944	2,117	1,975	1,692	1,809
Other job losers	1,777	1,802	1,742	1,784	1,969	1,876	1,918	2,188	2,357	2,508	2,583	2,688	2,664
Left last job	825	835	845	800	779	813	788	926	992	898	857	897	842
Reentered labor force	1,760	1,762	1,698	1,771	1,797	1,784	1,803	1,967	2,015	1,822	1,868	1,895	1,817
Seeking first job	801	804	736	858	811	827	805	743	884	863	930	867	858
PERCENT DISTRIBUTION													
Total unemployed	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Job losers	43.7	44.5	45.4	44.3	46.9	45.9	47.3	49.8	52.5	56.3	55.5	54.4	56.0
On layoff	14.2	15.2	16.4	15.3	16.0	16.3	17.5	19.6	23.7	25.8	24.0	21.1	22.6
Other job losers	29.5	29.4	29.0	29.0	30.9	29.6	29.8	30.2	28.8	30.6	31.5	33.3	33.3
Job leavers	13.7	13.8	14.1	13.0	12.2	12.8	12.2	12.8	12.1	10.9	10.4	11.2	10.5
Reentrants	29.2	28.7	28.3	28.8	26.2	26.2	26.0	27.1	24.6	22.2	22.7	23.6	22.7
New entrants	13.3	13.1	12.3	13.9	12.7	13.1	12.5	10.3	10.8	10.5	11.3	10.8	10.7
UNEMPLOYED AS A PERCENT OF THE CIVILIAN LABOR FORCE													
Job losers	2.5	2.6	2.6	2.6	2.9	2.8	2.9	3.5	4.1	4.4	4.3	4.2	4.3
Job leavers	.8	.8	.8	.8	.7	.8	.8	.9	.9	.9	.8	.9	.8
Reentrants	1.7	1.7	1.6	1.7	1.7	1.7	1.7	1.9	1.9	1.7	1.8	1.8	1.7
New entrants	.8	.8	.7	.8	.8	.8	.8	.7	.8	.8	.9	.8	.8

7. Duration of unemployment, seasonally adjusted

[Numbers in thousands]

Weeks of unemployment	Annual average		1979				1980								
	1978	1979	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
Less than 5 weeks	2,793	2,869	2,779	2,956	2,919	2,916	3,184	2,995	2,995	3,330	3,872	3,233	3,363	3,288	2,957
5 to 14 weeks	1,875	1,892	2,035	1,983	1,899	1,989	1,807	2,081	2,169	2,291	2,887	2,822	2,700	2,480	2,813
15 weeks and over	1,379	1,202	1,152	1,195	1,191	1,230	1,334	1,286	1,363	1,629	1,722	1,766	1,916	2,184	2,326
15 to 26 weeks	746	684	644	678	680	711	796	790	776	953	1,014	1,027	1,067	1,259	1,397
27 weeks and over	633	518	508	517	501	519	539	496	587	676	709	739	858	925	930
Average (mean) duration, in weeks	11.9	10.8	10.7	10.5	10.6	10.5	10.5	10.7	11.0	11.3	10.5	11.7	11.8	12.6	13.1

NOTE: The monthly data in these tables have been revised to reflect seasonal experience through 1979.

EMPLOYMENT, HOURS, AND EARNINGS DATA FROM ESTABLISHMENT SURVEYS

EMPLOYMENT, HOURS, AND EARNINGS DATA in this section are compiled from payroll records reported monthly on a voluntary basis to the Bureau of Labor Statistics and its cooperating State agencies by 166,000 establishments representing all industries except agriculture. In most industries, the sampling probabilities are based on the size of the establishment; most large establishments are therefore in the sample. (An establishment is not necessarily a firm; it may be a branch plant, for example, or warehouse.) Self-employed persons and others not on a regular civilian payroll are outside the scope of the survey because they are excluded from establishment records. This largely accounts for the difference in employment figures between the household and establishment surveys.

LABOR TURNOVER DATA in this section are compiled from personnel records reported monthly on a voluntary basis to the Bureau of Labor Statistics and its cooperating State agencies. A sample of 40,000 establishments represents all industries in the manufacturing and mining sectors of the economy.

Definitions

Employed persons are all persons who received pay (including holiday and sick pay) for any part of the payroll period including the 12th of the month. Persons holding more than one job (about 5 percent of all persons in the labor force) are counted in each establishment which reports them.

Production workers in manufacturing include blue-collar worker supervisors and all nonsupervisory workers closely associated with production operations. Those workers mentioned in tables 14–20 include production workers in manufacturing and mining; construction workers in construction; and nonsupervisory workers in transportation and public utilities, in wholesale and retail trade, in finance, insurance, and real estate, and in services industries. These groups account for about four-fifths of the total employment on private nonagricultural payrolls.

Earnings are the payments production or nonsupervisory workers receive during the survey period, including premium pay for overtime or late-shift work but excluding irregular bonuses and other special payments. **Real earnings** are earnings adjusted to eliminate the effects of price change. The **Hourly Earnings Index** is calculated from average hourly earnings data adjusted to exclude the effects of two types of changes that are unrelated to underlying wage-rate developments: fluctuations in overtime premiums in manufacturing (the only sector for which overtime data are available) and the effects of changes and seasonal factors in the proportion of workers in high-wage and low-wage industries. **Spendable earnings** are earnings from which estimated social security and Federal income taxes have been deducted. The Bureau of Labor Statistics computes spendable earnings from gross weekly earnings for only two illustrative cases: (1) a worker with no dependents and (2) a married worker with three dependents.

Hours represent the average weekly hours of production or nonsupervisory workers for which pay was received and are different from standard or scheduled hours. **Overtime hours** represent the portion of gross average weekly hours which were in excess of regular hours and for which overtime premiums were paid.

Labor turnover is the movement of all wage and salary workers from one employment status to another. **Accession rates** indicate the average number of persons added to a payroll in a given period per 100 employees; **separation rates** indicate the average number dropped from a payroll per 100 employees. Although month-to-month changes in employment can be calculated from the labor turnover data, the results are not comparable with employment data from the employment and payroll survey. The labor turnover survey measures changes during the calendar month while the employment and payroll survey measures changes from midmonth to midmonth.

Notes on the data

Establishment data collected by the Bureau of Labor Statistics are periodically adjusted to comprehensive counts of employment (called "benchmarks"). The latest complete adjustment was made with the release of June 1980 data, published in the August 1980 issue of the *Review.* Consequently, data published in the *Review* prior to that issue are not necessarily comparable to current data. Complete comparable historical unadjusted and seasonally adjusted data are published in a Supplement to Employment and Earnings (unadjusted data from April 1977 through March 1980 and seasonally adjusted data from January 1974 through March 1980) and in *Employment and Earnings, United States, 1909–78,* BLS Bulletin 1312–11 (for prior periods).

Data on recalls were shown for the first time in tables 12 and 13 in the January 1978 issue of the *Review.* For a detailed discussion of the recalls series, along with historical data, see "New Series on Recalls from the Labor Turnover Survey," *Employment and Earnings,* December 1977, pp. 10–19.

A comprehensive discussion of the differences between household and establishment data on employment appears in Gloria P. Green, "Comparing employment estimates from household and payroll surveys," *Monthly Labor Review,* December 1969, pp. 9–20. See also *BLS Handbook of Methods for Surveys and Studies,* Bulletin 1910 (Bureau of Labor Statistics, 1976).

The formulas used to construct the spendable average weekly earnings series reflect the latest provisions of the Federal income tax and social security tax laws. For the spendable average weekly earnings formulas for the years 1978–80, see *Employment and Earnings,* March 1980, pp. 10–11. Real earnings data are adjusted using the Consumer Price Index for Urban Wage Earners and Clerical Workers (CPI-W).

8. Employment by industry, 1950–79

[Nonagricultural payroll data, in thousands]

Year	Total	Mining	Construction	Manufacturing	Transportation and public utilities	Wholesale and retail trade	Wholesale trade	Retail trade	Finance, insurance, and real estate	Services	Government		
											Total	Federal	State and local
1950	45,197	901	2,364	15,241	4,034	9,386	2,635	6,751	1,888	5,357	6,026	1,928	4,098
1951	47,819	929	2,637	16,393	4,226	9,742	2,727	7,015	1,956	5,547	6,389	2,302	4,087
1952	48,793	898	2,668	16,632	4,248	10,004	2,812	7,192	2,035	5,699	6,609	2,420	4,188
1953	50,202	866	2,659	17,549	4,290	10,247	2,854	7,393	2,111	5,835	6,645	2,305	4,340
1954	48,990	791	2,646	16,314	4,084	10,235	2,867	7,368	2,200	5,969	6,751	2,188	4,563
1955	50,641	792	2,839	16,882	4,141	10,535	2,926	7,610	2,298	6,240	6,914	2,187	4,727
1956	52,369	822	3,039	17,243	4,244	10,858	3,018	7,840	2,389	6,497	7,278	2,209	5,069
1957	52,853	828	2,962	17,174	4,241	10,886	3,028	7,858	2,438	6,708	7,616	2,217	5,399
1958	51,324	751	2,817	15,945	3,976	10,750	2,980	7,770	2,481	6,765	7,839	2,191	5,648
1959[1]	53,268	732	3,004	16,675	4,011	11,127	3,082	8,045	2,549	7,087	8,083	2,233	5,850
1960	54,189	712	2,926	16,796	4,004	11,391	3,143	8,248	2,629	7,378	8,353	2,270	6,083
1961	53,999	672	2,859	16,326	3,903	11,337	3,133	8,204	2,688	7,620	8,594	2,279	6,315
1962	55,549	650	2,948	16,853	3,906	11,566	3,198	8,368	2,754	7,982	8,890	2,340	6,550
1963	56,653	635	3,010	16,995	3,903	11,778	3,248	8,530	2,830	8,277	9,225	2,358	6,868
1964	58,283	634	3,097	17,274	3,951	12,160	3,337	8,823	2,911	8,660	9,596	2,348	7,248
1965	60,765	632	3,232	18,062	4,036	12,716	3,466	9,250	2,977	9,036	10,074	2,378	7,696
1966	63,901	627	3,317	19,214	4,158	13,245	3,597	9,648	3,058	9,498	10,784	2,564	8,220
1967	65,803	613	3,248	19,447	4,268	13,606	3,689	9,917	3,185	10,045	11,391	2,719	8,672
1968	67,897	606	3,350	19,781	4,318	14,099	3,779	10,320	3,337	10,567	11,839	2,737	9,102
1969	70,384	619	3,575	20,167	4,442	14,705	3,907	10,798	3,512	11,169	12,195	2,758	9,437
1970	70,880	623	3,588	19,367	4,515	15,040	3,993	11,047	3,645	11,548	12,554	2,731	9,823
1971	71,214	609	3,704	18,623	4,476	15,352	4,001	11,351	3,772	11,797	12,881	2,696	10,185
1972	73,675	628	3,889	19,151	4,541	15,949	4,113	11,836	3,908	12,276	13,334	2,684	10,649
1973	76,790	642	4,097	20,154	4,656	16,607	4,277	12,329	4,046	12,857	13,732	2,663	11,068
1974	78,265	697	4,020	20,077	4,725	16,987	4,433	12,554	4,148	13,441	14,170	2,724	11,446
1975	76,945	752	3,525	18,323	4,542	17,060	4,415	12,645	4,165	13,892	14,686	2,748	11,937
1976	79,382	779	3,576	18,997	4,582	17,755	4,546	13,209	4,271	14,551	14,871	2,733	12,138
1977	82,471	813	3,851	19,682	4,713	18,516	4,708	13,808	4,467	15,303	15,127	2,727	12,399
1978	86,697	851	4,229	20,505	4,923	19,542	4,969	14,573	4,724	16,252	15,672	2,753	12,919
1979	89,886	960	4,483	21,062	5,141	20,269	5,204	15,066	4,974	17,078	15,920	2,773	13,147

[1] Data include Alaska and Hawaii beginning in 1959.

9. Employment by State

[Nonagricultural payroll data, in thousands]

State	Aug. 1979	July 1980	Aug. 1980 p	State	Aug. 1979	July 1980	Aug. 1980 p
Alabama	1,363.8	1,326.7	1,329.1	Montana	293.8	282.2	285.9
Alaska	181.4	182.7	184.6	Nebraska	632.5	624.8	625.6
Arizona	950.4	964.8	958.0	Nevada	391.2	400.8	402.9
Arkansas	750.2	742.1	748.0	New Hampshire	388.4	385.6	388.2
California	9,637.0	9,673.0	9,684.8	New Jersey	3,082.4	3,077.2	3,081.5
Colorado	1,226.0	1,250.3	1,253.9	New Mexico	465.8	474.3	477.0
Connecticut	1,398.9	1,395.8	1,386.5	New York	7,235.1	7,183.8	7,197.6
Delaware	257.1	257.3	256.9	North Carolina	2,370.3	2,364.4	2,385.5
District of Columbia	634.2	636.4	633.2	North Dakota	249.9	248.0	248.6
Florida	3,342.7	3,473.6	3,471.8	Ohio	4,485.0	4,365.2	4,362.3
Georgia	2,111.8	2,121.3	2,127.7	Oklahoma	1,099.9	1,129.6	1,133.9
Hawaii	403.1	415.9	413.2	Oregon	1,063.0	1,018.6	1,024.0
Idaho	341.0	327.0	327.7	Pennsylvania	4,845.7	4,741.5	4,738.8
Illinois	4,935.8	4,821.6	4,832.3	Rhode Island	405.1	386.5	391.9
Indiana	2,274.7	2,195.7	2,199.5	South Carolina	1,171.8	1,165.3	1,173.1
Iowa	1,119.5	1,089.7	1,074.2	South Dakota	245.5	240.0	239.9
Kansas	941.4	937.8	933.9	Tennessee	1,794.7	1,742.6	1,750.7
Kentucky	1,242.8	1,189.5	1,192.3	Texas	5,627.1	5,797.8	5,783.7
Louisiana	1,495.3	1,540.3	1,543.2	Utah	555.5	554.7	557.1
Maine	433.7	414.3	427.5	Vermont	198.9	196.4	198.2
Maryland	1,610.1	1,640.7	1,625.9	Virginia	2,115.1	2,113.4	2,122.6
Massachusetts	2,622.2	2,669.3	2,667.8	Washington	1,593.8	1,598.9	1,604.5
Michigan	3,547.9	3,355.5	3,281.1	West Virginia	650.2	636.2	625.7
Minnesota	1,793.1	1,785.2	1,769.8	Wisconsin	1,988.0	1,972.5	1,983.3
Mississippi	832.6	812.4	811.9	Wyoming	210.3	222.2	223.1
Missouri	2,010.2	1,967.7	1,970.8				
				Virgin Islands	35.9	36.3	36.5

10. Employment by industry division and major manufacturing group

[Nonagricultural payroll data, in thousands]

Industry division and group	Annual average		1979				1980								
	1978	1979	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.^{p}	Sept.^{p}
TOTAL	86,697	89,886	90,629	91,062	91,288	91,394	89,630	89,781	90,316	90,761	90,849	91,049	89,820	90,046	90,864
MINING	851	960	983	984	986	985	982	987	996	1,006	1,024	1,049	1,030	1,030	1,027
CONSTRUCTION	4,229	4,483	4,801	4,792	4,698	4,536	4,194	4,109	4,150	4,311	4,471	4,611	4,633	4,707	4,685
MANUFACTURING	20,505	21,062	21,295	21,193	21,056	20,987	20,777	20,730	20,793	20,533	20,250	20,201	19,754	20,057	20,250
Production workers	14,734	15,085	15,265	15,170	15,034	14,964	14,738	14,678	14,727	14,466	14,172	14,093	13,657	13,950	14,191
Durable goods	12,274	12,772	12,891	12,824	12,744	12,733	12,600	12,599	12,647	12,414	12,150	12,065	11,774	11,832	12,011
Production workers	8,805	9,120	9,190	9,131	9,054	9,040	8,885	8,869	8,909	8,672	8,409	8,307	8,025	8,070	8,284
Lumber and wood products	754.7	766.1	785.0	780.0	757.2	737.4	717.4	718.9	716.9	678.4	654.8	668.0	666.8	683.2	685.5
Furniture and fixtures	494.1	499.3	499.6	502.5	503.1	501.8	498.0	494.6	494.1	488.7	469.1	460.8	438.1	447.0	455.4
Stone, clay, and glass products	698.2	709.7	721.6	718.6	710.3	697.4	678.2	674.7	679.0	675.5	668.1	666.2	656.0	661.3	663.8
Primary metal industries	1,214.9	1,250.2	1,250.6	1,231.4	1,222.6	1,209.9	1,207.2	1,205.1	1,203.7	1,193.8	1,149.8	1,112.9	1,055.5	1,060.1	1,081.2
Fabricated metal products	1,672.6	1,723.7	1,731.4	1,733.8	1,733.3	1,725.2	1,696.8	1,699.4	1,703.8	1,671.4	1,619.8	1,598.6	1,538.4	1,568.5	1,591.5
Machinery, except electrical	2,325.5	2,481.6	2,513.8	2,485.1	2,458.7	2,471.6	2,538.5	2,536.5	2,539.9	2,523.5	2,509.3	2,486.1	2,440.2	2,420.9	2,427.2
Electric and electronic equipment	2,006.1	2,124.3	2,152.8	2,162.0	2,164.0	2,171.9	2,162.9	2,157.7	2,167.7	2,156.2	2,120.2	2,102.2	2,086.5	2,082.6	2,101.3
Transportation equipment	2,002.8	2,082.8	2,087.4	2,076.5	2,044.2	2,079.3	1,975.8	1,983.1	2,005.6	1,891.1	1,835.1	1,847.0	1,810.2	1,790.4	1,880.8
Instruments and related products	653.1	688.9	691.6	694.6	694.9	696.8	697.7	700.5	703.6	702.2	699.4	702.9	698.3	696.5	700.4
Miscellaneous manufacturing	451.5	445.6	457.1	459.7	455.5	439.4	427.7	428.8	432.9	433.0	424.6	420.1	404.0	419.8	423.6
Nondurable goods	8,231	8,290	8,404	8,369	8,311	8,254	8,177	8,131	8,146	8,119	8,100	8,136	7,980	8,225	8,239
Production workers	5,929	5,965	6,075	6,039	5,980	5,924	5,853	5,809	5,818	5,794	5,763	5,786	5,632	5,880	5,907
Food and kindred products	1,724.1	1,728.1	1,834.5	1,781.8	1,736.3	1,706.2	1,659.9	1,644.1	1,641.1	1,626.2	1,638.5	1,676.8	1,709.5	1,798.9	1,782.4
Tobacco manufactures	70.6	69.9	77.5	77.4	68.6	70.8	69.1	67.1	64.4	62.9	62.7	64.6	63.9	71.0	74.1
Textile mill products	899.1	888.5	885.0	886.1	890.4	889.7	884.0	884.6	886.9	882.1	870.6	853.2	820.6	851.6	854.5
Apparel and other textile products	1,332.3	1,312.5	1,308.8	1,317.3	1,305.8	1,287.1	1,282.0	1,305.8	1,318.4	1,304.2	1,299.0	1,310.5	1,236.9	1,302.8	1,315.1
Paper and allied products	698.7	706.7	710.5	709.3	707.8	705.9	703.5	701.9	701.8	698.8	692.4	695.0	682.3	689.2	688.9
Printing and publishing	1,192.0	1,239.5	1,243.0	1,251.4	1,262.0	1,268.5	1,266.3	1,270.4	1,272.1	1,270.4	1,267.8	1,271.3	1,264.5	1,264.7	1,265.2
Chemicals and allied products	1,095.5	1,110.7	1,112.7	1,113.7	1,113.9	1,114.2	1,113.1	1,112.1	1,118.1	1,120.6	1,119.5	1,122.2	1,112.0	1,108.6	1,107.1
Petroleum and coal products	207.7	210.0	213.7	213.5	212.6	210.6	208.6	155.9	153.1	173.6	203.4	209.1	212.0	212.4	209.4
Rubber and miscellaneous plastics products	754.5	775.6	770.2	770.8	765.9	755.6	750.3	746.3	746.5	737.2	702.4	688.5	659.3	680.3	696.2
Leather and leather products	256.8	248.0	247.9	247.9	247.6	245.2	240.3	242.6	243.4	243.3	243.2	244.7	218.9	245.0	246.4
TRANSPORTATION AND PUBLIC UTILITIES	4,923	5,141	5,229	5,233	5,243	5,240	5,136	5,130	5,143	5,147	5,167	5,185	5,145	5,139	5,163
WHOLESALE AND RETAIL TRADE	19,542	20,269	20,425	20,474	20,756	21,114	20,325	20,155	20,226	20,373	20,497	20,562	20,506	20,561	20,695
WHOLESALE TRADE	4,969	5,204	5,239	5,266	5,282	5,264	5,241	5,250	5,269	5,265	5,263	5,287	5,278	5,288	5,286
RETAIL TRADE	14,573	15,066	15,186	15,208	15,474	15,850	15,084	14,905	14,957	15,108	15,234	15,275	15,228	15,273	15,409
FINANCE, INSURANCE, AND REAL ESTATE	4,724	4,974	5,015	5,025	5,039	5,047	5,052	5,061	5,085	5,104	5,137	5,201	5,229	5,231	5,173
SERVICES	16,252	17,078	17,238	17,297	17,284	17,271	17,135	17,317	17,478	17,636	17,747	17,846	17,973	17,945	17,899
GOVERNMENT	15,672	15,920	15,643	16,064	16,227	16,214	16,029	16,292	16,445	16,651	16,556	16,394	15,550	15,376	15,772
Federal	2,753	2,773	2,751	2,756	2,760	2,770	2,763	2,803	2,869	3,103	2,963	2,995	2,949	2,872	2,780
State and local	12,919	13,147	12,892	13,308	13,467	13,444	13,266	13,489	13,576	13,548	13,593	13,399	12,601	12,504	12,992

11. Employment by industry division and major manufacturing group, seasonally adjusted

[Nonagricultural payroll data, in thousands]

Industry division and group	1979				1980								
	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July p	Aug. p	Sept. p
TOTAL	90,263	90,441	90,552	90,678	91,031	91,186	91,144	90,951	90,468	90,047	89,887	90,109	90,296
MINING	976	982	985	992	999	1,007	1,009	1,012	1,023	1,029	1,013	1,014	1,020
CONSTRUCTION	4,507	4,526	4,553	4,615	4,745	4,659	4,529	4,467	4,436	4,379	4,322	4,354	4,399
MANUFACTURING	21,071	21,043	20,966	20,983	20,971	20,957	20,938	20,642	20,286	20,014	19,826	19,946	20,003
Production workers	15,058	15,025	14,948	14,956	14,911	14,871	14,850	14,550	14,186	13,931	13,759	13,872	13,958
Durable goods	12,822	12,764	12,693	12,706	12,681	12,715	12,707	12,442	12,140	11,947	11,819	11,860	11,914
Production workers	9,129	9,069	9,001	9,009	8,953	8,967	8,961	8,686	8,386	8,205	8,084	8,114	8,192
Lumber and wood products	767	766	757	746	743	745	737	689	654	648	650	662	670
Furniture and fixtures	497	496	498	497	497	495	494	491	472	461	449	446	453
Stone, clay, and glass products	708	709	704	704	706	705	700	680	663	647	641	646	651
Primary metal industries	1,242	1,236	1,230	1,219	1,215	1,214	1,209	1,193	1,144	1,096	1,049	1,059	1,074
Fabricated metal products	1,723	1,723	1,722	1,718	1,707	1,711	1,711	1,678	1,620	1,584	1,551	1,570	1,584
Machinery, except electrical	2,518	2,478	2,460	2,450	2,532	2,529	2,530	2,518	2,517	2,476	2,448	2,440	2,430
Electric and electronic equipment	2,140	2,149	2,150	2,163	2,169	2,168	2,176	2,167	2,127	2,094	2,079	2,085	2,089
Transportation equipment	2,090	2,083	2,033	2,057	1,970	2,006	2,006	1,885	1,819	1,831	1,839	1,840	1,850
Instruments and related products	693	696	695	698	699	702	705	703	700	696	698	698	702
Miscellaneous manufacturing	444	444	444	445	444	440	439	438	424	414	415	412	411
Nondurable goods	8,249	8,279	8,273	8,277	8,290	8,242	8,231	8,200	8,146	8,067	8,009	8,086	8,089
Production workers	5,929	5,956	5,947	5,947	5,958	5,904	5,889	5,864	5,800	5,726	5,675	5,758	5,766
Food and kindred products	1,712	1,723	1,725	1,724	1,716	1,713	1,704	1,690	1,691	1,677	1,683	1,694	1,684
Tobacco manufactures	70	70	64	66	67	68	68	69	70	71	69	67	67
Textile mill products	881	885	887	889	886	888	888	884	869	843	833	848	851
Apparel and other textile products	1,298	1,302	1,294	1,296	1,305	1,313	1,316	1,302	1,291	1,287	1,276	1,299	1,305
Paper and allied products	708	709	708	708	710	709	708	702	692	685	680	682	686
Printing and publishing	1,245	1,251	1,259	1,261	1,269	1,273	1,274	1,272	1,268	1,269	1,266	1,266	1,266
Chemicals and allied products	1,110	1,114	1,116	1,118	1,121	1,121	1,123	1,123	1,120	1,112	1,103	1,100	1,105
Petroleum and coal products	211	212	212	213	214	161	157	175	203	206	207	208	207
Rubber and miscellaneous plastics products	767	766	762	756	755	751	749	740	703	661	663	680	693
Leather and leather products	247	247	246	246	245	245	244	243	239	237	229	242	245
TRANSPORTATION AND PUBLIC UTILITIES	5,165	5,203	5,216	5,212	5,202	5,198	5,202	5,178	5,167	5,134	5,114	5,124	5,117
WHOLESALE AND RETAIL TRADE	20,352	20,414	20,479	20,448	20,529	20,637	20,610	20,531	20,487	20,459	20,506	20,571	20,623
WHOLESALE TRADE	5,228	5,246	5,269	5,251	5,278	5,302	5,301	5,286	5,268	5,245	5,247	5,267	5,275
RETAIL TRADE	15,124	15,168	15,210	15,197	15,251	15,336	15,309	15,245	15,219	15,214	15,259	15,304	15,348
FINANCE, INSURANCE, AND REAL ESTATE	5,017	5,033	5,049	5,064	5,091	5,101	5,115	5,119	5,137	5,150	5,167	5,179	5,173
SERVICES	17,192	17,264	17,308	17,362	17,462	17,540	17,580	17,618	17,659	17,652	17,760	17,767	17,845
GOVERNMENT	15,983	15,973	15,996	16,002	16,032	16,087	16,161	16,384	16,273	16,230	16,157	16,154	16,116
Federal	2,762	2,769	2,773	2,773	2,791	2,826	2,886	3,115	2,960	2,951	2,893	2,838	2,791
State and local	13,221	13,204	13,223	13,229	13,241	13,261	13,275	13,269	13,313	13,279	13,264	13,316	13,325

12. Labor turnover rates in manufacturing, 1977 to date

[Per 100 employees]

Year	Annual average	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
	Total accessions												
1977	4.0	3.7	3.7	4.0	3.8	4.6	4.9	4.3	5.3	4.6	3.9	3.1	2.4
1978	4.1	3.8	3.2	3.8	4.0	4.7	4.9	4.4	5.4	4.9	4.3	3.3	2.4
1979	4.0	4.0	3.4	3.8	3.9	4.7	4.8	4.3	5.0	4.5	4.1	3.0	2.2
1980	...	3.6	3.3	3.5	3.1	3.4	3.9	3.8	p4.6	...	...	...	...
	New hires												
1977	2.8	2.2	2.1	2.6	2.7	3.5	3.7	3.0	4.0	3.5	3.0	2.2	1.6
1978	3.1	2.5	2.2	2.7	2.9	3.6	3.9	3.3	4.2	3.9	3.5	2.6	1.7
1979	2.9	2.8	2.5	2.8	2.9	3.6	3.8	3.1	3.7	3.4	3.1	2.2	1.5
1980	...	2.4	2.2	2.3	2.1	2.1	2.4	2.1	p2.5	...	...	...	...
	Recalls												
1977	.9	1.2	1.3	1.1	.9	.8	.8	.9	1.0	.8	.6	.8	.6
1978	.7	1.0	.7	.8	.8	.8	.7	.8	.9	.7	.6	.5	.5
1979	.7	.9	.7	.7	.7	.8	.7	.9	.9	.8	.7	.5	.5
1980	...	1.1	.9	.9	.8	1.0	1.2	1.4	p1.7	...	...	...	...
	Total separations												
1977	3.8	3.9	3.4	3.4	3.4	3.5	3.5	4.3	5.1	4.9	3.8	3.4	3.4
1978	3.9	3.6	3.1	3.5	3.6	3.7	3.8	4.1	5.3	4.9	4.1	3.5	3.4
1979	4.0	3.8	3.2	3.6	3.7	3.8	3.9	4.3	5.7	4.7	4.2	3.8	3.5
1980	...	4.1	3.5	3.7	4.7	4.8	4.4	4.2	p4.9	...	...	...	...
	Quits												
1977	1.8	1.4	1.3	1.6	1.7	1.9	1.9	1.9	3.1	2.8	1.9	1.5	1.2
1978	2.1	1.5	1.4	1.8	2.0	2.1	2.2	2.1	3.5	3.1	2.3	1.7	1.3
1979	2.0	1.8	1.6	1.9	2.0	2.1	2.1	2.0	3.3	2.7	2.1	1.6	1.1
1980	...	1.6	1.5	1.6	1.5	1.5	1.4	1.4	p2.2	...	...	...	...
	Layoffs												
1977	1.1	1.7	1.4	1.0	.9	.8	.8	1.5	1.0	1.1	1.1	1.1	1.5
1978	.9	1.2	.9	.9	.8	.7	.7	1.1	.8	.8	.9	1.0	1.4
1979	1.1	1.1	.8	.8	.9	.7	.9	1.4	1.3	1.1	1.2	1.5	1.7
1980	...	1.6	1.2	1.3	2.3	2.5	2.2	2.0	p1.6	...	...	...	...

13. Labor turnover rates in manufacturing, by major industry group

[Per 100 employees]

Major industry group	Accession rates									Separation rates								
	Total			New hires			Recalls			Total			Quits			Layoffs		
	Aug. 1979	July 1980	Aug. 1980p	Aug. 1979	July 1980	Aug. 1980p	Aug. 1979	July 1980	Aug. 1980p	Aug. 1979	July 1980	Aug. 1980p	Aug. 1979	July 1980	Aug. 1980p	Aug. 1979	July 1980	Aug. 1980p
MANUFACTURING	5.0	3.8	4.6	3.7	2.1	2.5	0.9	1.4	1.7	5.7	4.2	4.9	3.3	1.4	2.2	1.3	2.0	1.8
Seasonally adjusted	3.9	3.4	3.7	2.8	1.9	1.9	...	...	...	4.3	3.8	4.0	2.0	1.3	1.3	1.4	1.7	2.0
Durable goods	4.2	3.2	4.1	3.1	1.6	1.9	.8	1.3	1.8	5.2	4.0	4.7	2.8	1.1	1.7	1.3	2.1	2.0
Lumber and wood products	6.7	5.9	6.6	5.8	3.2	4.3	.8	2.5	2.3	7.8	5.2	6.3	5.5	2.2	3.3	.8	2.1	1.8
Furniture and fixtures	6.9	3.8	5.0	5.7	2.2	3.3	1.0	1.5	1.6	7.3	5.6	5.5	4.9	1.8	2.9	.9	2.9	1.6
Stone, clay, and glass products	4.5	4.0	4.7	3.7	2.0	2.5	.8	1.8	2.0	5.8	4.0	5.1	3.5	1.2	2.1	1.1	1.9	2.0
Primary metal industries	2.7	3.5	4.4	1.7	.7	.9	.8	2.6	3.3	4.4	5.3	4.8	1.9	.6	.9	1.4	3.8	2.8
Fabricated metal products	4.8	4.0	4.7	3.8	1.9	2.2	.7	1.9	2.2	5.9	4.4	4.6	3.3	1.3	1.9	1.6	2.3	1.8
Machinery, except electrical	3.1	2.2	2.7	2.4	1.3	1.5	.3	.6	.9	3.8	3.2	3.7	2.2	.9	1.5	.6	1.6	1.4
Electric and electronic equipment	3.8	2.5	3.3	2.8	1.4	1.5	.6	.8	1.1	4.7	3.4	3.7	2.8	1.0	1.6	.8	1.5	1.1
Transportation equipment	4.6	3.0	...	2.2	1.4	...	1.8	1.2	...	6.0	4.1	...	1.7	.8	...	3.2	2.6	...
Instruments and related products	3.0	2.3	2.7	2.4	1.8	1.8	.3	.4	.7	3.7	2.4	3.3	2.5	1.1	1.9	.5	.7	.7
Miscellaneous manufacturing	6.9	5.1	5.4	5.7	2.8	3.8	1.0	2.1	1.4	7.2	5.6	5.8	4.8	1.8	3.4	1.0	2.7	1.4
Nondurable goods	6.1	4.7	5.2	4.6	2.9	3.4	1.2	1.6	1.6	6.3	4.6	5.3	4.1	1.8	3.0	1.2	1.9	1.4
Food and kindred products	10.5	8.3	9.0	7.9	5.2	5.9	2.2	2.9	2.8	8.3	5.8	7.2	5.6	2.4	4.1	1.7	2.5	1.9
Tobacco manufacturers	11.3	5.1	...	4.8	1.2	...	5.2	2.1	...	3.3	2.2	...	1.8	.5	...	.5	.9	...
Textile mill products	5.8	4.1	3.9	4.6	2.5	2.6	.8	1.3	.8	6.5	5.1	4.8	4.4	2.1	2.8	.9	2.0	1.0
Apparel and other products	7.6	5.8	6.5	4.9	3.4	3.9	1.8	2.2	2.1	8.0	6.6	6.7	4.8	2.7	3.8	2.1	2.9	2.1
Paper and allied products	3.3	2.9	2.9	2.6	1.4	1.7	.4	1.4	1.0	4.6	3.1	3.9	2.8	.9	1.8	.8	1.5	1.2
Printing and publishing	4.0	2.9	3.3	3.4	2.3	2.7	.4	.5	.5	4.9	3.1	4.3	3.5	1.7	2.8	.6	.8	.8
Chemicals and allied products	1.9	1.5	1.6	1.6	1.1	1.0	.2	.3	.5	2.9	1.9	2.7	1.9	.6	1.4	.4	.8	.7
Petroleum and coal products	2.0	2.5	2.4	1.8	2.0	1.9	.1	.4	.3	3.1	1.9	3.3	1.7	.7	1.5	.5	.5	.9
Rubber and miscellaneous plastics products	5.4	4.7	5.7	4.5	2.1	3.0	.7	2.2	2.4	7.5	5.5	5.5	4.5	1.7	2.7	1.8	2.7	1.8
Leather and leather products	10.8	7.7	8.6	6.6	4.4	5.2	3.7	3.0	3.2	10.7	8.8	7.3	6.8	3.3	4.5	2.5	4.5	1.8

14. Hours and earnings, by industry division, 1949–79

[Gross averages, production or nonsupervisory workers on nonagricultural payrolls]

Year	Average weekly earnings	Average weekly hours	Average hourly earnings	Average weekly earnings	Average weekly hours	Average hourly earnings	Average weekly earnings	Average weekly hours	Average hourly earnings	Average weekly earnings	Average weekly hours	Average hourly earnings
	Total private			Mining			Construction			Manufacturing		
1949	$50.24	39.4	$1.275	$62.33	36.3	$1.717	$67.56	37.7	$1.792	$53.88	39.1	$1.378
1950	53.13	39.8	1.335	67.16	37.9	1.772	69.68	37.4	1.863	58.32	40.5	1.440
1951	57.86	39.9	1.45	74.11	38.4	1.93	76.96	38.1	2.02	63.34	40.6	1.56
1952	60.65	39.9	1.52	77.59	38.6	2.01	82.86	38.9	2.13	66.75	40.7	1.64
1953	63.76	39.6	1.61	83.03	38.8	2.14	86.41	37.9	2.28	70.47	40.5	1.74
1954	64.52	39.1	1.65	82.60	38.6	2.14	88.91	37.2	2.39	70.49	39.6	1.78
1955	67.72	39.6	1.71	89.54	40.7	2.20	90.90	37.1	2.45	75.30	40.7	1.85
1956	70.74	39.3	1.80	95.06	40.8	2.33	96.38	37.5	2.57	78.78	40.4	1.95
1957	73.33	38.8	1.89	98.25	40.1	2.45	100.27	37.0	2.71	81.19	39.8	2.04
1958	75.08	38.5	1.95	96.08	38.9	2.47	103.78	36.8	2.82	82.32	39.2	2.10
1959[1]	78.78	39.0	2.02	103.68	40.5	2.56	108.41	37.0	2.93	88.26	40.3	2.19
1960	80.67	38.6	2.09	105.04	40.4	2.60	112.67	36.7	3.07	89.72	39.7	2.26
1961	82.60	38.6	2.14	106.92	40.5	2.64	118.08	36.9	3.20	92.34	39.8	2.32
1962	85.91	38.7	2.22	110.70	41.0	2.70	122.47	37.0	3.31	96.56	40.4	2.39
1963	88.46	38.8	2.28	114.40	41.6	2.75	127.19	37.3	3.41	99.23	40.5	2.45
1964	91.33	38.7	2.36	117.74	41.9	2.81	132.06	37.2	3.55	102.97	40.7	2.53
1965	95.45	38.8	2.46	123.52	42.3	2.92	138.38	37.4	3.70	107.53	41.2	2.61
1966	98.82	38.6	2.56	130.24	42.7	3.05	146.26	37.6	3.89	112.19	41.4	2.71
1967	101.84	38.0	2.68	135.89	42.6	3.19	154.95	37.7	4.11	114.49	40.6	2.82
1968	107.73	37.8	2.85	142.71	42.6	3.35	164.49	37.3	4.41	122.51	40.7	3.01
1969	114.61	37.7	3.04	154.80	43.0	3.60	181.54	37.9	4.79	129.51	40.6	3.19
1970	119.83	37.1	3.23	164.40	42.7	3.85	195.45	37.3	5.24	133.33	39.8	3.35
1971	127.31	36.9	3.45	172.14	42.4	4.06	211.67	37.2	5.69	142.44	39.9	3.57
1972	136.90	37.0	3.70	189.14	42.6	4.44	221.19	36.5	6.06	154.71	40.5	3.82
1973	145.39	36.9	3.94	201.40	42.4	4.75	235.89	36.8	6.41	166.46	40.7	4.09
1974	154.76	36.5	4.24	219.14	41.9	5.23	249.25	36.6	6.81	176.80	40.0	4.42
1975	163.53	36.1	4.53	249.31	41.9	5.95	266.08	36.4	7.31	190.79	39.5	4.83
1976	175.45	36.1	4.86	273.90	42.4	6.46	283.73	36.8	7.71	209.32	40.1	5.22
1977	189.00	36.0	5.25	301.20	43.4	6.94	295.65	36.5	8.10	228.90	40.3	5.68
1978	203.70	35.8	5.69	332.88	43.4	7.67	318.69	36.8	8.66	249.27	40.4	6.17
1979	219.30	35.6	6.16	365.50	43.0	8.50	342.99	37.0	9.27	268.94	40.2	6.69
	Transportation and public utilities			Wholesale and retail trade			Finance, insurance, and real estate			Services		
1949	....	....	....	$42.93	40.5	$1.060	$47.63	37.8	$1.260	....	....	....
1950	....	....	....	44.55	40.5	1.100	50.52	37.7	1.340	....	....	....
1951	....	....	....	47.79	40.5	1.18	54.67	37.7	1.45	....	....	....
1952	....	....	....	49.20	40.0	1.23	57.08	37.8	1.51	....	....	....
1953	....	....	....	51.35	39.5	1.30	59.57	37.7	1.58	....	....	....
1954	....	....	....	53.33	39.5	1.35	62.04	37.6	1.65	....	....	....
1955	....	....	....	55.16	39.4	1.40	63.92	37.6	1.70	....	....	....
1956	....	....	....	57.48	39.1	1.47	65.68	36.9	1.78	....	....	....
1957	....	....	....	59.60	38.7	1.54	67.53	36.7	1.84	....	....	....
1958	....	....	....	61.76	38.6	1.60	70.12	37.1	1.89	....	....	....
1959[1]	....	....	....	64.41	38.8	1.66	72.74	37.3	1.95	....	....	....
1960	....	....	....	66.01	38.6	1.71	75.14	37.2	2.02	....	....	....
1961	....	....	....	67.41	38.3	1.76	77.12	36.9	2.09	....	....	....
1962	....	....	....	69.91	38.2	1.83	80.94	37.3	2.17	....	....	....
1963	....	....	....	72.01	38.1	1.89	84.38	37.5	2.25	....	....	....
1964	$118.78	41.1	$2.89	74.66	37.9	1.97	85.79	37.3	2.30	$70.03	36.1	$1.94
1965	125.14	41.3	3.03	76.91	37.7	2.04	88.91	37.2	2.39	73.60	35.9	2.05
1966	128.13	41.2	3.11	79.39	37.1	2.14	92.13	37.3	2.47	77.04	35.5	2.17
1967	130.82	40.5	3.23	82.35	36.6	2.25	95.72	37.1	2.58	80.38	35.1	2.29
1968	138.85	40.6	3.42	87.00	36.1	2.41	101.75	37.0	2.75	83.97	34.7	2.42
1969	147.74	40.7	3.63	91.39	35.7	2.56	106.70	37.1	2.93	90.57	34.7	2.61
1970	155.93	40.5	3.85	96.02	35.3	2.72	112.67	36.7	3.07	96.66	34.4	2.81
1971	168.82	40.1	4.21	101.09	35.1	2.88	117.85	36.6	3.22	103.06	33.9	3.04
1972	187.86	40.4	4.65	106.45	34.9	3.05	122.98	36.6	3.36	110.85	33.9	3.27
1973	203.31	40.5	5.02	111.76	34.6	3.23	129.20	36.6	3.53	117.29	33.8	3.47
1974	217.48	40.2	5.41	119.02	34.2	3.48	137.61	36.5	3.77	126.00	33.6	3.75
1975	233.44	39.7	5.88	126.45	33.9	3.73	148.19	36.5	4.06	134.67	33.5	4.02
1976	256.71	39.8	6.45	133.79	33.7	3.97	155.43	36.4	4.27	143.52	33.3	4.31
1977	278.90	39.9	6.99	142.52	33.3	4.28	165.26	36.4	4.54	153.45	33.0	4.65
1978	302.80	40.0	7.57	153.64	32.9	4.67	178.00	36.4	4.89	163.67	32.8	4.99
1979	325.98	39.9	8.17	164.96	32.6	5.06	190.77	36.2	5.27	175.27	32.7	5.36

[1] Data include Alaska and Hawaii beginning in 1959.

15. Weekly hours, by industry division and major manufacturing group

[Gross averages, production or nonsupervisory workers on private nonagricultural payrolls]

Industry division and group	Annual average		1979				1980								
	1978	1979	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug. [p]	Sept. [p]
TOTAL PRIVATE	35.8	35.6	35.8	35.7	35.6	35.9	35.1	35.1	35.2	35.0	35.0	35.3	35.3	35.5	35.3
MINING	43.4	43.0	43.4	43.7	43.6	43.9	43.4	43.2	43.4	42.8	42.7	43.2	41.9	42.9	43.1
CONSTRUCTION	36.5	37.0	38.0	37.7	36.6	37.2	35.3	35.7	36.2	36.7	36.9	37.9	37.7	37.3	37.9
MANUFACTURING	40.4	40.2	40.3	40.2	40.3	40.9	39.8	39.8	39.8	39.4	39.3	39.4	38.8	39.3	39.7
Overtime hours	3.6	3.3	3.6	3.4	3.4	3.4	3.0	2.9	3.0	2.7	2.5	2.5	2.4	2.7	3.0
Durable goods	41.1	40.8	40.8	40.8	40.8	41.6	40.3	40.3	40.3	39.9	39.7	39.8	39.1	39.6	40.1
Overtime hours	3.8	3.5	3.6	3.5	3.4	3.5	3.1	3.0	3.1	2.7	2.5	2.4	2.3	2.6	2.9
Lumber and wood products	39.8	39.4	40.1	39.8	38.8	39.2	38.1	38.5	38.3	37.1	37.6	38.4	38.2	39.1	39.3
Furniture and fixtures	39.3	38.7	39.0	39.3	39.3	39.9	38.4	38.4	38.5	37.9	37.3	37.3	38.2	37.7	38.5
Stone, clay, and glass products	41.6	41.5	41.7	41.7	41.7	41.8	40.1	40.1	40.7	40.4	40.6	41.0	40.3	40.7	41.1
Primary metal industries	41.8	41.4	41.3	40.9	40.7	40.9	40.7	40.7	40.7	40.6	39.3	39.1	38.6	38.9	39.6
Fabricated metal products	41.0	40.7	40.8	40.9	41.0	41.9	40.6	40.4	40.6	40.2	39.9	40.1	39.2	39.9	40.3
Machinery except electrical	42.1	41.8	41.8	41.5	41.8	42.7	41.5	41.5	41.5	41.1	40.8	40.8	40.0	40.3	40.9
Electric and electronic equipment	40.3	40.3	40.5	40.3	40.6	41.3	40.2	40.2	40.0	39.6	39.3	39.4	38.5	39.1	39.6
Transportation equipment	42.2	41.1	40.7	41.3	40.8	42.7	40.0	40.4	40.4	39.8	39.9	39.9	39.5	40.0	40.5
Instruments and related products	40.9	40.8	40.7	40.8	41.4	41.7	41.0	40.8	40.6	40.4	40.3	40.5	39.8	40.1	40.2
Miscellaneous manufacturing	38.8	38.8	39.2	39.1	39.4	39.5	38.8	38.6	38.8	38.4	38.2	38.3	37.8	38.3	38.7
Nondurable goods	39.4	39.3	39.6	39.4	39.6	39.9	39.0	38.9	38.9	38.7	38.7	38.8	38.5	38.9	39.1
Overtime hours	3.2	3.1	3.5	3.2	3.3	3.2	2.9	2.8	2.9	2.7	2.5	2.5	2.6	2.9	3.0
Food and kindred products	39.7	39.9	40.6	40.0	40.2	40.4	39.5	39.1	39.0	38.9	39.7	39.6	39.9	40.4	40.2
Tobacco manufactures	38.1	38.0	39.2	38.9	38.8	39.4	37.3	36.9	37.7	38.2	38.7	38.3	36.5	37.0	37.9
Textile mill products	40.4	40.4	40.8	40.8	41.3	41.5	40.9	40.8	40.9	39.9	39.8	39.6	38.5	39.0	39.8
Apparel and other textile products	35.6	35.3	35.3	35.5	35.6	35.9	35.2	35.4	35.4	35.3	35.3	35.6	35.3	35.3	35.2
Paper and allied products	42.9	42.6	42.7	42.7	42.9	43.5	42.7	42.4	42.4	42.2	41.6	41.7	41.4	41.8	41.8
Printing and publishing	37.6	37.5	37.9	37.5	37.9	38.1	37.2	37.0	37.2	36.8	36.9	36.7	36.8	37.2	37.3
Chemicals and allied products	41.9	41.9	41.8	41.7	42.2	42.2	41.7	41.6	41.7	41.6	41.3	41.2	40.7	40.9	41.6
Petroleum and coal products	43.6	43.8	44.7	44.1	44.8	43.5	38.2	39.7	39.4	41.1	42.3	42.3	42.7	42.0	43.2
Rubber and miscellaneous plastics products	40.9	40.5	40.5	40.5	40.3	40.7	40.3	39.9	40.0	39.7	39.0	39.3	38.6	40.1	40.3
Leather and leather products	37.1	36.5	36.8	36.5	36.8	37.3	36.7	36.8	36.4	36.7	37.0	37.4	36.4	36.9	36.3
TRANSPORTATION AND PUBLIC UTILITIES	40.0	39.9	39.9	40.0	40.2	40.0	39.5	39.4	39.5	39.5	39.3	39.6	39.9	40.1	39.5
WHOLESALE AND RETAIL TRADE	32.9	32.6	32.6	32.4	32.4	32.9	31.9	31.9	32.0	31.8	31.9	32.3	32.5	32.7	32.0
WHOLESALE TRADE	38.8	38.8	38.8	38.9	38.9	39.1	38.5	38.4	38.4	38.4	38.5	38.2	38.2	38.3	38.3
RETAIL TRADE	31.0	30.6	30.6	30.4	30.4	31.0	29.8	29.8	29.9	29.7	29.9	30.4	30.7	31.0	30.1
FINANCE, INSURANCE, AND REAL ESTATE	36.4	36.2	36.1	36.2	36.3	36.4	36.2	36.3	36.3	36.2	36.1	36.4	36.2	36.3	36.2
SERVICES	32.8	32.7	32.7	32.6	32.6	32.8	32.5	32.5	32.5	32.4	32.3	32.8	33.1	33.0	32.6

16. Weekly hours, by industry division and major manufacturing group, seasonally adjusted

[Gross averages, production or nonsupervisory workers on private nonagricultural payrolls]

Industry division and group	1979				1980								
	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.ᵖ	Sept.ᵖ
TOTAL PRIVATE	35.6	35.6	35.6	35.7	35.6	35.5	35.4	35.3	35.1	35.0	34.9	35.1	35.2
MINING	43.4	43.7	43.6	43.9	43.4	43.2	43.4	42.8	42.7	43.2	41.9	42.9	43.1
CONSTRUCTION	37.5	36.8	37.0	37.2	37.3	37.1	36.6	36.7	36.8	37.1	36.8	36.5	37.4
MANUFACTURING	40.1	40.1	40.1	40.2	40.3	40.1	39.8	39.6	39.3	39.1	39.0	39.4	39.5
Overtime hours	3.2	3.2	3.3	3.2	3.2	3.0	3.1	3.0	2.6	2.4	2.5	2.7	2.7
Durable goods	40.7	40.7	40.6	40.7	40.8	40.6	40.3	40.3	39.7	39.5	39.4	39.8	39.9
Overtime hours	3.3	3.3	3.3	3.2	3.3	3.1	3.2	3.0	2.5	2.4	2.4	2.6	2.7
Lumber and wood products	39.6	39.2	38.9	39.0	39.4	39.1	38.7	37.3	37.5	37.6	38.1	38.8	38.8
Furniture and fixtures	38.7	38.8	38.9	38.9	39.2	39.0	38.5	38.5	37.6	37.0	36.6	37.5	38.2
Stone, clay, and glass products	41.5	41.3	41.4	41.5	41.4	41.2	40.9	40.6	40.3	40.4	40.2	40.3	40.9
Primary metal industries	41.1	41.1	40.8	40.7	40.8	40.8	40.7	40.6	39.2	38.8	38.6	39.1	39.4
Fabricated metal products	40.7	40.8	40.7	40.9	40.9	40.8	40.7	40.8	39.9	39.7	39.6	40.0	40.2
Machinery, except electrical	41.7	41.5	41.5	41.5	41.6	41.5	41.3	41.5	41.0	40.7	40.6	40.7	40.8
Electric and electronic equipment	40.3	40.3	40.4	40.5	40.5	40.3	40.0	39.9	39.5	39.2	39.0	39.3	39.4
Transportation equipment	40.6	41.0	40.5	40.9	40.9	40.8	40.4	40.5	39.7	39.5	39.6	40.9	40.4
Instruments and related products	40.7	40.7	41.0	41.0	41.4	40.9	40.4	40.7	40.3	40.4	40.1	40.3	40.2
Miscellaneous manufacturing	39.0	38.9	38.9	39.0	39.2	39.1	38.6	38.5	38.3	38.2	38.3	38.4	38.5
Nondurable goods	39.3	39.3	39.4	39.4	39.5	39.4	39.0	39.1	38.9	38.6	38.5	38.7	38.8
Overtime hours	3.1	3.1	3.2	3.1	3.1	2.9	3.0	3.0	2.6	2.5	2.6	2.8	2.7
Food and kindred products	40.0	39.9	39.9	39.9	39.8	39.7	39.3	39.6	39.9	39.6	39.7	39.9	39.6
Tobacco manufactures	38.4	38.3	37.8	38.5	38.5	37.9	37.7	38.2	38.2	37.3	38.5	37.5	37.2
Textile mill products	40.7	40.8	41.0	41.0	41.5	41.1	40.8	40.3	39.7	39.1	38.8	39.0	39.7
Apparel and other textile products	35.2	35.4	35.3	35.6	36.0	35.9	35.3	35.8	35.3	35.2	35.1	35.0	35.1
Paper and allied products	42.5	42.6	42.7	42.8	43.0	42.9	42.6	42.5	41.7	41.4	41.4	41.8	41.6
Printing and publishing	37.5	37.4	37.5	37.4	37.8	37.4	37.2	37.2	37.1	36.8	36.9	37.1	36.9
Chemicals and allied products	41.8	41.7	42.0	41.8	42.0	41.9	41.8	41.5	41.3	41.1	40.8	41.0	41.6
Petroleum and coal products	44.0	43.5	44.4	43.4	36.9	40.7	39.7	41.1	42.5	42.3	42.2	42.0	42.5
Rubber and miscellaneous plastics products	40.3	40.2	40.0	40.0	40.7	40.0	38.9	40.1	39.3	39.2	39.0	40.3	40.1
Leather and leather products	36.8	36.5	36.6	37.0	37.2	37.2	36.9	37.3	36.7	36.7	36.1	36.8	36.3
TRANSPORTATION AND PUBLIC UTILITIES	39.9	40.0	40.2	40.0	39.5	39.4	39.5	39.5	39.3	39.6	39.9	40.1	39.9
WHOLESALE AND RETAIL TRADE	32.6	32.6	32.6	32.6	32.6	32.4	32.3	32.0	32.1	31.9	31.8	32.1	32.1
WHOLESALE TRADE	38.8	38.8	38.9	38.9	38.9	38.8	38.5	38.5	38.6	38.0	38.0	38.1	38.3
RETAIL TRADE	30.6	30.6	30.6	30.6	30.6	30.4	30.3	30.0	30.1	30.0	29.8	30.2	30.1
FINANCE, INSURANCE, AND REAL ESTATE	36.1	36.2	36.3	36.4	36.2	36.3	36.3	36.2	36.1	36.4	36.2	36.2	36.2
SERVICES	32.7	32.6	32.7	32.8	32.7	32.7	32.7	32.6	32.5	32.6	32.6	32.5	32.6

17. Hourly earnings, by industry division and major manufacturing group

[Gross averages, production or nonsupervisory workers on private nonagricultural payrolls]

Industry division and group	Annual average		1979				1980								
	1978	1979	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.ᵖ	Sept.ᵖ
TOTAL PRIVATE	$5.69	$6.16	$6.30	$6.31	$6.34	$6.38	$6.42	$6.46	$6.51	$6.53	$6.57	$6.61	$6.64	$6.67	$6.77
MINING	7.67	8.50	8.59	8.59	8.73	8.75	8.88	8.90	8.95	9.10	9.08	9.16	9.08	9.19	9.26
CONSTRUCTION	8.66	9.27	9.52	9.50	9.52	9.58	9.49	9.61	9.66	9.69	9.77	9.81	9.91	10.04	10.17
MANUFACTURING	6.17	6.69	6.80	6.82	6.87	6.97	6.96	7.00	7.06	7.09	7.13	7.20	7.29	7.30	7.41
Durable goods	6.58	7.13	7.24	7.25	7.29	7.42	7.39	7.46	7.54	7.56	7.60	7.69	7.77	7.78	7.91
Lumber and wood products	5.60	6.08	6.30	6.23	6.22	6.24	6.21	6.33	6.35	6.28	6.40	6.56	6.72	6.73	6.71
Furniture and fixtures	4.68	5.06	5.18	5.19	5.21	5.26	5.27	5.32	5.37	5.39	5.42	5.49	5.52	5.56	5.58
Stone, clay, and glass products	6.33	6.85	6.99	7.01	7.08	7.11	7.06	7.14	7.27	7.34	7.45	7.53	7.60	7.62	7.68
Primary metal industries	8.20	8.97	9.16	9.11	9.26	9.28	9.30	9.44	9.45	9.53	9.61	9.85	9.82	9.86	9.96
Fabricated metal products	6.35	6.84	6.95	6.98	7.01	7.14	7.09	7.14	7.24	7.27	7.32	7.42	7.42	7.48	7.61
Machinery, except electrical	6.78	7.32	7.48	7.44	7.50	7.63	7.66	7.69	7.76	7.81	7.91	7.97	8.05	8.05	8.15
Electric and electronic equipment	5.82	6.32	6.47	6.49	6.52	6.64	6.67	6.71	6.78	6.79	6.78	6.87	6.96	7.02	7.18
Transportation equipment	7.91	8.54	8.59	8.70	8.72	8.93	8.81	8.86	9.04	9.04	9.06	9.24	9.34	9.34	9.53
Instruments and related products	5.71	6.17	6.21	6.32	6.39	6.50	6.57	6.59	6.63	6.63	6.72	6.80	6.86	6.86	6.91
Miscellaneous manufacturing	4.69	5.03	5.06	5.10	5.13	5.20	5.28	5.30	5.34	5.37	5.40	5.42	5.46	5.46	5.53
Nondurable goods	5.53	6.00	6.11	6.14	6.21	6.26	6.28	6.27	6.30	6.38	6.42	6.48	6.60	6.62	6.70
Food and kindred products	5.80	6.27	6.32	6.35	6.50	6.55	6.61	6.64	6.68	6.75	6.82	6.84	6.89	6.90	6.97
Tobacco manufactures	6.13	6.65	6.43	6.33	6.97	6.98	7.06	7.36	7.57	7.79	7.84	7.97	8.06	7.72	7.46
Textile mill products	4.30	4.66	4.82	4.83	4.86	4.87	4.90	4.90	4.92	4.91	4.90	4.93	5.06	5.18	5.24
Apparel and other textile products	3.94	4.23	4.27	4.31	4.32	4.38	4.44	4.45	4.49	4.46	4.45	4.51	4.50	4.60	4.69
Paper and allied products	6.52	7.13	7.33	7.36	7.43	7.50	7.49	7.52	7.55	7.63	7.65	7.79	7.97	7.99	8.02
Printing and publishing	6.51	6.95	7.06	7.10	7.13	7.21	7.24	7.29	7.34	7.34	7.44	7.46	7.53	7.63	7.74
Chemicals and allied products	7.02	7.60	7.74	7.83	7.88	7.92	7.97	8.01	8.05	8.12	8.17	8.24	8.35	8.38	8.46
Petroleum and coal products	8.63	9.36	9.50	9.48	9.56	9.46	9.46	9.37	9.29	9.83	10.07	10.22	10.25	10.17	10.25
Rubber and miscellaneous plastics products	5.52	5.96	6.03	6.12	6.14	6.21	6.25	6.25	6.27	6.30	6.34	6.39	6.48	6.57	6.65
Leather and leather products	3.89	4.22	4.29	4.31	4.33	4.35	4.45	4.47	4.51	4.52	4.53	4.54	4.54	4.61	4.63
TRANSPORTATION AND PUBLIC UTILITIES	7.57	8.17	8.44	8.43	8.51	8.54	8.55	8.58	8.62	8.71	8.72	8.75	8.90	8.93	8.96
WHOLESALE AND RETAIL TRADE	4.67	5.06	5.13	5.15	5.18	5.18	5.34	5.36	5.40	5.40	5.42	5.43	5.48	5.47	5.53
WHOLESALE TRADE	5.88	6.39	6.52	6.52	6.58	6.69	6.72	6.77	6.83	6.87	6.89	6.95	6.99	7.00	7.06
RETAIL TRADE	4.20	4.53	4.57	4.59	4.62	4.61	4.78	4.78	4.81	4.80	4.82	4.83	4.88	4.88	4.92
FINANCE, INSURANCE, AND REAL ESTATE	4.89	5.27	5.37	5.35	5.41	5.48	5.53	5.60	5.68	5.68	5.70	5.77	5.77	5.81	5.84
SERVICES	4.99	5.36	5.45	5.48	5.55	5.61	5.65	5.70	5.75	5.75	5.70	5.81	5.79	5.80	5.92

18. Hourly Earnings Index for production or nonsupervisory workers on private nonagricultural payrolls, by industry division

[Seasonally adjusted data: 1967 = 100]

Industry	1979				1980									Aug. 1980 to Sept. 1980	Sept. 1979 to Sept. 1980
	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.ᵖ	Sept.ᵖ		
TOTAL PRIVATE (in current dollars)	234.3	235.0	237.3	239.4	240.3	242.4	245.2	246.2	248.3	250.9	252.1	253.6	254.6	0.4	8.7
Mining	265.6	267.7	272.0	274.6	277.0	278.5	280.9	283.7	284.2	286.3	285.3	289.0	288.6	–.1	8.7
Construction	224.5	224.7	226.5	228.1	225.8	229.8	232.2	233.0	234.2	235.3	236.7	238.8	238.7	([1])	6.3
Manufacturing	238.6	239.9	241.9	244.1	245.2	247.8	250.2	252.4	255.0	258.3	260.6	262.3	264.0	.6	10.6
Transportation and public utilities	255.1	255.8	258.7	260.1	260.8	262.4	265.9	267.2	268.7	270.6	272.8	272.2	271.9	–.1	6.6
Wholesale and retail trade	227.2	227.6	229.7	231.4	234.2	235.2	237.8	238.0	239.8	241.8	243.5	244.8	245.3	.2	8.0
Finance, insurance, and real estate	214.0	212.9	215.7	217.9	218.4	221.1	225.7	224.9	226.3	230.2	229.0	232.0	232.2	.1	8.5
Services	231.6	232.3	234.9	237.8	237.7	239.7	242.7	243.0	245.7	248.4	247.6	249.5	251.2	.7	8.5
TOTAL PRIVATE (in constant dollars)	104.9	104.1	104.1	103.8	102.7	102.2	102.0	101.4	101.4	101.5	102.0	101.9	([2])	([2])	([2])

[1] Less than 0.05.

[2] Not available.

19. Weekly earnings, by industry division and major manufacturing group

[Gross averages, production or nonsupervisory workers on private nonagricultural payrolls]

Industry division and group	Annual average		1979				1980								
	1978	1979	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug. ^{p}	Sept. ^{p}
TOTAL PRIVATE	$203.70	$219.30	$225.54	$225.27	$225.70	$229.04	$225.34	$226.75	$229.15	$228.55	$229.95	$233.33	$234.30	$236.79	$238.98
MINING	332.88	365.50	372.81	375.38	380.63	384.13	385.39	384.48	388.43	389.48	387.72	395.71	380.45	394.25	389.11
CONSTRUCTION	318.69	342.99	361.76	358.15	348.43	356.38	335.00	343.08	350.42	355.62	360.51	371.80	373.61	374.49	385.44
MANUFACTURING	249.27	268.94	274.04	274.16	276.86	285.07	277.01	278.60	280.99	279.35	280.21	283.88	282.85	285.89	294.18
Durable goods	270.44	290.90	295.39	295.80	297.43	308.67	297.82	300.64	303.86	301.64	301.72	306.06	303.81	308.09	317.19
Lumber and wood products	222.88	239.55	252.63	247.95	241.34	244.61	236.60	243.71	243.21	232.99	240.64	251.90	256.70	263.14	263.70
Furniture and fixtures	183.92	195.82	202.02	203.97	204.75	209.87	202.37	204.29	206.75	204.28	202.17	204.78	199.82	209.61	214.83
Stone, clay, and glass products	263.33	284.28	291.48	292.32	295.24	297.20	283.11	286.31	295.89	296.54	302.47	308.73	306.28	310.13	315.65
Primary metal industries	342.76	371.36	378.31	372.60	376.88	379.55	378.51	384.21	384.62	386.92	377.67	377.32	379.05	384.33	395.21
Fabricated metal products	260.35	278.39	283.56	285.48	287.41	299.17	287.85	288.46	293.94	292.25	292.07	297.54	290.86	298.45	306.68
Machinery except electrical	285.44	305.98	312.66	308.76	313.50	325.80	317.89	319.14	322.04	320.21	322.73	325.18	322.00	324.42	333.34
Electric and electronic equipment	234.55	254.70	262.04	261.55	266.02	274.23	268.13	269.74	271.20	268.88	266.45	270.68	267.96	274.48	284.33
Transportation equipment	333.80	350.99	349.61	359.31	355.78	381.31	352.40	357.94	365.22	359.79	361.49	368.68	368.93	373.60	385.97
Instruments and related products	233.54	251.74	252.75	257.86	264.55	271.05	269.37	268.87	269.18	267.85	270.82	275.40	271.66	275.09	277.78
Miscellaneous manufacturing	181.97	195.16	198.35	199.41	202.12	205.40	204.86	204.56	207.19	206.21	208.28	207.59	208.39	209.12	214.01
Nondurable goods	217.88	235.80	241.96	241.92	245.92	249.77	244.92	243.90	245.07	246.13	248.45	251.42	254.10	257.52	261.97
Food and kindred products	230.26	250.17	256.59	254.00	261.30	264.62	261.10	259.62	260.52	262.58	270.75	270.86	274.91	278.76	280.19
Tobacco manufactures	233.55	252.70	252.06	246.24	270.44	275.01	264.08	271.58	285.39	297.58	295.67	305.25	294.19	285.64	282.73
Textile mill products	173.72	188.26	196.66	197.06	200.72	202.11	200.41	199.92	201.23	195.91	195.02	195.23	194.81	202.02	208.55
Apparel and other textile products	140.26	149.32	150.73	153.01	153.79	157.24	156.29	157.53	158.95	157.44	157.09	160.56	158.85	162.38	165.08
Paper and allied products	279.71	303.74	312.99	314.27	318.75	326.25	319.82	318.85	320.12	321.99	318.24	324.84	329.96	333.98	335.24
Printing and publishing	244.78	260.63	268.33	266.25	270.23	274.70	269.33	269.73	273.05	270.11	274.54	273.78	277.10	283.84	288.70
Chemicals and allied products	294.14	318.44	323.53	326.51	332.54	334.22	332.35	333.22	335.69	337.79	337.42	339.49	339.85	342.74	352.77
Petroleum and coal products	376.27	409.97	424.65	418.07	428.29	412.38	342.45	371.99	386.03	404.01	425.96	432.31	437.68	427.14	442.80
Rubber and miscellaneous plastics products	225.77	241.38	244.22	247.86	247.44	252.75	251.88	249.38	250.80	250.11	247.26	251.13	250.13	263.46	268.00
Leather and leather products	144.32	154.03	157.87	157.32	159.34	162.26	163.32	164.50	164.16	165.88	167.61	169.80	165.26	170.11	168.07
TRANSPORTATION AND PUBLIC UTILITIES	302.80	325.98	336.76	337.20	342.10	341.60	337.73	338.05	340.49	344.05	342.70	346.50	355.11	358.09	357.50
WHOLESALE AND RETAIL TRADE	153.64	164.96	167.24	166.86	167.83	170.42	170.35	170.98	172.80	171.72	172.90	175.39	178.10	178.87	176.96
WHOLESALE TRADE	228.14	247.93	252.98	253.63	255.96	261.58	258.72	259.97	262.27	263.81	265.27	265.40	267.02	268.10	270.40
RETAIL TRADE	130.20	138.62	139.84	139.54	140.45	142.91	142.44	142.44	143.82	142.56	144.12	146.83	149.82	151.28	148.00
FINANCE, INSURANCE, AND REAL ESTATE	178.00	190.77	193.86	193.67	196.38	199.47	200.19	203.28	206.18	205.62	205.77	210.03	208.87	210.90	211.41
SERVICES	163.67	175.27	178.22	178.65	180.93	184.01	183.63	185.25	186.86	186.30	187.02	190.57	191.65	191.40	192.99

20. Gross and spendable weekly earnings, in current and 1967 dollars, 1960 to date

[Averages for production or nonsupervisory workers on private nonagricultural payrolls]

Year and month	Private nonagricultural workers						Manufacturing workers					
	Gross average weekly earnings		Spendable average weekly earnings				Gross average weekly earnings		Spendable average weekly earnings			
			Worker with no dependents		Married worker with 3 dependents				Worker with no dependents		Married worker with 3 dependents	
	Current dollars	1967 dollars	Current dollars	1967 dollars	Current dollars	1967 dollars	Current dollars	1967 dollars	Current dollars	1967 dollars	Current dollars	1967 dollars
1960	$80.67	$90.95	$65.59	$73.95	$72.96	$82.25	$89.72	$101.15	$72.57	$81.82	$80.11	$90.32
1961	82.60	92.19	67.08	74.87	74.48	83.13	92.34	103.06	74.60	83.26	82.18	91.72
1962	85.91	94.82	69.56	76.78	76.99	84.98	96.56	106.58	77.86	85.94	85.53	94.40
1963	88.46	96.47	71.05	77.48	78.56	85.67	99.23	108.21	79.51	86.71	87.25	95.15
1964	91.33	98.31	75.04	80.78	82.57	88.88	102.97	110.84	84.40	90.85	92.18	99.22
1965	95.45	101.01	79.32	83.94	86.63	91.67	107.53	113.79	89.08	94.26	96.78	102.41
1966	98.82	101.67	81.29	83.63	88.66	91.21	112.19	115.42	91.45	94.08	99.33	102.19
1967	101.84	101.84	83.38	83.38	90.86	90.86	114.49	114.49	92.97	92.97	100.93	100.93
1968	107.73	103.39	86.71	83.21	95.28	91.44	122.51	117.57	97.70	93.76	106.75	102.45
1969	114.61	104.38	90.96	82.84	99.99	91.07	129.51	117.95	101.90	92.81	111.44	101.49
1970	119.83	103.04	96.21	82.73	104.90	90.20	133.33	114.64	106.32	91.42	115.58	99.38
1971	127.31	104.95	103.80	85.57	112.43	92.69	142.44	117.43	114.97	94.78	124.24	102.42
1972	136.90	109.26	112.19	89.54	121.68	97.11	154.71	123.47	125.34	100.03	135.57	108.20
1973	145.39	109.23	117.51	88.29	127.38	95.70	166.46	125.06	132.57	99.60	143.50	107.81
1974	154.76	104.78	124.37	84.20	134.61	91.14	176.80	119.70	140.19	94.92	151.56	102.61
1975	163.53	101.45	132.49	82.19	145.65	90.35	190.79	118.36	151.61	94.05	166.29	103.16
1976	175.45	102.90	143.30	84.05	155.87	91.42	209.32	122.77	167.83	98.43	181.32	106.35
1977	189.00	104.13	155.19	85.50	169.93	93.63	228.90	126.12	183.80	101.27	200.06	110.23
1978	203.70	104.30	165.39	84.69	180.71	92.53	249.27	127.63	197.40	101.08	214.87	110.02
1979	219.30	100.73	177.55	81.56	194.35	89.27	268.94	123.54	212.43	97.58	232.07	106.60
1979: September	225.54	100.82	182.10	81.40	199.15	89.03	274.04	122.50	215.89	96.51	235.94	105.47
October	225.27	99.85	181.90	80.63	198.94	88.18	274.16	121.52	215.97	95.73	236.04	104.63
November	225.70	99.17	182.22	80.06	199.27	87.55	276.86	121.64	217.80	95.69	238.08	104.60
December	229.04	9.58	184.59	80.26	201.80	87.74	285.07	123.94	223.38	97.12	244.31	106.22
1980: January	225.34	96.59	181.96	77.99	199.00	85.30	277.01	118.74	217.91	93.40	238.20	102.10
February	226.75	95.88	182.98	77.37	200.07	84.60	278.60	117.80	218.99	92.60	239.40	101.23
March	229.15	95.52	184.67	76.98	201.89	84.16	280.99	117.13	220.61	91.96	241.22	100.55
April	228.55	94.21	184.25	75.95	201.43	83.03	279.35	115.15	219.49	90.47	239.97	98.92
May	229.95	93.82	185.23	75.57	202.49	82.62	280.21	114.32	220.08	89.79	240.63	98.18
June	233.33	94.16	187.59	75.70	205.06	82.75	283.68	114.48	222.43	89.76	243.26	98.17
July	234.39	94.51	188.33	75.94	205.86	83.01	282.85	114.05	221.87	89.46	242.63	97.83
August[p]	236.79	94.87	190.01	76.13	207.68	83.21	286.89	114.94	224.61	89.99	245.69	98.43
September[p]	238.98	(1)	191.54	(1)	209.34	(1)	294.18	(1)	229.56	(1)	251.22	(1)

[1] Not available.

NOTE: The earnings expressed in 1967 dollars have been adjusted for changes in price level as measured by the Bureau's Consumer Price Index for Urban Wage Earners and Clerical Workers. These series are described in "The Spendable Earnings Series: A Technical Note on its Calculation," **Employment and Earnings and Monthly Report on the Labor Force**, February 1969, pp. 6-13. See also "Spendable Earnings Formulas, 1978-80," **Employment and Earnings**, March 1980, pp. 10-11.

UNEMPLOYMENT INSURANCE DATA

UNEMPLOYMENT INSURANCE DATA are compiled monthly by the Employment and Training Administration of the U.S. Department of Labor from records of State and Federal unemployment insurance claims filed and benefits paid. Railroad unemployment insurance data are prepared by the U.S. Railroad Retirement Board.

Definitions

Data for **all programs** represent an unduplicated count of insured unemployment under State programs, Unemployment Compensation for Ex-Servicemen, and Unemployment Compensation for Federal Employees, and the Railroad Insurance Act.

Under both State and Federal unemployment insurance programs for civilian employees, insured workers must report the completion of at least 1 week of unemployment before they are defined as unemployed. Persons not covered by unemployment insurance (about one-third of the labor force) and those who have exhausted or not yet earned benefit rights are excluded from the scope of the survey. **Initial claims** are notices filed by persons in unemployment insurance programs to indicate they are out of work and wish to begin receiving compensation. A claimant who continued to be unemployed a full week is then counted in the insured unemployment figure. The **rate of insured unemployment** expresses the number of insured unemployed as a percent of the average insured employment in a 12-month period.

An **application** for benefits is filed by a railroad worker at the beginning of his first period of unemployment in a benefit year; no application is required for subsequent periods in the same year. **Number of payments** are payments made in 14-day registration periods. The **average amount of benefit payment** is an average for all compensable periods, not adjusted for recovery of overpayments or settlement of underpayments. However, **total benefits** paid have been adjusted.

21. Unemployment insurance and employment service operations

[All items except average benefits amounts are in thousands]

Item	1979					1980							
	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.
All programs:													
Insured unemployment	2,377	2,164	2,236	2,559	3,047	3,740	3,730	3,652	3,629	3,680	3,790	4,140	3,908
State unemployment insurance program:[1]													
Initial claims[2]	1,545	1,219	1,641	1,827	2,263	2,837	1,818	1,705	2,190	p2,248	2,319	....	....
Insured unemployment (average weekly volume)	2,245	2,024	2,057	2,384	2,864	3,537	3,518	3,356	3,278	3,343	3,455	3,692	3,407
Rate of insured unemployment	2.7	2.4	2.4	2.8	3.4	4.1	4.1	3.9	3.8	3.9	4.0	4.3	3.9
Weeks of unemployment compensated	8,830	6,993	7,636	8,107	9,171	13,792	12,801	13,170	12,689	p12,302	12,441	....	....
Average weekly benefit amount for total unemployment	$88.56	$89.07	$90.59	$92.39	$94.54	$96.41	$98.39	$99.15	$99.52	p$99.55	$90.88	....	....
Total benefits paid	$767,025	$606,095	$673,965	$728,370	$843,869	$1,283,946	$1,229,877	$1,218,231	$1,232,173	$1,196,836	$1,213,585	....	....
Unemployment compensation for ex-servicemen:[3]													
Initial claims[1]	28	23	26	24	24	25	21	21	21	p20	23	....	....
Insured unemployment (average weekly volume)	52	52	52	54	56	60	58	63	52	50	45	58	55
Weeks of unemployment compensated	234	211	236	232	233	299	255	249	246	p220	122	....	....
Total benefits paid	$23,861	$19,634	$23,325	$23,093	$23,093	$29,636	$25,306	$24,928	$24,518	$22,025	$11,761	....	....
Unemployment compensation for Federal civilian employees:[4]													
Initial claims	13	13	18	15	15	19	11	12	11	p12	14	....	....
Insured unemployment (average weekly volume)	25	25	28	29	31	34	32	30	25	22	20	26	25
Weeks of unemployment compensated	107	91	109	118	118	150	129	123	108	p88	50	....	....
Total benefits paid	$9,829	$8,453	$10,093	$11,063	$11,047	$14,118	$12,226	$11,901	$10,323	$8,280	$4,665	....	....
Railroad unemployment insurance:													
Applications	8	13	11	10	11	22	7	5	4	6	24	....	....
Insured unemployment (average weekly volume)	12	21	18	20	19	40	39	30	27	23	27	....	....
Number of payments	26	32	51	36	41	80	71	68	62	54	56	....	....
Average amount of benefit payment	$195.61	$189.08	$189.61	$183.36	$197.22	$199.01	$208.73	$210.79	$201.87	$183.44	$199.06	....	....
Total benefits paid	$3,767	$5,747	$8,003	$6,462	$8,085	$14,967	$14,573	$13,884	$13,002	$9,953	$10,140	....	....
Employment service:[5]													
New applications and renewals	14,479	15,525	1,855	3,183	4,378	5,890	7,285	8,708	10,021	11,448	12,884	....	....
Nonfarm placements	3,835	4,349	458	768	1,044	1,314	1,561	1,853	2,143	2,413	2,730	....	....

[1] Initial claims and State insured unemployment include data under the program for Puerto Rican sugarcane workers.

[2] Includes interstate claims for the Virgin Islands. Excludes transition claims under State programs.

[3] Excludes data on claims and payments made jointly with other programs.

[4] Includes the Virgin Islands. Exludes data on claims and payments made jointly with State programs.

[5] Cumulative total for fiscal year (October 1 - September 30).

NOTE: Data for Puerto Rico included. Dashes indicate data not available.

PRICE DATA

PRICE DATA are gathered by the Bureau of Labor Statistics from retail and primary markets in the United States. Price indexes are given in relation to a base period (1967 = 100, unless otherwise noted).

Definitions

The **Consumer Price Index** is a monthly statistical measure of the average change in prices in a fixed market basket of goods and services. Effective with the January 1978 index, the Bureau of Labor Statistics began publishing CPI's for two groups of the population. One index, a new CPI for All Urban Consumers, covers 80 percent of the total noninstitutional population; and the other index, a revised CPI for Urban Wage Earners and Clerical Workers, covers about half the new index population. The All Urban Consumers index includes, in addition to wage earners and clerical workers, professional, managerial, and technical workers, the self-employed, short-term workers, the unemployed, retirees, and others not in the labor force.

The CPI is based on prices of food, clothing, shelter, fuel, drugs, transportation fares, doctor's and dentist's fees, and other goods and services that people buy for day-to-day living. The quantity and quality of these items is kept essentially unchanged between major revisions so that only price changes will be measured. Prices are collected from over 18,000 tenants, 24,000 retail establishments, and 18,000 housing units for property taxes in 85 urban areas across the country. All taxes directly associated with the purchase and use of items are included in the index. Because the CPI's are based on the expenditures of two population groups in 1972–73, they may not accurately reflect the experience of individual families and single persons with different buying habits.

Though the CPI is often called the "Cost-of-Living Index," it measures only price change, which is just one of several important factors affecting living costs. Area indexes do not measure differences in the level of prices among cities. They only measure the average change in prices for each area since the base period.

Producer Price Indexes measure average changes in prices received in primary markets of the United States by producers of commodities in all stages of processing. The sample used for calculating these indexes contains about 2,800 commodities and about 10,000 quotations per month selected to represent the movement of prices of all commodities produced in the manufacturing, agriculture, forestry, fishing, mining, gas and electricity, and public utilities sectors. The universe includes all commodities produced or imported for sale in commercial transactions in primary markets in the United States.

Producer Price Indexes can be organized by stage of processing or by commodity. The stage of processing structure organizes products by degree of fabrication (that is, finished goods, intermediate or semifinished goods, and crude materials). The commodity structure organizes products by similarity of end-use or material composition.

To the extent possible, prices used in calculating Producer Price Indexes apply to the first significant commercial transaction in the United States, from the production or central marketing point. Price data are generally collected monthly, primarily by mail questionnaire. Most prices are obtained directly from producing companies on a voluntary and confidential basis. Prices generally are reported for the Tuesday of the week containing the 13th day of the month.

In calculating Producer Price Indexes, price changes for the various commodities are averaged together with implicit quantity weights representing their importance in the total net selling value of all commodities as of 1972. The detailed data are aggregated to obtain indexes for stage of processing groupings, commodity groupings, durability of product groupings, and a number of special composite groupings.

Price indexes for the output of selected SIC industries measure average price changes in commodities produced by particular industries, as defined in the *Standard Industrial Classification Manual 1972* (Washington, U.S. Office of Management and Budget, 1972). These indexes are derived from several price series, combined to match the economic activity of the specified industry and weighted by the value of shipments in the industry. They use data from comprehensive industrial censuses conducted by the U.S. Bureau of the Census and the U.S. Department of Agriculture.

Notes on the data

Beginning with the May 1978 issue of the *Review*, regional CPI's cross classified by population size, were introduced. These indexes will enable users in local areas for which an index is not published to get a better approximation of the CPI for their area by using the appropriate population size class measure for their region. The cross-classified indexes will be published bimonthly. (See table 24.)

For further details about the new and the revised indexes and a comparison of various aspects of these indexes with the old unrevised CPI, see *Facts About the Revised Consumer Price Index*, a pamphlet in the Consumer Price Index Revision 1978 series. See also *The Consumer Price Index: Concepts and Content Over the Years*. Report 517, revised edition (Bureau of Labor Statistics, May 1978).

For interarea comparisons of living costs at three hypothetical standards of living, see the family budget data published in the *Handbook of Labor Statistics, 1977*, Bulletin 1966 (Bureau of Labor Statistics, 1977), tables 122–133. Additional data and analysis on price changes are provided in the *CPI Detailed Report* and *Producer Prices and Price Indexes*, both monthly publications of the Bureau.

As of January 1976, the Wholesale Price Index (as it was then called) incorporated a revised weighting structure reflecting 1972 values of shipments. From January 1967 through December 1975, 1963 values of shipments were used as weights.

For a discussion of the general method of computing consumer, producer, and industry price indexes, see *BLS Handbook of Methods for Surveys and Studies*, Bulletin 1910 (Bureau of Labor Statistics, 1976), chapters 13–15. See also John F. Early, "Improving the measurement of producer price change," *Monthly Labor Review*, April 1978, pp. 7–15. For industry prices, see also Bennett R. Moss, "Industry and Sector Price Indexes," *Monthly Labor Review*, August 1965, pp. 974–82.

22. Consumer Price Index for Urban Wage Earners and Clerical Workers, annual averages and changes, 1967–79

[1967 = 100]

Year	All items		Food and beverages		Housing		Apparel and upkeep		Transportation		Medical care		Entertainment		Other goods and services	
	Index	Percent change	Index	Percent change	Index	Percent change	Index	Percent change	Index	Percent change	Index	Percent change	Index	Percent change	Index	Percent change
1967	100.0	. . .	100.0	. . .	100.0	. . .	100.0	. . .	100.0	. . .	100.0	. . .	100.0	. . .	100.0	. . .
1968	104.2	4.2	103.6	3.6	104.0	4.0	105.4	5.4	103.2	3.2	106.1	6.1	105.7	5.7	105.2	5.2
1969	109.8	5.4	108.8	5.0	110.4	6.2	111.5	5.8	107.2	3.9	113.4	6.9	111.0	5.0	110.4	4.9
1970	116.3	5.9	114.7	5.4	118.2	7.1	116.1	4.1	112.7	5.1	120.6	6.3	116.7	5.1	116.8	5.8
1971	121.3	4.3	118.3	3.1	123.4	4.4	119.8	3.2	118.6	5.2	128.4	6.5	122.9	5.3	122.4	4.8
1972	125.3	3.3	123.2	4.1	128.1	3.8	122.3	2.1	119.9	1.1	132.5	3.2	126.5	2.9	127.5	4.2
1973	133.1	6.2	139.5	13.2	133.7	4.4	126.8	3.7	123.8	3.3	137.7	3.9	130.0	2.8	132.5	3.9
1974	147.7	11.0	158.7	13.8	148.8	11.3	136.2	7.4	137.7	11.2	150.5	9.3	139.8	7.5	142.0	7.2
1975	161.2	9.1	172.1	8.4	164.5	10.6	142.3	4.5	150.6	9.4	168.6	12.0	152.2	8.9	153.9	8.4
1976	170.5	5.8	177.4	3.1	174.6	6.1	147.6	3.7	165.5	9.9	184.7	9.5	159.8	5.0	162.7	5.7
1977	181.5	6.5	188.0	6.0	186.5	6.8	154.2	4.5	177.2	7.1	202.4	9.6	167.7	4.9	172.2	5.8
1978	195.3	7.6	206.2	9.7	202.6	8.6	159.5	3.4	185.8	4.9	219.4	8.4	176.2	5.1	183.2	6.4
1979	217.7	11.5	228.7	10.9	227.5	12.3	166.4	4.3	212.8	14.5	240.1	9.4	187.6	6.5	196.3	7.2

23. Consumer Price Index for All Urban Consumers and revised CPI for Urban Wage Earners and Clerical Workers, U.S. city average—general summary and groups, subgroups, and selected items

[1967 = 100 unless otherwise specified]

General summary	All Urban Consumers							Urban Wage Earners and Clerical Workers (revised)						
	1979	1980						1979	1980					
	Aug.	Mar.	Apr.	May	June	July	Aug.	Aug.	Mar.	Apr.	May	June	July	Aug.
All items	221.1	239.8	242.5	244.9	247.6	247.8	249.4	221.5	239.9	242.6	245.1	247.8	248.0	249.6
Food and beverages	230.2	241.0	242.8	244.1	245.7	248.3	252.0	230.4	241.2	243.2	244.7	246.4	249.1	252.5
Housing	231.5	254.5	257.9	261.7	266.7	265.1	265.8	231.5	254.4	257.8	261.7	266.9	265.1	265.8
Apparel and upkeep	166.3	176.0	177.3	177.5	177.2	176.2	178.6	166.2	175.1	176.1	176.8	176.0	175.4	177.9
Transportation	219.6	243.7	246.8	249.0	249.7	251.0	252.7	220.7	244.3	247.7	249.9	250.6	251.9	253.5
Medical care	241.8	260.2	262.0	263.4	264.7	266.6	268.4	242.6	260.9	263.1	264.9	265.9	267.8	270.0
Entertainment	190.2	200.6	202.5	204.0	205.3	206.6	208.0	188.9	199.5	201.3	202.4	204.0	204.4	205.6
Other goods and services	197.0	208.9	209.8	211.2	212.5	213.5	214.5	197.2	208.3	209.2	210.6	212.1	212.9	214.0
Commodities	212.2	228.0	229.9	231.4	232.8	234.1	236.7	212.6	228.1	230.1	231.7	233.0	234.4	236.9
Commodities less food and beverages	200.9	218.4	220.4	222.0	223.2	224.0	226.0	201.3	218.7	220.6	222.3	223.4	224.2	226.2
Nondurables less food and beverages	208.8	237.5	239.5	240.3	241.1	241.4	242.6	210.5	239.8	241.7	242.6	243.2	243.5	244.8
Durables	193.6	203.0	204.9	207.1	208.6	209.8	212.4	192.9	201.2	203.3	205.4	206.8	208.0	210.5
Services	237.6	261.3	265.3	269.2	274.2	272.4	272.5	237.9	261.7	265.8	269.9	275.1	273.1	273.3
Rent, residential	177.5	186.6	187.0	188.9	191.1	192.1	193.2	177.3	186.4	186.9	188.7	190.8	191.8	193.0
Household services less rent	272.8	307.3	313.4	319.6	328.8	323.3	321.5	274.1	309.6	315.8	322.2	331.9	325.9	324.2
Transportation services	214.9	233.4	238.1	241.5	242.6	243.8	246.4	215.3	232.7	238.0	241.5	242.7	243.9	246.3
Medical care services	260.6	281.5	283.4	284.7	285.9	288.0	289.8	261.2	282.2	284.5	286.3	287.3	289.3	291.7
Other services	200.5	212.9	214.5	215.9	216.9	218.1	219.2	201.2	213.5	214.6	216.5	217.9	218.6	219.5
Special indexes:														
All items less food	216.9	237.1	239.9	242.6	245.5	245.1	246.3	217.3	237.3	240.2	242.9	245.7	245.3	246.6
All items less mortgage interest costs	214.7	229.8	231.8	233.7	235.4	236.8	239.0	215.3	230.2	232.4	234.2	236.7	c 237.4	239.6
Commodities less food	199.5	216.7	218.6	220.2	221.4	222.2	224.2	199.9	216.9	218.9	220.5	221.6	222.4	224.4
Nondurables less food	205.4	232.6	234.6	235.5	236.3	236.6	237.8	207.0	234.8	236.7	237.7	238.3	238.7	239.9
Nondurables less food and apparel	228.3	264.1	266.5	267.9	269.3	270.3	270.9	229.7	266.3	268.7	270.0	271.4	272.2	272.9
Nondurables	220.4	240.3	242.2	243.2	244.5	245.9	248.3	221.3	241.4	243.3	244.6	245.7	247.2	249.6
Services less rent	248.8	275.4	280.0	284.4	290.0	287.6	287.4	249.2	275.9	280.8	285.4	291.2	288.6	288.6
Services less medical care	233.6	257.4	261.5	265.7	271.0	268.9	268.7	233.9	257.7	261.9	266.3	271.8	269.4	269.4
Domestically produced farm foods	223.5	231.2	232.7	233.6	234.8	238.5	243.5	223.4	231.0	232.4	233.4	234.7	238.4	242.9
Selected beef cuts	253.0	270.2	268.0	265.6	264.8	269.2	274.5	255.5	272.3	269.5	267.5	267.1	271.2	275.9
Energy	296.3	355.0	358.8	363.2	367.8	370.4	370.7	298.8	359.6	363.3	367.3	371.8	373.9	374.2
All items less energy	215.4	230.8	233.4	235.7	238.3	238.3	240.0	215.3	230.0	232.7	235.1	237.6	237.6	239.4
All items less food and energy	209.4	225.7	228.5	231.0	233.7	233.1	234.3	209.0	224.6	227.5	230.0	232.7	232.1	233.4
Commodities less food and energy	188.8	195.5	198.2	199.9	201.2	202.0	204.3	186.4	195.1	196.9	198.6	199.8	200.6	202.9
Energy commodities	314.5	398.5	402.3	403.0	404.1	404.8	404.2	315.8	400.3	404.0	404.7	405.6	406.1	406.5
Services less energy	235.4	259.6	263.5	267.0	271.5	269.1	269.0	235.7	260.0	264.2	267.8	272.5	269.8	269.9
Purchasing power of the consumer dollar, 1967 = $1	$0.452	$0.417	$0.412	$0.408	$0.404	$0.404	$0.401	$0.451	$0.417	$0.412	$0.408	$0.404	$0.403	$0.401

c = corrected.

23. Continued—Consumer Price Index—U.S. city average

[1967=100 unless otherwise specified]

General summary	All Urban Consumers							Urban Wage Earners and Clerical Workers (revised)						
	1979	1980						1979	1980					
	Aug.	Mar.	Apr.	May	June	July	Aug.	Aug.	Mar.	Apr.	May	June	July	Aug.
FOOD AND BEVERAGES	230.2	241.0	242.8	244.1	245.7	248.3	252.0	230.4	241.2	243.2	244.7	246.4	249.1	252.5
Food	236.3	247.3	249.1	250.4	252.0	254.8	258.7	236.5	247.5	249.5	251.0	252.7	255.5	259.2
Food at home	233.9	243.6	245.3	246.5	248.0	251.5	256.3	233.5	243.1	245.0	246.1	247.7	251.1	255.6
Cereals and bakery products	223.7	238.6	242.0	244.5	245.9	247.8	249.2	224.1	239.3	242.2	244.4	245.7	248.0	249.6
Cereals and cereal products (12/77 = 100)	118.5	126.6	129.4	131.5	133.1	135.0	136.3	119.0	127.7	130.1	132.4	133.9	135.5	136.8
Flour and prepared flour mixes (12/77 = 100)	122.5	126.6	127.8	129.0	131.1	132.9	133.6	123.3	127.5	128.9	129.9	131.4	132.8	133.9
Cereal (12/77 = 100)	118.0	126.0	129.4	131.5	133.0	135.5	137.6	118.5	126.6	129.7	132.0	133.3	135.5	137.7
Rice, pasta, and cornmeal (12/77 = 100)	115.7	127.6	130.8	133.8	135.2	136.2	136.8	115.8	129.4	131.9	135.2	137.0	137.9	138.4
Bakery products (12/77 = 100)	118.3	126.1	127.6	128.7	129.1	129.8	130.4	118.5	126.2	127.5	128.3	128.8	129.8	130.5
White bread	198.4	212.0	215.1	216.7	216.9	218.4	217.9	198.0	212.1	215.1	216.0	215.4	217.5	217.2
Other breads (12/77 = 100)	118.6	125.6	127.0	128.3	128.1	129.4	129.7	120.8	129.3	129.3	130.6	130.8	132.3	133.3
Fresh biscuits, rolls, and muffins (12/77 = 100)	118.1	127.0	126.9	127.8	129.5	129.2	130.0	117.7	124.9	125.3	126.4	127.9	128.1	128.9
Fresh cakes and cupcakes (12/77 = 100)	116.6	124.4	126.5	127.4	127.6	127.9	129.8	116.3	123.2	125.4	126.5	126.9	127.3	129.4
Cookies (12/77 = 100)	115.6	124.4	125.3	126.1	126.3	127.1	128.7	117.2	125.6	126.3	126.8	126.9	128.3	130.1
Crackers and bread and cracker products (12/77 = 100)	114.7	120.2	122.0	122.2	123.6	125.5	124.6	114.9	121.8	122.2	123.0	124.5	125.7	124.7
Fresh sweetrolls, coffeecake, and donuts (12/77 = 100)	117.5	125.0	126.6	128.4	129.1	129.5	131.4	119.3	126.2	128.0	129.2	130.0	130.0	131.6
Frozen and refrigerated bakery products and fresh pies, tarts, and turnovers (12/77 = 100)	120.8	127.9	129.7	131.0	131.2	131.5	131.4	117.1	124.0	125.3	126.0	127.2	129.6	129.2
Meats, poultry, fish, and eggs	230.2	237.8	235.1	231.5	231.2	236.7	245.4	229.6	237.1	234.3	230.7	230.4	236.1	244.3
Meats, poultry, and fish	235.8	243.8	241.1	238.2	237.9	243.4	251.0	235.3	243.0	240.2	237.2	237.1	242.8	249.8
Meats	237.8	245.7	242.6	239.2	238.1	243.3	251.1	237.6	245.0	241.3	238.1	237.5	242.8	250.0
Beef and veal	251.9	269.1	267.0	264.8	263.8	267.9	273.1	254.1	270.8	268.2	266.3	265.6	269.6	274.1
Ground beef other than canned	260.3	275.3	272.9	269.4	266.9	266.6	272.9	261.9	278.7	274.7	270.6	269.0	268.7	275.6
Chuck roast	257.5	286.2	277.9	273.0	268.6	277.7	279.8	264.0	293.4	286.1	280.0	275.0	285.3	287.9
Round roast	222.2	244.2	242.7	243.4	240.9	243.2	248.8	225.9	244.5	242.1	245.5	243.8	246.2	248.2
Round steak	238.1	254.2	253.5	250.6	247.4	253.2	258.0	235.4	251.1	249.6	250.2	247.3	253.6	256.4
Sirloin steak	247.5	254.3	256.1	256.2	264.8	270.2	274.1	247.3	256.0	257.8	257.5	268.3	274.2	278.8
Other beef and veal (12/77 = 100)	145.0	153.8	153.3	152.4	152.5	155.9	159.0	146.0	153.7	153.1	152.2	152.4	155.2	157.6
Pork	207.4	202.6	197.1	191.8	190.4	200.3	212.0	207.6	203.0	196.7	191.6	190.5	200.7	212.0
Bacon	192.5	187.6	182.1	177.4	173.1	186.3	201.5	195.0	189.4	183.9	177.7	175.6	189.1	205.6
Pork chops	195.3	190.7	187.0	182.4	182.7	193.1	199.9	196.2	190.5	184.7	180.9	180.6	193.3	198.5
Ham other than canned (12/77 = 100)	96.4	95.8	90.6	87.4	87.8	92.1	98.4	94.9	94.7	88.7	85.4	86.1	90.5	96.3
Sausage	263.8	257.6	255.1	250.2	246.2	249.2	262.5	263.2	259.8	258.0	253.9	249.6	252.0	263.6
Canned ham	221.1	219.3	213.5	210.0	208.1	208.6	217.0	218.9	217.4	214.5	213.0	210.1	207.6	219.1
Other pork (12/77 = 100)	118.3	113.6	110.7	107.1	106.3	115.1	123.1	118.4	113.7	110.0	106.5	105.9	114.9	122.7
Other meats	243.5	245.8	243.9	240.2	239.4	239.1	247.8	239.9	241.5	239.0	235.6	235.9	236.5	244.1
Frankfurters	241.9	244.6	240.6	234.8	230.9	229.1	245.8	242.6	242.8	239.3	234.0	231.0	231.5	245.9
Bologna, liverwurst, and salami (12/77 = 100)	134.3	135.5	134.9	133.5	133.4	135.1	138.5	129.7	132.2	131.1	129.5	130.7	131.4	134.5
Other lunchmeats (12/77 = 100)	122.7	121.8	121.9	121.4	121.0	120.6	123.7	120.8	118.8	118.4	117.6	118.1	118.8	121.5
Lamb and organ meats (12/77 = 100)	137.6	142.3	140.1	136.3	137.6	137.2	140.4	137.9	144.3	141.3	138.4	139.3	138.2	140.8
Poultry	177.1	180.7	177.2	176.5	177.9	187.9	197.5	174.3	177.4	176.0	173.8	175.7	186.0	195.1
Fresh whole chicken	171.3	179.5	174.7	172.9	176.3	193.6	205.3	166.7	172.5	170.6	168.0	170.7	189.1	199.9
Fresh and frozen chicken parts (12/77 = 100)	112.1	116.8	114.5	114.4	115.7	120.9	127.8	111.1	116.3	114.7	112.7	115.6	120.8	128.1
Other poultry (12/77 = 100)	123.0	118.2	117.3	117.4	115.9	117.0	120.3	122.1	117.7	118.1	117.7	116.1	116.6	119.1
Fish and seafood	306.5	322.6	325.3	324.5	329.1	330.1	331.8	301.4	320.2	325.1	323.0	324.9	326.4	327.3
Canned fish and seafood (12/77 = 100)	112.7	120.4	122.9	125.4	127.3	129.2	131.2	111.5	119.5	121.8	124.0	125.7	127.3	129.3
Fresh and frozen fish and seafood (12/77 = 100)	119.2	124.3	124.5	122.5	124.2	123.7	123.6	116.9	123.5	125.1	122.4	122.6	122.5	121.8
Eggs	161.8	164.5	161.2	148.4	147.9	154.2	178.3	160.5	164.3	161.5	148.9	147.2	153.5	177.1
Dairy products	208.6	220.3	222.4	226.2	227.2	228.6	229.7	208.9	221.1	223.1	226.9	227.8	229.2	229.9
Fresh milk and cream (12/77 = 100)	117.7	124.1	124.7	127.0	127.1	127.7	127.9	117.9	124.2	124.9	127.2	127.4	128.0	128.0
Fresh whole milk	192.8	204.0	204.9	208.5	208.6	209.4	209.8	193.0	203.8	204.8	208.4	208.7	209.8	209.7
Other fresh milk and cream (12/77 = 100)	117.4	122.7	123.5	125.9	126.0	126.9	127.1	117.7	123.1	124.1	126.8	127.2	127.5	127.6
Processed dairy products (12/77 = 100)	118.2	125.1	127.0	129.1	130.4	131.4	132.5	118.4	126.2	128.0	129.9	130.7	131.9	132.9
Butter	203.0	218.3	219.9	222.2	225.0	226.9	231.2	205.7	220.9	222.7	225.3	227.2	229.7	233.7
Cheese (12/77 = 100)	118.4	124.9	126.2	127.8	128.8	130.0	130.4	118.4	125.5	126.8	128.5	129.0	130.1	130.9
Ice cream and related products (12/77 = 100)	117.8	125.1	128.6	131.9	133.7	134.6	137.0	118.1	127.2	130.4	132.9	133.8	135.5	136.1
Other dairy products (12/77 = 100)	115.4	121.6	124.0	126.1	127.3	127.5	128.3	115.4	121.9	123.6	125.7	127.4	127.7	128.8
Fruits and vegetables	237.8	232.4	240.9	246.6	250.1	253.9	258.4	237.0	230.1	239.8	245.5	250.2	253.0	256.6
Fresh fruits and vegetables	247.5	229.9	245.2	255.1	260.0	265.8	273.0	247.9	227.4	244.8	254.4	261.4	265.2	270.8
Fresh fruits	286.9	245.4	257.0	264.7	273.9	282.7	302.3	288.9	245.4	255.6	263.8	274.9	282.3	300.1
Apples	275.2	250.2	265.5	276.3	293.3	316.6	340.8	275.9	249.0	264.4	277.3	297.4	318.7	342.2
Bananas	202.3	243.9	242.8	249.7	242.6	232.6	234.0	202.5	240.8	243.5	244.5	237.7	228.7	228.0
Oranges	316.2	238.1	240.6	243.9	264.4	273.9	297.1	298.6	240.9	234.3	237.6	251.0	261.5	285.5
Other fresh fruits (12/77 = 100)	157.5	127.4	136.5	140.8	143.7	147.5	158.5	163.5	126.9	135.7	140.9	146.5	148.7	157.9
Fresh vegetables	210.7	215.5	234.2	246.2	247.0	250.1	245.6	211.0	211.3	235.2	246.0	249.4	249.8	244.4
Potatoes	211.4	203.3	201.7	210.1	246.3	310.5	327.1	212.1	200.3	198.2	205.6	244.4	309.4	325.4
Lettuce	235.7	208.3	271.9	279.9	238.8	205.9	213.1	240.3	203.8	281.9	288.6	241.7	200.6	209.3
Tomatoes	187.0	201.4	201.2	230.8	230.6	209.2	205.4	185.6	197.2	197.7	229.4	228.6	210.8	199.6
Other fresh vegetables (12/77 = 100)	113.8	125.4	134.6	140.1	140.2	137.1	126.2	113.3	123.0	135.3	139.7	143.4	138.0	127.0
Processed fruits and vegetables	229.2	237.2	238.4	239.4	241.4	243.0	244.5	228.9	235.0	236.2	237.6	239.7	241.5	242.9
Processed fruits (12/77 = 100)	119.7	123.9	125.0	125.4	126.4	126.6	126.9	119.0	123.8	124.9	125.7	126.7	126.8	127.2
Frozen fruit and fruit juices (12/77 = 100)	115.5	117.7	119.3	118.1	120.1	118.5	119.2	114.4	116.5	118.4	117.5	118.9	117.8	118.1
Fruit juices and other than frozen (12/77 = 100)	117.9	127.2	128.3	129.3	129.5	130.6	130.1	118.2	127.4	128.4	129.8	130.4	130.9	130.7
Canned and dried fruits (12/77 = 100)	125.0	125.5	128.3	127.5	128.3	129.0	130.0	123.8	125.9	126.4	127.8	128.9	129.5	130.7
Processed vegetables (12/77 = 100)	110.7	114.6	114.5	115.2	116.2	117.6	118.8	109.5	113.0	113.2	113.9	115.0	116.6	117.5
Frozen vegetables (12/77 = 100)	108.7	112.6	113.3	114.7	116.4	118.4	119.6	109.9	111.9	113.0	114.6	116.3	118.2	119.2

23. Continued—Consumer Price Index—U.S. city average

[1967=100 unless otherwise specified]

General summary	All Urban Consumers							Urban Wage Earners and Clerical Workers (revised)						
	1979	1980						1979	1980					
	Aug.	Mar.	Apr.	May	June	July	Aug.	Aug.	Mar.	Apr.	May	June	July	Aug.
FOOD AND BEVERAGES—Continued														
Food—Continued														
Food at home—Continued														
Fruits and vegetables—Continued														
Cut corn and canned beans except lima (12/77=100)	113.9	116.0	115.6	116.0	116.6	118.1	119.4	112.0	115.4	114.3	114.2	115.2	117.0	118.1
Other canned and dried vegetables (12/77=100)	109.7	114.8	114.7	115.1	115.9	117.0	118.0	108.1	112.3	112.7	113.3	114.2	115.6	116.4
Other foods at home	272.8	292.0	295.1	298.1	301.8	304.3	307.8	271.8	290.9	294.6	298.0	301.4	303.7	307.4
Sugar and sweets	281.0	313.5	319.5	326.8	342.0	353.1	355.1	279.9	314.1	320.8	328.0	342.9	354.6	356.6
Candy and chewing gum (12/77=100)	119.4	123.8	126.3	128.9	130.5	131.6	132.6	119.0	123.9	126.5	129.0	130.8	132.0	133.2
Sugar and artificial sweeteners (12/77=100)	115.6	153.0	156.9	161.4	180.3	194.2	194.6	115.5	153.8	158.6	163.3	180.7	194.5	195.1
Other sweets (12/77=100)	114.6	120.4	121.3	123.6	125.8	127.2	128.3	113.6	119.3	120.0	122.2	124.6	126.5	126.9
Fats and oils (12/77=100)	228.9	236.8	238.3	239.5	240.0	239.3	242.0	228.9	236.8	238.3	240.1	240.5	240.6	242.4
Margarine	240.3	248.8	247.9	246.1	249.0	247.0	249.3	239.8	248.3	248.3	248.4	249.4	248.6	251.5
Nondairy substitutes and peanut butter (12/77=100)	114.0	117.9	119.8	121.4	123.1	123.6	124.7	114.0	118.5	120.0	121.6	123.5	124.0	124.8
Other fats, oils, and salad dressings (12/77=100)	119.7	123.7	124.8	125.8	124.9	124.6	126.2	119.6	123.4	124.4	125.5	124.9	125.0	125.7
Nonalcoholic beverages	361.8	387.1	390.3	393.0	395.9	397.4	402.8	360.0	384.4	389.2	392.3	395.1	396.2	403.0
Cola drinks, excluding diet cola	239.2	259.3	261.7	265.4	267.8	268.4	275.2	236.9	255.4	260.1	263.2	267.1	265.6	274.7
Carbonated drinks, including diet cola (12/77=100)	116.2	123.5	125.6	126.2	128.3	129.2	131.3	114.2	121.1	123.4	124.8	125.2	127.4	128.8
Roasted coffee	411.7	437.6	434.0	433.5	432.4	435.3	433.9	406.1	432.3	430.4	430.0	429.2	432.3	430.4
Freeze dried and instant coffee	349.5	381.7	380.2	381.9	380.2	381.0	380.3	349.4	380.3	379.2	380.4	378.7	379.2	379.7
Other noncarbonated drinks (12/77=100)	114.2	118.6	120.7	120.7	121.8	122.1	123.1	113.0	118.1	119.6	120.0	120.8	121.1	122.3
Other prepared foods	210.5	224.1	226.6	229.1	230.9	232.3	234.9	210.4	224.0	226.6	229.6	230.8	232.1	234.2
Canned and packaged soup (12/77=100)	113.2	118.0	120.5	122.0	122.9	123.3	123.7	113.3	117.6	120.6	122.5	123.7	123.5	124.2
Frozen prepared foods (12/77=100)	120.7	128.2	130.4	131.3	132.0	132.4	134.6	118.7	127.1	128.8	131.0	130.8	131.3	131.7
Snacks (12/77=100)	115.7	124.1	124.8	126.1	127.2	128.3	129.3	116.4	125.3	126.0	127.3	127.9	128.5	129.9
Seasonings, olives, pickles, and relish (12/77=100)	115.9	124.9	125.2	125.4	127.5	128.0	129.4	115.4	124.0	124.5	125.5	127.3	127.3	127.8
Other condiments (12/77=100)	115.2	126.0	127.1	127.9	128.8	130.2	131.8	116.2	126.6	128.1	129.2	129.9	131.6	133.4
Miscellaneous prepared foods (12/77=100)	116.3	122.2	124.4	127.6	128.6	129.3	130.9	116.3	122.2	123.7	127.0	128.3	128.9	130.2
Other canned and packaged prepared foods (12/77=100)	116.8	122.2	123.1	124.6	125.2	126.0	127.5	116.7	122.0	123.3	124.3	124.1	125.4	126.8
Food away from home	246.5	260.9	263.0	264.6	266.6	267.8	269.5	248.3	262.7	265.3	267.6	269.9	271.2	272.8
Lunch (12/77=100)	120.3	127.0	127.9	128.5	129.3	130.0	131.2	121.3	127.6	128.9	129.9	130.7	131.1	131.8
Dinner (12/77=100)	119.8	127.0	127.9	128.7	129.5	130.1	130.7	120.5	128.1	129.1	130.5	131.0	132.0	132.8
Other meals and snacks (12/77=100)	117.8	124.9	126.4	127.4	129.0	129.3	130.0	119.1	126.2	127.7	128.6	131.1	131.6	132.3
Alcoholic beverages	173.3	181.7	183.9	185.4	186.4	187.2	188.7	173.6	182.8	185.0	186.9	188.0	189.2	190.6
Alcoholic beverages at home (12/77=100)	112.7	118.2	119.9	120.9	121.4	122.1	123.1	113.4	119.3	120.8	122.0	122.7	123.6	124.6
Beer and ale	170.6	182.0	185.9	187.7	188.2	189.2	190.1	170.3	181.7	185.1	187.5	188.8	189.7	191.1
Whiskey	128.4	132.8	133.4	133.9	134.7	135.2	136.9	129.9	134.4	134.6	135.1	135.4	136.6	137.8
Wine	196.0	204.1	206.6	208.5	211.5	212.6	213.9	199.4	208.4	209.8	212.0	213.7	217.4	218.1
Other alcoholic beverages (12/77=100)	105.4	107.4	108.2	109.0	108.7	109.6	111.2	105.1	107.2	107.8	108.7	108.9	109.6	111.1
Alcoholic beverages away from home (12/77=100)	114.6	120.0	120.5	121.5	122.3	122.5	123.5	112.8	119.1	120.5	121.7	122.5	122.9	123.6
HOUSING	231.5	254.5	257.9	261.7	266.7	265.1	265.8	231.5	254.4	257.8	261.7	266.9	265.1	265.8
Shelter	243.9	271.6	276.0	280.2	286.3	282.9	283.3	244.5	272.7	277.2	281.6	286.0	284.3	284.8
Rent, residential	177.5	186.6	187.0	188.9	191.1	192.1	193.2	177.3	186.4	186.9	188.7	190.8	191.8	193.0
Other rental costs	238.2	258.6	260.7	261.9	264.2	265.7	267.5	237.6	258.6	260.5	261.7	263.9	265.5	267.3
Lodging while out of town	251.2	276.8	279.3	279.9	282.1	283.8	286.4	249.5	275.7	278.0	278.6	280.8	282.3	285.1
Tenants' insurance (12/77=100)	112.0	118.6	119.9	121.2	122.6	123.1	122.2	112.6	119.3	120.1	121.4	122.7	123.3	122.7
Homeownership	267.6	302.0	307.7	312.9	320.4	315.4	315.4	268.9	304.0	310.0	315.4	323.4	317.9	318.1
Home purchase	226.9	244.0	246.5	249.7	252.6	253.9	256.1	227.0	243.8	246.5	249.8	253.0	254.3	256.6
Financing, taxes, and insurance	316.4	379.9	390.6	399.7	416.1	399.6	393.6	318.7	384.1	395.3	404.9	422.0	405.0	398.8
Property insurance	314.6	335.7	338.9	344.9	351.8	355.5	355.9	314.2	337.4	340.4	346.4	352.7	357.2	357.9
Property taxes	183.1	188.2	188.4	187.6	187.7	188.3	190.3	184.6	189.9	190.1	189.3	189.4	190.0	192.0
Contracted mortgage interest cost	387.2	483.0	499.4	513.6	538.9	512.2	501.8	387.4	484.1	500.9	515.6	541.5	514.6	504.2
Mortgage interest rates	167.7	194.4	199.4	202.4	210.3	199.0	192.0	167.8	194.8	199.8	202.8	210.8	199.6	192.5
Maintenance and repairs	259.7	278.8	282.9	284.9	285.9	287.6	288.5	260.8	278.2	281.7	283.4	283.8	285.1	287.7
Maintenance and repair services	281.8	303.2	307.9	310.1	310.6	312.1	312.4	284.2	303.5	307.7	309.1	308.5	309.0	312.1
Maintenance and repair commodities	208.1	221.4	224.3	225.8	228.0	230.3	232.7	209.0	222.3	224.3	226.5	228.8	231.3	233.2
Paint and wallpaper, supplies, tools, and equipment (12/77=100)	114.3	125.0	126.6	128.7	131.3	133.4	134.4	115.0	123.6	126.0	128.7	130.9	132.2	133.1
Lumber, awnings, glass, and masonry (12/77=100)	113.7	117.6	118.8	118.0	118.9	119.1	120.1	114.6	119.9	119.7	118.4	118.5	119.3	120.4
Plumbing, electrical, heating, and cooling supplies (12/77=100)	110.8	116.4	119.1	119.3	119.9	121.1	122.7	111.5	119.3	120.0	122.0	123.8	125.9	126.6
Miscellaneous supplies and equipment (12/77=100)	111.1	117.0	118.2	118.7	119.1	120.1	122.1	110.3	118.2	119.4	120.1	120.7	122.5	123.9
Fuel and other utilities	247.2	268.0	270.5	275.9	282.2	285.5	288.8	247.7	268.7	271.0	276.4	283.0	286.1	287.4
Fuels	299.7	333.9	337.8	346.4	355.8	360.8	362.5	299.8	333.9	337.6	346.0	356.8	360.3	362.1
Fuel oil, coal, and bottled gas	438.6	553.4	556.4	556.0	558.7	560.4	561.5	439.0	554.1	557.1	557.1	559.8	561.9	562.7
Fuel oil	458.2	577.9	580.7	580.4	583.2	585.1	586.1	458.5	577.9	580.7	580.5	583.3	585.6	586.4
Other fuels (6/78 = 100)	109.3	138.3	139.6	139.4	140.1	140.4	140.8	109.4	139.5	140.8	141.3	141.9	142.1	142.5
Gas (piped) and electricity	266.5	284.0	288.0	298.2	308.8	314.3	316.1	266.5	283.9	287.6	297.5	308.5	313.5	315.4
Electricity	229.2	237.9	241.5	248.1	261.9	267.4	268.3	229.7	238.1	241.5	248.0	262.3	267.8	268.8
Utility (piped) gas	300.7	343.9	347.9	364.6	368.7	371.8	375.2	300.5	342.6	348.4	362.2	364.9	368.6	372.0

23. Continued—Consumer Price Index—U.S. city average

[1967 = 100 unless otherwise specified]

General summary	All Urban Consumers							Urban Wage Earners and Clerical Workers (revised)						
	1979	1980						1979	1980					
	Aug.	Mar.	Apr.	May	June	July	Aug.	Aug.	Mar.	Apr.	May	June	July	Aug.
HOUSING—Continued														
Fuel and other utilities—Continued														
Other utilities and public services	159.8	161.9	162.3	163.1	164.9	165.9	166.5	159.8	161.9	162.3	163.1	164.9	165.9	166.4
Telephone services	132.5	133.2	133.4	134.0	135.5	136.3	136.5	132.5	133.1	133.2	133.9	135.4	136.1	136.4
Local charges (12/77 = 100)	100.5	103.3	103.5	104.3	105.3	105.4	105.4	100.6	103.2	103.3	104.0	105.1	105.2	105.2
Interstate toll calls (12/77 = 100)	98.5	97.4	97.3	97.3	99.5	101.6	101.9	98.5	97.5	97.4	97.4	99.5	101.6	101.9
Intrastate toll calls (12/77 = 100)	101.5	98.7	99.0	99.4	99.6	99.5	99.9	101.4	98.6	98.9	99.3	99.5	99.3	99.7
Water and sewerage maintenance	244.6	253.9	255.2	256.5	259.3	261.3	263.5	244.6	254.7	256.2	257.6	260.5	262.4	264.5
Household furnishings and operations	191.2	201.3	203.0	204.2	205.5	206.2	207.2	189.8	199.2	200.7	201.9	202.9	203.5	204.5
Housefurnishings	163.2	171.5	172.7	173.4	174.6	174.7	175.2	163.0	170.4	171.5	172.2	172.9	172.9	173.5
Textile housefurnishings	172.8	187.2	188.2	187.3	189.4	188.2	189.1	173.0	185.3	186.3	186.1	189.6	188.7	189.6
Household linens (12/77 = 100)	103.6	113.9	114.8	114.4	116.0	114.5	114.1	103.7	113.2	113.8	113.4	116.2	114.8	114.7
Curtains, drapes, slipcovers, and sewing materials (12/77 = 100)	112.0	119.7	119.9	119.3	120.1	120.2	121.9	112.7	118.2	118.9	119.0	120.5	121.0	122.4
Furniture and bedding	177.1	189.2	190.9	191.9	193.6	192.8	192.6	177.3	187.9	189.4	190.1	190.8	189.7	189.9
Bedroom furniture (12/77 = 100)	114.0	122.5	124.3	125.0	126.2	125.4	125.8	112.7	119.2	120.9	121.7	123.1	122.6	123.6
Sofas (12/77 = 100)	106.3	110.9	111.6	111.4	113.0	112.2	111.3	108.2	112.7	111.8	112.0	112.7	111.7	110.4
Living room chairs and tables (12/77 = 100)	104.9	110.8	110.9	110.8	110.6	110.7	111.6	106.1	111.9	112.6	112.6	111.7	111.3	112.3
Other furniture (12/77 = 100)	112.7	122.6	124.0	125.6	127.1	126.6	125.7	112.5	121.3	123.1	123.5	123.9	123.0	122.5
Appliances including TV and sound equipment	135.8	138.8	139.3	139.9	140.2	140.5	141.4	135.5	139.0	139.7	140.2	140.1	140.1	140.6
Television and sound equipment (12/77 = 100)	104.3	105.7	105.7	105.7	105.6	105.8	106.6	104.0	105.5	105.4	105.4	105.2	105.0	105.2
Television	102.8	104.0	104.0	104.1	104.2	104.4	105.0	101.9	102.9	102.8	102.8	103.1	102.7	103.3
Sound equipment (12/77 = 100)	106.8	108.3	108.3	108.3	107.9	108.2	109.1	106.7	108.7	108.6	108.7	108.0	108.0	107.9
Household appliances	155.5	160.2	161.4	162.6	163.4	163.7	164.6	155.1	160.7	162.3	163.4	163.6	163.8	164.5
Refrigerators and home freezer	154.6	157.9	160.6	162.7	163.2	163.6	164.4	157.9	161.4	163.5	166.0	166.8	166.4	168.0
Laundry equipment (12/77 = 100)	110.7	116.8	117.5	118.2	119.1	119.6	120.2	110.2	116.6	117.8	118.5	118.9	118.7	120.1
Other household appliances (12/77 = 100)	108.6	111.2	111.5	112.1	112.7	112.6	113.3	107.1	110.7	111.6	111.8	111.7	112.1	112.0
Stoves, dishwashers, vacuums, and sewing machines (12/77 = 100)	108.5	110.9	110.0	110.3	111.2	111.6	111.8	107.7	111.1	111.6	111.9	111.4	112.8	111.4
Office machines, small electric appliances, and air conditioners (12/77 = 100)	108.8	111.6	113.1	114.2	114.4	113.8	115.1	106.4	110.2	111.6	111.7	112.0	111.3	112.6
Other household equipment (12/77 = 100)	110.7	117.3	118.4	119.0	120.2	121.3	121.7	110.6	116.0	117.0	117.8	118.5	119.7	120.5
Floor and window coverings, infants' laundry cleaning and outdoor equipment (12/77 = 100)	109.5	116.4	118.2	117.6	120.2	120.8	121.7	105.9	110.8	113.1	113.2	114.3	114.7	115.3
Clocks, lamps, and decor items (12/77 = 100)	107.1	114.9	115.6	117.6	118.8	119.0	119.8	106.7	112.3	112.6	114.4	115.9	116.6	117.1
Tableware, serving pieces, and nonelectric kitchenware (12/77 = 100)	115.1	122.6	123.4	124.1	125.4	126.4	125.8	113.9	120.8	121.4	121.7	122.2	124.0	125.1
Lawn equipment, power tools, and other hardware (12/77 = 100)	108.5	112.2	113.5	114.0	113.7	115.9	117.1	111.5	115.0	115.9	117.4	117.6	118.7	119.6
Housekeeping supplies	223.4	238.0	240.7	243.6	245.4	247.3	249.9	221.6	235.5	238.1	241.2	243.0	245.2	247.8
Soaps and detergents	212.5	232.1	233.2	235.0	234.9	237.2	240.1	210.9	230.0	231.1	232.1	232.3	234.4	236.8
Other laundry and cleaning products (12/77 = 100)	112.0	117.0	117.6	119.8	121.1	122.3	124.4	111.9	116.9	118.1	119.5	120.8	122.3	123.9
Cleansing and toilet tissue, paper towels and napkins (12/77 = 100)	116.2	123.9	126.2	128.6	129.4	130.2	132.2	116.3	125.8	128.1	130.8	131.5	132.7	136.1
Stationery, stationery supplies, and gift wrap (12/77 = 100)	109.5	113.8	115.6	116.3	116.9	117.6	117.4	108.5	113.6	114.9	116.0	116.5	117.9	117.4
Miscellaneous household products (12/77 = 100)	112.9	120.9	122.0	123.0	124.4	125.4	127.7	111.3	118.3	119.2	120.9	122.1	123.5	125.5
Lawn and garden supplies (12/77 = 100)	113.8	121.4	123.8	125.2	126.8	127.6	127.5	111.3	114.0	116.5	118.9	121.0	120.7	121.4
Housekeeping services	251.6	263.6	266.0	267.6	269.1	270.4	271.6	250.4	262.7	264.3	265.6	267.0	268.1	269.0
Postage	257.3	257.3	257.3	257.3	257.3	257.3	257.3	257.2	257.2	257.3	257.3	257.3	257.3	253.7
Moving, storage, freight, household laundry, and drycleaning services (12/77 = 100)	117.3	125.4	128.3	129.4	130.5	131.0	131.3	117.7	126.1	127.8	128.5	129.2	129.7	129.7
Appliance and furniture repair (12/77 = 100)	110.7	115.8	116.5	117.2	117.7	118.7	119.4	110.3	116.0	116.2	116.7	117.4	117.8	118.3
APPAREL AND UPKEEP	166.3	176.0	177.3	177.5	177.2	178.2	178.6	166.2	175.1	176.1	176.8	176.0	175.4	177.9
Apparel commodities	160.6	169.2	170.2	170.1	169.7	168.5	171.0	160.7	168.7	169.5	169.8	168.8	168.0	170.7
Apparel commodities less footwear	157.7	166.2	167.2	166.9	166.4	165.0	167.8	157.9	165.7	166.3	166.4	165.3	164.4	167.3
Men's and boys'	159.6	165.6	166.9	166.0	166.8	165.9	167.9	161.1	166.0	167.3	168.9	168.1	167.2	168.4
Men's (12/77 = 100)	100.6	104.3	105.0	105.7	104.8	103.9	105.6	101.9	104.4	105.2	106.3	105.5	104.7	106.1
Suits, sport coats, and jackets (12/77 = 100)	97.1	99.9	101.1	101.2	99.7	97.1	98.2	98.2	96.4	97.3	97.1	95.4	93.2	95.2
Coats and jackets (12/77 = 100)	95.5	96.9	98.5	97.3	98.3	98.0	96.7	99.2	96.9	97.0	97.2	97.1	97.1	98.0
Furnishings and special clothing (12/77 = 100)	109.3	115.0	116.6	117.9	118.2	118.4	119.3	107.0	113.2	114.2	116.4	115.4	115.7	116.3
Shirts (12/77 = 100)	103.2	111.9	111.5	112.2	110.8	110.7	114.9	104.9	112.0	111.7	113.7	112.9	111.2	115.1
Dungarees, jeans, and trousers (12/77 = 100)	98.1	98.7	99.4	100.2	99.5	99.2	98.5	101.9	102.7	104.2	105.2	105.0	104.8	105.0
Boys' (12/77 = 100)	103.3	107.5	108.9	109.7	109.5	110.0	108.5	102.7	107.5	108.7	109.6	109.8	110.0	108.6
Coats, jackets, sweaters, and shirts (12/77 = 100)	101.1	102.5	104.4	105.2	104.6	104.4	106.0	100.3	105.0	107.2	107.7	107.8	107.4	107.1
Furnishings (12/77 = 100)	107.9	112.0	113.3	114.3	114.6	114.7	114.6	107.0	110.7	111.6	112.7	113.3	113.3	112.9
Suits, trousers, sport coats, and jackets (12/77 = 100)	103.1	109.8	110.7	111.3	111.3	112.6	110.3	102.9	108.2	108.8	109.9	110.1	110.9	108.2
Women's and girls'	151.3	155.5	155.9	154.1	153.0	150.6	153.7	150.5	154.9	154.7	154.1	151.2	149.9	154.1
Women's (12/77 = 100)	100.7	103.8	103.9	102.4	101.7	99.8	101.7	100.4	103.7	103.3	103.0	100.8	98.6	102.5
Coats and jackets	170.4	167.6	169.3	162.0	158.1	158.8	164.0	173.1	167.0	167.8	162.4	156.2	157.5	170.2
Dresses	162.8	169.3	167.8	163.9	163.3	153.9	158.3	152.8	157.5	154.1	154.5	152.5	148.2	151.1
Separates and sportswear (12/77 = 100)	96.3	99.8	101.1	100.3	99.5	98.8	98.5	97.7	101.0	101.6	101.2	99.2	97.1	99.7
Underwear, nightwear, and hosiery (12/77 = 100)	106.2	111.6	111.5	111.8	112.1	113.2	114.2	107.0	111.5	111.7	112.2	112.3	112.8	114.3
Suits (12/77 = 100)	89.8	91.8	90.4	88.0	86.5	85.5	86.5	91.0	100.2	98.2	98.2	91.7	90.1	91.3
Girls' (12/77 = 100)	100.5	101.8	102.6	102.7	102.1	102.0	104.5	98.8	100.1	101.1	100.5	99.6	100.0	102.3
Coats, jackets, dresses, and suits (12/77 = 100)	100.8	98.9	98.8	98.4	98.1	98.9	103.4	95.9	95.7	96.8	95.3	93.8	95.8	98.5
Separates and sportswear (12/77 = 100)	98.3	100.8	101.4	101.6	100.7	99.7	102.0	99.7	98.8	100.5	99.9	98.5	98.2	100.7
Underwear, nightwear, hosiery, and accessories (12/77 = 100)	104.1	109.4	109.5	110.0	111.4	111.4	111.2	101.8	107.8	108.9	110.0	110.9	110.4	109.6

23. Continued—Consumer Price Index—U.S. city average

[1967 = 100 unless otherwise specified]

General summary	All Urban Consumers							Urban Wage Earners and Clerical Workers (revised)						
	1979	1980						1979	1980					
	Aug.	Mar.	Apr.	May	June	July	Aug.	Aug.	Mar.	Apr.	May	June	July	Aug.
APPAREL AND UPKEEP — Continued														
Apparel commodities — Continued														
Apparel commodities less footwear — Continued														
Infants' and toddlers'	221.2	231.4	234.3	237.4	240.9	243.0	243.9	224.2	237.3	241.1	242.8	246.8	249.2	252.6
Other apparel commodities	169.8	199.9	201.9	202.7	205.3	205.5	209.9	170.2	197.8	198.5	197.4	201.0	200.8	204.1
Sewing materials and notions (12/77 = 100)	102.3	107.1	107.9	109.1	110.2	109.3	110.2	96.8	107.2	106.9	108.6	110.9	108.8	110.0
Jewelry and luggage (12/77 = 100)	113.0	138.6	140.1	140.4	142.2	142.8	146.5	116.1	137.3	136.1	136.3	138.6	139.4	142.0
Footwear	177.5	187.0	188.3	189.3	189.0	189.5	190.3	176.9	186.3	188.1	189.3	188.9	189.3	190.0
Men's (12/77 = 100)	114.5	119.0	119.7	120.0	121.3	121.1	121.3	115.2	120.9	122.4	122.7	123.6	123.2	123.4
Boys' and girls' (12/77 = 100)	112.0	119.5	119.5	121.3	121.0	123.5	122.8	111.4	119.5	119.5	121.5	121.3	123.1	123.9
Womens' (12/77 = 100)	108.1	114.2	115.6	115.8	114.6	113.8	115.4	106.5	110.9	112.6	112.9	111.7	111.3	111.7
Apparel services	207.7	225.9	230.0	232.2	233.6	234.4	235.4	206.7	223.5	226.0	230.8	231.8	232.6	233.7
Laundry and drycleaning other than coin operated (12/77 = 100)	122.1	132.5	135.5	136.9	137.5	137.7	138.3	121.8	132.3	134.1	135.6	137.3	137.5	138.4
Other apparel services (12/77 = 100)	111.9	122.1	123.3	124.5	125.5	126.3	126.9	111.5	119.6	120.4	125.0	123.9	124.7	125.0
TRANSPORTATION	219.6	243.7	246.8	249.0	249.7	251.0	252.7	220.7	244.3	247.7	249.9	250.6	251.9	253.5
Private	220.4	244.0	247.0	249.2	249.7	250.5	251.6	221.2	244.6	248.0	250.1	250.8	251.5	252.7
New cars	166.6	175.0	177.0	178.9	178.5	179.2	181.1	166.3	175.4	177.7	179.6	179.4	180.0	181.9
Used cars	207.0	195.2	196.7	199.3	200.7	203.4	206.4	207.0	195.2	196.8	199.3	200.8	203.4	206.4
Gasoline	292.0	370.9	374.7	375.4	376.2	376.7	375.9	293.3	372.7	376.3	377.1	377.6	377.8	377.1
Automobile maintenance and repair	245.7	260.9	264.1	266.1	267.3	269.0	271.1	246.0	261.7	264.3	266.1	268.0	269.7	272.2
Body work (12/77 = 100)	118.6	127.3	129.1	130.6	131.4	131.8	133.0	118.6	127.2	128.4	129.7	130.8	131.3	132.4
Automobile drive train, brake, and miscellaneous mechanical repair (12/77 = 100)	117.4	124.1	126.1	126.6	127.5	128.1	129.0	118.2	126.1	127.4	127.8	128.8	129.9	131.5
Maintenance and servicing (12/77 = 100)	116.3	123.1	124.7	125.9	126.1	127.3	128.4	116.0	122.8	124.2	125.4	126.2	127.2	128.4
Power plant repair (12/77 = 100)	116.0	123.5	124.4	125.1	125.9	126.4	127.3	116.3	124.0	124.6	125.4	126.2	126.6	127.5
Other private transportation	200.5	216.5	221.3	224.5	225.0	224.5	224.7	201.0	217.1	223.1	226.7	227.3	226.7	226.8
Other private transportation commodities	175.1	192.7	194.1	195.3	195.5	197.7	198.3	176.1	193.2	195.8	196.7	196.8	200.1	200.6
Motor oil, coolant, and other products (12/77 = 100)	112.2	126.4	129.8	132.2	134.1	136.3	136.3	112.0	126.1	129.1	131.5	133.6	135.5	136.1
Automobile parts and equipment (12/77 = 100)	113.4	124.3	124.8	125.4	125.3	126.6	127.0	114.1	124.7	126.2	126.5	126.3	128.4	128.7
Tires	154.7	170.1	171.2	172.6	172.3	174.9	175.9	156.1	172.5	174.9	175.6	174.9	178.9	179.9
Other parts and equipment (12/77 = 100)	116.7	127.2	127.1	126.5	126.8	126.6	126.2	116.8	124.4	125.1	125.0	125.4	125.7	125.2
Other private transportation services	209.1	225.0	230.6	234.5	235.0	233.8	233.9	209.6	225.7	232.6	236.8	237.6	238.0	238.0
Automobile insurance	232.3	244.0	245.2	247.1	248.5	249.1	250.2	232.3	243.8	244.9	246.9	248.2	248.7	249.9
Automobile finance charges (12/77 = 100)	117.2	137.4	148.6	155.0	153.7	149.7	148.2	116.4	135.2	147.8	153.8	153.5	149.1	147.5
Automobile rental, registration, and other fees (12/77 = 100)	107.5	110.8	111.5	112.1	112.9	113.3	114.0	108.1	111.6	112.2	113.1	114.0	114.7	115.4
State registration	144.0	145.3	146.4	146.4	146.4	146.4	146.5	143.9	145.5	146.5	146.5	146.5	146.5	146.5
Drivers' license (12/77 = 100)	104.5	104.7	104.7	104.7	104.7	104.9	104.9	104.3	104.4	104.4	104.4	104.4	104.6	104.6
Vehicle inspection (12/77 = 100)	114.6	119.7	119.7	120.4	121.5	122.6	122.8	115.5	120.2	120.3	121.0	122.1	123.3	123.5
Other vehicle related fees (12/77 = 100)	115.5	122.0	122.7	124.0	126.1	126.8	128.3	119.3	127.0	127.8	130.0	132.7	134.6	136.6
Public	200.8	232.1	235.9	239.5	242.2	250.5	261.5	200.6	226.1	229.7	232.9	234.9	245.8	256.9
Airline fare	205.2	259.9	264.3	270.0	275.5	276.9	289.8	205.2	259.3	263.9	270.0	275.4	275.5	287.9
Intercity bus fare	263.2	290.7	291.5	293.6	293.8	294.2	297.9	263.0	290.2	291.0	293.4	293.6	293.9	296.0
Intracity mass transit	190.5	200.8	203.0	204.6	204.4	222.6	234.1	190.2	198.6	200.8	202.0	201.9	221.8	233.8
Taxi fare	224.7	245.6	256.4	259.9	262.0	263.3	266.2	230.3	251.2	261.6	265.7	267.6	269.2	273.0
Intercity train fare	220.6	237.2	237.3	250.0	255.2	255.3	255.4	220.8	237.1	237.2	251.1	255.5	255.4	255.6
MEDICAL CARE	241.8	260.2	262.0	263.4	264.7	266.6	268.4	242.6	260.9	263.1	264.9	265.9	267.8	270.0
Medical care commodities	155.0	163.5	164.9	166.4	167.9	169.1	170.2	156.2	164.4	166.0	167.2	168.5	169.7	170.8
Prescription drugs	142.8	150.9	152.2	153.5	154.8	155.6	156.4	143.7	152.0	153.5	154.6	155.8	156.6	157.4
Anti-infective drugs (12/77 = 100)	112.5	117.9	118.5	118.7	120.5	121.2	120.5	113.2	120.1	120.4	120.7	122.0	122.3	121.6
Tranquilizers and sedatives (12/77 = 100)	114.6	122.2	122.9	124.1	124.9	125.5	126.1	114.8	122.2	122.7	123.5	124.2	124.7	125.4
Circulatories and diuretics (12/77 = 100)	109.3	113.3	114.2	114.8	115.1	115.4	116.0	109.7	114.7	115.9	116.8	117.3	117.6	118.2
Hormones, diabetic drugs, biologicals, and prescription and supplies (12/77 = 100)	120.3	130.0	131.3	133.2	134.3	135.5	138.2	120.4	129.6	131.3	132.4	133.7	134.8	137.0
Pain and symptom control drugs (12/77 = 100)	113.7	120.5	121.4	122.9	124.2	124.5	125.2	115.2	121.3	122.6	124.2	125.5	126.1	127.6
Supplements, cough and cold preparations, and respiratory agents (12/77 = 100)	110.3	115.5	117.1	118.2	118.8	119.3	119.9	111.7	116.5	118.5	119.5	120.2	120.9	121.2
Nonprescription drugs and medical supplies (12/77 = 100)	111.4	117.3	118.4	119.5	120.6	121.7	122.6	112.5	118.0	119.2	120.1	121.0	122.0	122.9
Eyeglasses (12/77 = 100)	108.7	114.1	115.0	116.5	118.2	118.7	119.9	108.9	114.5	115.3	116.3	117.3	117.8	118.4
Internal and respiratory over-the-counter drugs	172.2	182.2	184.4	186.0	187.3	189.1	190.4	174.3	183.0	185.4	186.9	188.4	190.1	191.6
Nonprescription medical equipment and supplies (12/77 = 100)	110.4	115.1	115.3	116.5	117.5	119.1	119.9	111.3	116.1	116.3	117.1	117.5	119.0	119.9
Medical care services	260.6	281.5	283.4	284.7	285.9	288.0	289.8	261.2	282.2	284.5	286.3	287.3	289.3	291.7
Professional services	228.9	245.3	248.2	250.3	251.8	253.5	254.7	231.1	247.8	251.2	253.5	255.1	256.1	257.8
Physicians' services	246.6	262.3	264.8	267.5	269.2	270.9	272.2	248.7	266.2	269.7	272.3	273.9	275.4	277.6
Dental services	216.0	234.1	237.2	238.8	240.3	241.1	242.2	219.0	235.7	238.9	241.2	243.1	243.0	244.5
Other professional services (12/77 = 100)	111.9	119.5	121.7	122.2	122.9	125.0	126.0	111.5	119.3	121.1	121.6	122.2	123.6	123.9
Other medical care services	299.0	325.3	325.8	326.3	327.2	329.7	332.3	298.1	324.4	325.3	326.5	326.5	329.8	333.3
Hospital and other medical services (12/77 = 100)	118.6	128.8	129.7	130.4	131.4	133.4	135.4	117.8	127.7	128.6	129.7	130.3	132.6	134.9
Hospital room	374.2	405.8	408.0	410.1	412.6	418.2	424.0	371.7	401.2	403.6	406.7	408.5	414.9	422.4
Other hospital and medical care services	117.4	127.8	128.8	129.5	130.6	132.8	135.1	116.7	126.9	128.0	129.1	129.7	132.3	134.4

23. Continued—Consumer Price Index—U.S. city average

[1967=100 unless otherwise specified]

General summary	All Urban Consumers							Urban Wage Earners and Clerical Workers (revised)						
	1979	1980						1979	1980					
	Aug.	Mar.	Apr.	May	June	July	Aug.	Aug.	Mar.	Apr.	May	June	July	Aug.
ENTERTAINMENT	190.2	200.6	202.5	204.0	205.3	206.6	208.0	188.9	199.5	201.3	202.4	204.0	204.4	205.6
Entertainment commodities	191.0	203.4	205.7	207.0	208.3	209.3	210.8	188.4	200.3	202.8	203.4	204.5	204.8	206.4
Reading materials (12/77 = 100)	111.1	119.4	120.1	121.5	122.3	123.0	123.2	110.7	119.1	119.7	121.1	121.8	122.5	122.7
Newspapers	214.0	232.4	234.8	237.2	239.0	240.0	240.7	213.7	232.0	234.3	236.4	238.2	239.3	239.9
Magazines, periodicals, and books (12/77 = 100)	113.7	120.8	120.8	122.4	123.1	124.1	124.0	113.5	120.7	120.6	122.3	122.8	123.7	123.7
Sporting goods and equipment (12/77 = 100)	110.4	117.2	118.7	118.5	118.6	119.5	120.9	105.4	112.4	114.1	114.0	114.2	114.2	115.3
Sport vehicles (12/77 = 100)	111.3	118.7	120.6	119.9	119.8	120.7	122.2	103.9	110.8	113.0	112.5	112.6	112.5	113.5
Indoor and warm weather sport equipment (12/77 = 100)	105.9	109.5	111.3	112.0	111.1	112.4	113.5	104.7	109.3	110.5	110.3	110.2	110.6	111.7
Bicycles	163.8	177.2	178.6	179.7	180.6	181.6	183.6	162.9	177.8	179.8	180.9	181.4	181.4	183.2
Other sporting goods and equipment (12/77 = 100)	108.6	112.9	113.1	113.7	114.6	115.0	116.5	107.2	113.4	114.0	114.6	115.3	116.1	116.9
Toys, hobbies, and other entertainment (12/77 = 100)	110.2	116.9	118.4	119.4	120.6	121.0	121.8	110.2	116.4	118.0	118.1	119.0	119.1	120.3
Toys, hobbies, and music equipment (12/77 = 100)	110.0	115.7	117.3	118.5	119.6	119.0	120.4	109.8	114.9	116.5	115.8	117.0	115.9	117.8
Photographic supplies and equipment (12/77 = 100)	108.2	118.2	120.1	120.8	121.8	122.8	122.5	107.6	116.9	118.9	120.5	121.1	122.4	121.7
Pet supplies and expense (12/77 = 100)	111.8	118.2	119.2	120.1	121.7	123.2	123.9	112.6	119.0	120.0	120.9	121.4	122.9	123.8
Entertainment services	189.4	197.0	198.5	200.1	201.4	203.1	204.3	190.7	199.1	199.9	201.8	204.3	204.8	205.2
Fees for participant sports (12/77 = 100)	112.3	117.5	119.0	120.2	120.9	122.1	123.2	112.3	118.8	119.3	120.5	121.5	121.9	121.8
Admissions (12/77 = 100)	114.7	118.1	118.7	118.8	120.4	121.3	122.1	115.9	120.0	120.1	121.0	123.2	123.2	124.2
Other entertainment services (12/77 = 100)	109.7	113.2	114.8	116.4	116.6	117.4	117.4	110.9	113.9	115.1	116.5	118.2	118.8	119.1
OTHER GOODS AND SERVICES	197.0	208.9	209.8	211.2	212.5	213.5	214.5	197.2	208.3	209.2	210.6	212.1	212.9	214.0
Tobacco products	189.9	198.4	198.8	200.4	203.4	203.8	204.5	190.1	198.6	198.9	200.5	203.6	204.0	204.4
Cigarettes	192.6	201.2	201.4	202.9	206.0	206.4	207.0	193.1	201.6	201.6	203.2	206.4	206.8	207.0
Other tobacco products and smoking accessories (12/77 = 100)	111.1	116.3	117.6	119.0	120.2	120.7	122.0	110.0	115.7	117.2	118.5	119.5	120.3	121.7
Personal care	197.5	208.1	209.7	211.6	212.4	214.4	215.4	197.6	207.7	209.5	210.9	211.8	213.1	214.7
Toilet goods and personal care appliances	189.7	200.2	201.8	204.1	205.1	207.9	209.0	190.2	199.6	201.8	203.9	204.5	206.6	208.8
Products for the hair, hairpieces and wigs (12/77 = 100)	111.1	116.6	117.9	120.0	120.7	121.4	121.7	110.5	114.9	117.9	120.0	119.7	120.5	122.5
Dental and shaving products (12/77 = 100)	113.6	119.2	120.5	121.0	122.3	124.0	125.2	112.1	118.4	119.3	118.8	120.4	122.0	123.6
Cosmetics, bath and nail preparations, manicure and eye makeup implements (12/77 = 100)	108.9	115.1	115.7	116.5	116.7	119.1	119.6	110.0	114.6	115.2	116.2	116.6	117.9	118.5
Other toilet goods and small personal care appliances (12/77 = 100)	107.6	114.7	115.4	117.4	117.6	119.4	119.9	109.7	116.6	117.2	119.0	119.1	120.4	121.5
Personal care services	205.0	215.7	217.2	218.8	219.6	220.9	221.7	205.0	215.8	217.2	218.1	219.1	219.8	220.7
Beauty parlor services for women	206.1	217.9	218.6	220.4	220.6	222.1	222.5	206.7	217.8	218.6	219.4	220.2	221.0	222.0
Haircuts and other barber shop services for men (12/77 = 100)	115.1	119.7	121.7	122.2	123.4	123.9	124.8	114.2	120.1	121.5	122.0	122.8	123.0	123.4
Personal and educational expenses	210.8	228.3	228.7	229.2	229.5	229.9	231.4	211.2	228.2	228.7	229.4	229.8	230.3	231.8
School books and supplies	192.6	206.9	207.1	207.1	207.1	207.2	207.7	195.2	210.7	210.9	210.9	210.9	210.9	211.5
Personal and educational services	215.4	233.6	234.0	234.7	235.0	235.5	237.1	215.5	232.9	233.4	234.2	234.8	235.4	237.1
Tuition and other school fees	109.4	118.6	118.6	118.6	118.6	118.7	119.4	109.4	118.7	118.7	118.7	118.7	118.8	119.5
College tuition (12/77 = 100)	109.7	117.9	117.9	117.9	117.9	118.0	118.7	109.7	117.9	117.9	117.9	117.9	118.0	118.7
Elementary and high school tuition (12/77 = 100)	108.3	120.9	120.9	120.9	120.9	120.9	122.0	108.4	120.7	120.7	120.7	120.7	120.7	121.8
Personal expenses (12/77 = 100)	114.8	125.0	126.1	127.8	128.7	129.5	130.7	114.4	122.1	123.3	125.1	126.4	127.4	128.5
Special indexes:														
Gasoline, motor oil, coolant, and other products	288.2	365.5	369.3	370.1	370.9	371.5	370.7	289.5	367.2	370.8	371.6	372.2	372.5	371.8
Insurance and finance	278.7	326.3	335.2	342.6	353.8	342.3	338.3	278.3	325.6	335.2	342.8	354.0	342.6	338.7
Utilities and public transportation	217.0	230.9	233.4	238.9	244.8	249.1	251.9	217.4	230.2	232.6	237.9	244.0	248.4	251.2
Housekeeping and home maintenance services	274.4	292.0	295.7	297.6	298.6	300.1	300.8	275.3	292.0	295.1	296.5	296.7	297.5	299.7

24. Consumer Price Index for All Urban Consumers: Cross classification of region and population size class by expenditure category and commodity and service group

[December 1977 = 100]

Category and group	Size class A (1.25 million or more)			Size class B (385,000 - 1.250 million)			Size class C (75,000 - 385,000)			Size class D (75,000 or less)		
	1980			1980			1980			1980		
	Apr.	June	Aug.	Apr.	June	Aug.	Apr.	June	Aug.	Apr.	June	Aug.
	Northeast											
EXPENDITURE CATEGORY												
All items	125.0	127.1	129.1	129.0	131.0	134.8	132.7	135.6	138.3	127.4	131.0	134.1
Food and beverages	124.5	126.2	129.5	127.1	128.6	131.0	128.8	130.5	133.4	125.2	127.6	130.4
Housing	126.1	129.6	131.2	130.0	133.1	139.7	140.2	144.9	148.4	127.9	133.5	138.7
Apparel and upkeep	112.5	111.5	112.0	111.1	111.3	113.1	112.7	113.2	113.9	113.0	115.0	115.0
Transportation	133.8	135.3	138.0	140.8	141.7	143.5	136.2	138.2	140.3	138.1	140.2	141.4
Medical care	122.4	123.0	125.1	122.4	123.2	124.4	122.5	123.5	125.0	122.7	124.4	125.2
Entertainment	116.7	117.7	118.3	117.9	120.2	121.1	115.7	116.5	118.9	121.5	123.8	124.4
Other goods and services	114.7	116.1	117.2	117.5	119.0	120.0	119.6	121.9	123.3	116.0	116.8	118.3
COMMODITY AND SERVICE GROUP												
Commodities	126.5	128.4	130.4	130.8	132.1	136.1	131.6	133.8	136.9	128.0	131.5	135.1
Commodities less food and beverages	127.8	129.7	131.0	132.5	133.8	138.5	132.9	135.4	138.6	129.3	133.3	137.3
Services	122.9	125.4	127.4	126.3	129.2	132.8	134.5	138.5	140.4	126.5	130.2	132.5
	North Central											
EXPENDITURE CATEGORY												
All items	133.2	136.7	136.8	130.9	134.4	134.7	128.9	131.9	132.9	128.7	131.9	131.7
Food and beverages	126.8	128.1	131.5	124.9	126.7	129.8	127.0	128.7	131.8	128.9	129.6	133.9
Housing	141.1	147.5	145.4	135.8	141.2	139.4	130.4	135.6	135.3	129.1	134.5	131.5
Apparel and upkeep	109.2	108.5	109.0	111.2	111.0	112.9	110.7	111.0	112.0	113.6	114.6	113.6
Transportation	138.1	140.1	141.0	137.6	140.7	141.3	139.3	140.4	141.6	137.4	139.8	140.4
Medical care	125.3	126.1	127.8	125.0	125.8	128.8	125.7	126.6	129.1	127.4	128.9	133.7
Entertainment	118.9	120.1	122.4	114.0	117.1	118.6	118.7	121.3	122.7	116.1	117.3	116.9
Other goods and services	116.2	117.9	118.6	121.5	123.2	124.4	116.7	117.5	118.8	119.8	121.6	122.9
COMMODITY AND SERVICE GROUP												
Commodities	130.9	132.9	134.5	127.9	129.9	132.4	128.1	129.7	131.9	126.0	128.0	129.8
Commodities less food and beverages	132.8	135.2	135.9	129.2	131.2	133.4	128.5	130.1	131.9	124.8	127.3	128.0
Services	136.6	142.3	140.3	135.6	141.7	138.4	130.3	135.5	134.5	132.9	138.1	134.8
	South											
EXPENDITURE CATEGORY												
All items	130.7	133.5	134.8	131.7	134.7	135.4	131.3	133.1	133.7	128.3	131.4	131.9
Food and beverages	126.4	128.5	132.3	127.0	127.9	131.3	127.8	129.1	132.8	126.2	128.1	132.4
Housing	133.9	138.5	138.2	136.7	141.4	140.5	136.6	138.9	137.1	129.7	134.0	132.4
Apparel and upkeep	116.4	116.4	116.7	112.9	112.6	114.1	108.2	107.3	109.4	104.7	107.2	105.6
Transportation	139.7	140.9	143.5	138.4	140.6	142.0	137.2	139.7	141.1	136.5	138.7	140.4
Medical care	121.9	124.1	125.4	123.3	125.8	127.5	126.4	127.5	128.8	131.2	133.9	133.9
Entertainment	115.7	116.3	119.5	119.8	122.5	124.0	118.3	120.3	122.0	124.4	128.0	130.5
Other goods and services	119.3	120.9	122.3	118.1	119.5	121.3	118.8	120.2	121.6	121.9	123.9	125.1
COMMODITY AND SERVICE GROUP												
Commodities	129.3	130.9	133.1	129.0	130.6	132.7	128.7	129.7	131.9	127.2	129.0	131.3
Commodities less food and beverages	130.6	132.0	133.5	129.8	131.7	133.3	129.1	130.0	131.5	127.7	129.3	130.9
Services	132.6	137.2	137.1	135.8	140.9	139.5	135.3	138.4	136.4	129.8	136.1	132.7
	West											
EXPENDITURE CATEGORY												
All items	132.8	136.1	135.5	134.1	136.0	136.8	131.4	133.6	134.2	130.4	134.3	135.4
Food and beverages	126.5	127.7	130.5	128.8	130.2	133.1	125.7	127.6	129.5	128.0	129.6	132.9
Housing	136.3	142.5	139.2	139.1	141.4	140.9	134.8	137.9	137.2	129.7	135.9	135.6
Apparel and upkeep	115.7	114.5	116.4	115.8	118.4	119.5	107.7	107.4	108.5	121.8	123.6	126.3
Transportation	141.2	141.1	142.8	139.2	140.7	142.4	141.2	142.1	143.6	139.6	141.7	143.5
Medical care	128.8	129.5	130.6	126.9	127.9	129.0	126.7	129.4	132.2	128.9	132.5	134.1
Entertainment	117.8	119.5	120.8	123.1	123.9	125.9	121.0	122.4	125.2	127.5	130.3	131.5
Other goods and services	121.2	121.7	122.8	121.5	124.3	125.7	117.7	119.0	120.2	122.5	124.4	124.5
COMMODITY AND SERVICE GROUP												
Commodities	129.5	130.4	132.3	131.5	132.5	134.6	129.0	130.1	132.2	129.8	131.7	134.1
Commodities less food and beverage	130.8	131.6	133.1	132.7	133.5	135.2	130.4	131.1	133.3	130.6	132.6	134.6
Services	137.2	143.6	139.7	137.7	140.8	140.0	134.8	138.5	137.1	131.2	138.2	137.3

25. Consumer Price Index—U.S. city average, and selected areas

[1967=100 unless otherwise specified]

Area[1]	All Urban Consumers							Urban Wage Earners and Clerical Workers (revised)						
	1979	1980						1979	1980					
	Aug.	Mar.	Apr.	May	June	July	Aug.	Aug.	Mar.	Apr.	May	June	July	Aug.
U.S. city average[2]	221.1	239.8	242.5	244.9	247.6	247.8	249.4	221.5	239.9	242.6	245.1	247.8	248.0	249.6
Anchorage, Alaska (10/67=100)	...	223.5	...	226.5	...	228.4	...	...	220.2	...	223.1	...	224.8	...
Atlanta, Ga.	216.9	...	235.3	...	242.2	...	246.5	219.0	...	239.3	...	244.7	...	249.7
Baltimore, Md.	...	245.0	...	249.1	...	252.4	...	...	243.9	...	247.8	...	250.8	...
Boston, Mass.	...	234.2	...	236.9	...	240.9	...	...	234.2	...	236.8	...	240.9	...
Buffalo, N.Y.	214.6	...	233.7	...	235.4	...	236.8	215.3	...	233.3	...	234.6	...	235.5
Chicago, Ill.-Northwestern Ind.	218.6	235.5	240.1	243.1	248.2	246.8	245.2	218.2	236.2	239.8	243.0	248.0	247.0	245.4
Cincinnati, Ohio-Ky.-Ind.	...	247.8	...	251.6	...	256.7	...	...	249.7	...	252.9	...	259.1	...
Cleveland, Ohio	221.4	...	247.3	...	250.1	...	253.9	222.6	...	248.4	...	250.5	...	254.4
Dallas-Ft. Worth, Tex.	222.9	...	251.4	...	256.4	...	258.5	223.0	...	249.6	...	254.5	...	257.4
Denver-Boulder, Colo.	...	255.2	...	258.0	...	261.6	...	...	259.4	...	262.4	...	265.8	...
Detroit, Mich.	222.2	242.9	248.2	248.4	256.7	253.7	255.1	222.6	242.4	248.0	248.9	256.8	252.1	253.8
Honolulu, Hawaii	207.2	...	227.4	...	227.5	...	230.1	207.2	...	228.4	...	228.0	...	229.5
Houston, Tex.	240.6	...	260.8	...	266.5	...	268.6	239.0	...	257.3	...	262.8	...	265.6
Kansas City, Mo.-Kansas	224.6	...	243.8	...	247.8	...	250.8	223.1	...	242.2	...	246.3	...	249.3
Los Angeles-Long Beach, Anaheim, Calif.	217.5	241.3	244.6	249.1	250.1	248.7	247.3	219.6	243.9	247.8	252.6	253.4	251.5	250.1
Miami, Fla. (11/77=100)	...	127.7	...	129.7	...	133.6	...	...	128.8	...	130.9	...	134.7	...
Milwaukee, Wis.	...	242.7	...	250.3	...	251.6	...	...	247.8	...	255.2	...	255.9	...
Minneapolis-St. Paul, Minn.-Wis.	227.0	...	244.3	...	246.4	...	250.1	228.5	...	245.7	...	248.4	...	250.6
New York, N.Y.-Northeastern N.J.	215.4	231.2	233.1	234.5	237.2	238.9	240.8	215.3	230.8	232.4	234.1	236.7	238.4	240.7
Northeast, Pa. (Scranton)	...	229.0	...	232.5	...	239.8	...	...	231.3	...	235.8	...	243.2	...
Philadelphia, Pa.-N.J.	217.7	234.6	237.4	239.4	242.5	244.1	246.0	218.1	235.1	237.9	239.9	243.8	245.3	247.3
Pittsburgh, Pa.	219.1	...	240.9	...	246.1	...	250.7	220.0	...	242.2	...	246.8	...	251.2
Portland, Oreg.-Wash.	...	253.6	...	257.3	...	252.7	...	...	251.7	...	255.9	...	252.2	...
St. Louis, Mo.-Ill.	...	238.1	...	241.8	...	245.0	...	...	238.5	...	242.6	...	245.9	...
San Diego, Calif.	...	258.3	...	260.7	...	269.9	...	...	255.6	...	264.8	...	265.7	...
San Francisco-Oakland, Calif.	218.3	...	243.5	...	248.0	...	251.0	218.6	...	242.8	...	247.7	...	251.4
Seattle-Everett, Wash.	...	243.8	...	249.6	...	255.1	...	...	241.3	...	246.8	...	251.6	...
Washington, D.C.-Md.-Va.	...	238.8	...	241.2	...	247.2	...	...	239.2	...	242.0	...	248.7	...

[1] The areas listed include not only the central city but the entire portion of the Standard Metropolitan Statistical Area, as defined for the 1970 Census of Population, except that the Standard Consolidated Area is used for New York and Chicago.

[2] Average of 85 cities.

26. Producer Price Indexes, by stage of processing

[1967=100]

Commodity grouping	Annual average 1979	1979				1980								
		Sept.	Oct.	Nov.	Dec.	Jan.	Feb	Mar.	Apr.[1]	May[1]	June	July	Aug.	Sept.
FINISHED GOODS														
Finished goods	216.1	220.7	224.2	226.3	228.1	232.4	235.7	238.5	r240.5	r241.6	242.6	246.6	249.0	248.9
Finished consumer goods	215.7	221.7	224.7	227.1	229.1	233.5	237.6	240.8	r242.1	r243.4	244.5	249.1	251.8	251.8
Finished consumer foods	226.3	228.1	226.7	230.5	232.1	231.4	231.6	233.1	r228.9	230.0	231.0	238.5	248.9	245.8
Crude	231.4	214.0	215.5	228.1	227.9	226.0	220.1	230.9	r222.3	r226.1	223.4	230.7	240.7	253.2
Processed	223.8	227.0	225.5	228.6	230.3	229.7	230.4	231.1	r227.2	228.1	229.4	238.0	243.0	242.9
Nondurable goods less foods	225.9	239.0	243.3	245.5	247.9	254.7	262.7	270.9	r276.9	r279.6	280.3	282.8	284.3	284.7
Durable goods	181.9	182.9	189.0	190.0	191.8	199.1	202.1	200.3	r201.2	r201.0	202.7	205.3	206.3	204.9
Consumer nondurable goods less food and energy	(2)	176.4	177.6	176.3	179.1	182.9	185.1	187.0	189.3	r190.6	191.3	193.4	194.6	195.5
Capital equipment	216.7	217.8	222.8	223.9	225.3	229.3	230.5	232.2	r236.2	r236.6	237.5	240.2	241.9	241.3
INTERMEDIATE MATERIALS														
Intermediate materials, supplies, and components	242.8	251.0	255.0	256.3	258.7	265.9	271.6	273.7	r275.1	r276.4	277.7	280.3	282.6	284.1
Materials and components for manufacturing	234.1	240.7	244.3	245.5	247.8	255.5	259.8	259.5	r260.3	r262.2	263.9	264.7	267.2	269.4
Materials for food manufacturing	223.6	228.9	225.5	227.8	230.4	226.0	245.6	240.1	236.7	r255.5	260.2	262.6	277.5	275.9
Materials for nondurable manufacturing	220.1	227.6	231.4	233.4	235.3	241.1	244.0	247.4	r253.0	r255.5	256.0	256.9	258.8	258.3
Materials for durable manufacturing	271.3	278.8	284.7	284.6	287.8	303.7	306.5	301.4	r296.6	r295.5	298.3	297.9	298.1	301.4
Components for manufacturing	206.8	211.3	213.2	214.8	216.3	219.2	223.2	225.3	r227.7	r228.6	229.6	231.2	234.5	236.2
Materials and components for construction	246.9	252.5	254.7	254.0	253.7	257.7	262.1	265.5	r265.6	r265.7	267.3	269.2	271.1	271.5
Processed fuels and lubricants	360.9	399.4	410.6	416.5	424.6	444.0	464.0	481.0	r486.9	r488.8	489.6	504.9	508.1	510.2
Manufacturing industries	298.9	317.2	322.5	325.2	332.2	340.5	351.4	356.6	r358.3	r364.3	368.2	378.4	381.3	385.9
Nonmanufacturing industries	422.9	483.0	500.6	510.0	519.1	550.3	579.9	609.5	r620.0	r617.2	614.7	635.3	638.9	638.2
Containers	235.3	237.9	242.6	243.8	247.1	250.9	251.6	253.8	r262.6	r263.8	265.3	267.1	266.5	266.8
Supplies	217.6	221.2	224.9	226.4	229.2	232.5	239.0	240.6	r241.7	r241.8	242.3	246.2	248.2	251.7
Manufacturing industries	204.4	209.4	212.2	213.7	216.3	220.9	222.5	223.7	r227.1	r228.5	230.2	232.3	232.2	233.1
Nonmanufacturing industries	224.7	227.5	231.7	233.3	236.1	236.7	247.8	249.8	r249.5	r248.9	248.8	253.6	256.7	261.5
Feeds	224.1	224.0	226.9	226.9	230.4	224.4	223.3	218.9	r206.6	r210.5	206.1	223.0	235.4	251.9
Other supplies	221.5	224.9	228.9	231.2	233.9	236.3	249.6	252.9	r255.2	r253.7	254.1	256.6	257.6	259.8
CRUDE MATERIALS														
Crude materials for further processing	282.2	288.3	289.5	290.8	296.2	298.8	308.4	303.5	r297.0	300.7	299.5	318.3	327.7	331.8
Foodstuffs and feedstuffs	247.2	248.7	247.5	246.4	249.7	243.0	252.6	245.9	235.5	r242.9	242.5	263.3	276.6	278.7
Nonfood materials	(2)	363.1	368.9	374.9	384.2	398.9	414.3	412.7	r413.9	r410.5	407.9	416.8	424.3	436.3
Nonfood materials except fuel	284.5	293.3	298.1	304.6	311.6	330.1	341.7	339.8	r337.0	r329.3	324.4	331.3	340.5	348.1
Manufacturing industries	293.3	302.8	307.8	314.9	322.5	342.1	354.9	352.5	r349.1	r340.3	334.6	342.3	352.6	360.6
Construction	207.0	209.9	212.6	214.8	216.6	226.0	228.7	229.9	232.4	r232.8	234.2	235.3	235.8	239.6
Crude fuel	568.2	604.0	612.9	617.4	634.5	636.3	664.8	664.1	r678.9	r690.3	695.5	711.0	713.2	740.5
Manufacturing industries	607.6	651.8	662.5	667.8	688.3	690.3	725.7	724.5	r742.2	r756.1	762.6	781.9	784.5	818.0
Nonmanufacturing industries	548.3	577.8	585.5	589.3	603.9	605.7	628.8	629.8	r641.3	r650.8	655.1	667.8	669.6	692.3
SPECIAL GROUPINGS														
Finished goods excluding foods	(2)	216.2	221.3	222.8	224.6	230.5	234.6	237.8	r241.7	r242.8	243.8	246.4	247.9	247.4
Finished consumer goods excluding foods	208.2	216.3	220.6	223.1	225.3	232.3	238.3	242.3	246.2	r247.6	248.8	251.4	252.7	252.3
Finished consumer goods less energy	(2)	200.9	202.8	204.7	206.1	209.4	211.2	211.9	211.5	r212.4	213.5	216.0	220.7	220.9
Intermediate materials less foods and feeds	244.0	252.5	256.8	258.1	260.5	268.4	273.7	276.2	r278.0	r278.6	279.9	282.3	283.9	285.2
Intermediate materials less energy	(2)	242.9	246.4	247.1	249.1	255.3	259.8	260.5	261.4	r262.6	264.0	265.5	267.8	269.3
Intermediate foods and feeds	223.2	226.6	226.0	226.9	229.8	224.8	237.5	232.4	r227.3	239.7	242.1	246.7	262.7	267.1
Crude materials less agricultural products	390.5	406.6	417.0	424.1	435.0	452.9	469.3	469.0	r469.9	r464.7	463.7	470.5	479.3	491.5
Crude materials less energy	(2)	244.3	243.7	243.8	246.9	244.0	254.8	248.4	r238.7	241.5	238.9	237.0	268.7	270.7

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[1] Data for April and May 1980 have been revised to reflect the availability of late reports and corrections by respondents. All data are subject to revision 4 months after original publication.

[2] Not available.

27. Producer Price Indexes, by commodity groupings

[1967 = 100 unless otherwise specified]

Code	Commodity group and subgroup	Annual average 1979	1979				1980								
			Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.[1]	May[1]	June	July	Aug.	Sept.
	All commodities	235.6	242.0	245.6	247.2	249.7	254.9	260.2	261.9	[r]262.8	[r]264.2	265.2	269.8	273.1	274.1
	All commodities (1957-59 = 100)	250.0	256.7	260.6	262.3	267.3	270.2	275.6	277.4	[r]278.8	[r]280.3	282.5	286.3	289.8	290.8
	Farm products and processed foods and feeds	229.8	231.8	230.6	232.3	234.6	231.9	237.0	234.9	[r]229.3	[r]233.8	234.2	246.1	254.8	256.3
	Industrial commodities	236.5	244.2	249.0	250.6	253.1	260.6	265.9	268.6	[r]271.3	[r]271.9	273.0	275.6	277.3	278.2
	FARM PRODUCTS AND PROCESSED FOODS AND FEEDS														
01	Farm products	241.4	241.0	239.6	240.2	242.5	236.4	242.3	239.3	228.9	[r]233.5	233.4	253.9	263.6	266.6
01-1	Fresh and dried fruits and vegetables	229.0	208.3	218.0	216.5	210.7	219.0	220.6	218.5	[r]223.2	[r]244.0	233.4	247.5	253.8	266.0
01-2	Grains	214.8	224.4	229.0	226.6	227.9	214.6	223.3	217.9	210.8	219.0	215.3	244.8	256.5	260.6
01-3	Livestock	260.3	256.4	251.7	248.3	252.5	247.8	257.2	251.8	230.5	233.3	240.0	260.5	275.7	266.8
01-4	Live poultry	194.3	173.5	162.0	195.5	194.7	195.2	184.6	180.1	171.9	171.3	166.6	227.2	224.5	241.0
01-5	Plant and animal fibers	209.9	211.3	212.9	215.4	222.0	239.0	269.5	254.9	266.9	272.7	247.0	267.0	274.6	295.2
01-6	Fluid milk	250.1	258.5	260.8	262.5	264.0	262.3	263.6	263.1	265.4	265.4	265.5	265.8	271.6	275.5
01-7	Eggs	176.5	175.4	155.9	178.7	198.4	165.6	150.4	184.2	153.3	[r]140.5	146.8	159.3	176.9	188.4
01-8	Hay, hayseeds, and oilseeds	244.3	240.9	235.6	229.8	230.3	218.1	224.7	215.9	205.1	[r]206.9	207.4	251.4	261.5	260.7
01-9	Other farm products	289.0	315.9	313.6	318.3	319.4	301.1	304.7	311.5	304.8	311.0	309.4	292.4	282.7	283.9
02	Processed foods and feeds	222.5	225.8	224.8	227.1	229.3	228.5	233.1	231.6	[r]228.6	233.1	233.8	241.1	249.1	249.8
02-1	Cereal and bakery products	210.3	218.7	219.8	222.5	223.6	225.4	229.9	231.8	[r]232.4	[r]234.7	233.1	234.6	235.5	238.0
02-2	Meats, poultry, and fish	242.0	239.9	234.2	239.3	242.8	239.6	239.6	239.2	226.0	[r]224.5	226.6	248.5	259.9	257.7
02-3	Dairy products	211.2	218.3	218.1	219.3	219.9	221.0	220.8	223.0	[r]227.5	[r]228.5	229.9	230.5	233.0	234.1
02-4	Processed fruits and vegetables	221.9	225.1	223.4	222.4	222.6	222.9	223.3	223.7	[r]224.6	[r]225.4	227.3	229.5	230.6	231.9
02-5	Sugar and confectionery	214.7	217.2	218.9	222.9	234.4	235.0	287.5	264.1	[r]275.0	[r]327.8	324.7	313.7	347.1	341.4
02-6	Beverages and beverage materials	210.7	217.9	218.9	221.2	221.6	224.0	224.8	225.9	227.9	[r]231.2	233.6	234.4	237.3	236.2
02-7	Fats and oils	243.3	253.3	246.0	241.9	235.6	225.1	226.4	222.6	[r]214.5	[r]212.0	213.0	221.7	236.8	237.8
02-8	Miscellaneous processed foods	216.5	219.0	220.8	222.2	223.1	225.4	223.5	224.7	225.1	[r]223.7	223.0	223.6	224.0	226.9
02-9	Manufactured animal feeds	219.4	219.2	224.0	222.4	224.9	219.7	219.8	216.6	[r]205.0	[r]207.2	205.4	220.6	230.1	243.8
	INDUSTRIAL COMMODITIES														
03	Textile products and apparel	168.7	171.3	172.0	172.8	173.1	175.2	176.5	179.3	[r]181.2	[r]182.0	182.4	184.3	185.2	186.2
03-1	Synthetic fibers (12/75 = 100)	119.0	123.6	124.7	124.2	124.7	127.0	127.2	129.1	[r]130.4	[r]133.2	134.8	136.3	137.8	139.3
03-2	Processed yarns and threads (12/75 = 100)	109.2	111.7	112.1	112.5	112.7	114.6	118.0	119.3	122.[illegible]	[r]124.2	122.4	121.9	122.6	123.4
03-3	Gray fabrics (12/75 = 100)	127.1	128.7	129.7	130.7	132.3	132.7	132.3	136.8	[r]137.0	[r]136.5	133.7	134.8	136.6	139.2
03-4	Finished fabrics (12/75 = 100)	107.4	109.1	108.9	109.7	109.9	110.5	111.1	113.2	114.5	[r]115.3	115.5	116.5	116.7	116.8
03-81	Apparel	160.4	161.6	162.2	163.1	162.6	165.5	166.8	168.0	[r]170.0	[r]170.2	172.0	174.1	174.8	174.7
03-82	Textile housefurnishings	190.4	193.9	196.3	196.5	197.1	199.0	199.7	201.3	201.6	202.6	202.7	210.7	211.0	217.1
04	Hides, skins, leather, and related products	252.4	251.1	253.9	248.0	249.2	255.7	250.9	246.8	[r]243.5	240.7	241.0	244.9	251.1	247.8
04-1	Hides and skins	535.4	465.3	478.8	447.6	443.9	468.8	404.8	348.7	328.6	289.7	315.7	356.6	398.4	356.1
04-2	Leather	356.7	330.0	343.6	319.8	324.8	347.6	340.3	311.0	297.6	290.4	284.4	292.2	314.2	300.2
04-3	Footwear	218.0	226.9	227.5	227.9	227.9	229.1	228.0	231.8	231.9	231.9	232.1	232.9	233.9	235.7
04-4	Other leather and related products	205.0	210.1	209.7	208.4	208.0	213.1	214.8	217.8	[r]216.2	[r]217.4	216.0	216.3	217.4	217.6
05	Fuels and related products and power	408.1	454.8	468.5	476.9	487.9	508.0	532.7	553.5	[r]566.6	[r]572.1	574.8	585.4	589.5	593.0
05-1	Coal	450.9	452.5	454.6	455.1	458.6	459.3	459.6	461.7	[r]465.2	[r]466.5	466.9	467.8	469.0	472.1
05-2	Coke	429.2	430.6	431.2	431.2	431.2	430.6	430.6	430.6	430.6	430.6	430.6	430.6	430.6	430.6
05-3	Gas fuels[1]	544.1	603.4	619.9	637.0	662.4	677.5	716.6	716.6	[r]730.1	[r]745.1	750.1	763.3	762.3	785.3
05-4	Electric power	270.2	280.5	283.5	281.9	287.0	290.5	299.3	305.5	[r]310.1	[r]316.5	320.5	331.4	333.8	338.6
05-61	Crude petroleum[2]	376.5	422.1	436.7	450.4	470.8	513.6	515.1	522.8	533.9	540.1	549.0	550.9	566.3	570.8
05-7	Petroleum products, refined[3]	444.8	513.7	533.7	545.4	555.2	583.3	620.4	659.0	[r]678.0	[r]680.9	681.1	693.3	697.5	695.5
06	Chemicals and allied products	222.3	230.8	234.2	236.0	238.2	246.0	248.7	252.8	[r]259.8	[r]262.5	261.7	262.7	264.3	263.2
06-1	Industrial chemicals[4]	264.0	280.0	285.7	288.4	292.3	302.9	307.9	313.3	[r]322.1	[r]328.5	327.3	327.8	329.0	326.2
06-21	Prepared paint	204.4	206.0	206.7	209.4	210.7	223.3	223.3	228.7	231.5	[r]238.8	236.8	236.8	239.1	239.6
06-22	Paint materials	241.2	252.0	253.6	256.6	256.8	259.9	263.4	267.5	[r]272.1	[r]273.9	274.0	277.0	278.2	278.9
06-3	Drugs and pharmaceuticals	159.4	161.0	162.8	163.0	164.4	166.5	167.6	168.9	[r]172.6	[r]172.8	173.0	175.4	175.7	176.7
06-4	Fats and oils, inedible	376.7	379.9	368.9	344.3	327.1	325.6	302.2	299.9	298.2	294.7	255.8	260.0	307.6	304.5
06-5	Agricultural chemicals and chemical products	214.4	219.4	224.3	229.5	232.9	241.9	248.0	256.1	[r]258.5	[r]258.5	257.7	258.2	259.6	260.4
06-6	Plastic resins and materials	235.9	252.0	260.0	261.4	262.5	270.4	272.1	274.5	[r]287.6	[r]288.4	287.9	286.2	282.0	277.1
06-7	Other chemicals and allied products	191.8	195.8	197.0	198.8	201.4	209.4	211.3	215.0	[r]223.1	[r]224.8	226.3	228.0	229.9	229.4
07	Rubber and plastic products	194.3	200.7	203.0	204.9	205.9	207.8	210.7	212.7	[r]214.1	[r]215.0	217.1	218.3	219.9	221.2
07-1	Rubber and rubber products	209.2	217.1	220.3	223.7	224.3	226.1	231.5	231.5	[r]233.4	[r]234.7	237.6	239.4	240.7	242.5
07-11	Crude rubber	221.4	232.2	236.5	237.2	240.2	252.7	263.9	255.8	[r]264.7	[r]263.9	263.2	262.5	263.4	266.3
07-12	Tires and tubes	205.9	215.0	218.3	223.1	223.1	225.1	231.6	231.6	[r]231.8	[r]233.2	234.6	237.0	237.0	239.9
07-13	Miscellaneous rubber products	208.4	211.9	214.7	217.1	217.7	215.9	217.8	220.6	[r]222.1	[r]224.0	229.7	231.8	234.6	234.8
07-2	Plastic products (6/78 = 100)	110.0	113.0	114.0	114.3	115.2	116.3	116.7	119.0	[r]119.7	[r]119.9	120.8	121.1	122.4	122.8
08	Lumber and wood products	300.4	309.7	308.8	298.9	290.1	290.0	294.7	294.9	[r]275.6	[r]272.1	279.8	288.9	295.3	291.8
08-1	Lumber	354.3	373.9	370.3	355.6	339.5	336.3	341.4	340.6	310.1	[r]301.4	313.0	327.3	333.5	326.6
08-2	Millwork	254.3	250.9	255.6	252.3	250.3	254.1	258.0	262.2	[r]257.5	[r]251.8	253.0	255.9	260.3	264.5
08-3	Plywood	250.5	257.9	254.0	242.2	237.9	238.2	243.4	240.0	[r]219.8	[r]230.6	241.6	251.1	262.3	253.6
08-4	Other wood products	235.4	238.0	237.7	239.9	240.5	242.2	243.4	243.1	241.7	240.7	238.7	236.9	236.2	236.8

See footnotes at end of table.

27. Continued—Producer Price Indexes, by commodity groupings

[1967=100 unless otherwise specified]

Code	Commodity group and subgroup	Annual average 1979	1979				1980								
			Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.[1]	May[1]	June	July	Aug.	Sept.
	INDUSTRIAL COMMODITIES—Continued														
09	Pulp, paper, and allied products	219.0	223.0	227.5	229.5	231.7	237.4	239.2	242.6	r247.8	r249.2	251.3	252.4	252.2	252.7
09-1	Pulp, paper, and products, excluding building paper and board	220.7	224.3	229.0	231.1	233.4	239.2	240.8	244.1	r249.4	r250.6	252.7	253.7	253.6	254.1
09-11	Woodpulp	314.3	320.6	337.5	338.0	338.0	356.6	356.4	356.8	r385.6	r385.6	388.0	388.6	388.6	390.6
09-12	Wastepaper	206.6	206.7	206.7	220.0	221.2	222.9	223.4	224.9	r242.5	226.1	206.6	194.0	193.8	192.5
09-13	Paper	229.6	230.3	238.7	241.8	242.7	245.5	247.2	250.3	r253.5	r256.1	258.3	258.5	258.6	258.9
09-14	Paperboard	202.1	209.6	211.3	212.8	215.4	221.8	223.7	227.4	r232.1	r236.5	242.7	237.5	238.1	239.2
09-15	Converted paper and paperboard products	209.9	214.6	217.3	219.0	221.9	227.7	229.5	233.0	r236.7	r237.6	239.3	242.4	242.0	242.5
09-2	Building paper and board	182.4	182.6	183.5	183.6	184.6	186.2	191.7	198.7	201.3	206.8	208.9	211.8	209.2	208.6
10	Metals and metal products	259.3	263.7	269.6	271.1	273.6	284.6	288.9	286.8	r284.4	r281.8	282.4	281.5	282.7	286.2
10-1	Iron and steel	283.5	285.5	289.2	292.0	292.8	297.4	300.3	301.8	r307.2	r304.8	303.1	300.4	302.3	304.3
10-13	Steel mill products	280.4	284.8	288.3	288.8	289.3	293.6	294.2	295.5	304.1	305.5	305.8	301.0	301.0	301.0
10-2	Nonferrous metals	261.7	269.3	283.1	284.1	291.9	326.3	337.7	321.4	r298.3	r289.7	290.6	289.0	288.9	297.9
10-3	Metal containers	269.2	268.7	279.9	280.9	280.9	283.3	284.4	288.5	304.1	302.7	302.7	303.0	303.2	303.2
10-4	Hardware	218.7	221.5	224.0	225.5	226.2	228.2	230.4	231.5	r237.3	r238.4	239.7	241.9	242.6	245.1
10-5	Plumbing fixtures and brass fittings	217.1	223.0	223.5	225.4	226.5	232.8	236.7	242.4	r243.8	r247.5	248.5	249.6	250.4	250.5
10-6	Heating equipment	187.1	191.3	192.2	193.1	195.6	199.5	202.6	202.6	204.2	204.0	205.1	206.1	208.0	208.8
10-7	Fabricated structural metal products	248.9	253.7	256.3	256.7	257.7	258.9	259.7	265.1	r269.1	r269.9	270.0	271.9	272.6	273.8
10-8	Miscellaneous metal products	231.4	236.7	238.5	238.6	239.1	240.6	241.6	244.2	r246.1	r246.7	251.4	251.8	254.1	255.8
11	Machinery and equipment	213.9	217.7	220.0	221.3	223.4	227.6	230.2	232.5	r236.4	r237.6	238.8	241.3	242.2	244.3
11-1	Agricultural machinery and equipment	232.1	237.4	240.0	243.4	244.2	248.4	249.9	252.0	r254.4	r256.4	255.7	257.3	258.9	262.5
11-2	Construction machinery and equipment	256.2	258.9	263.9	265.4	268.8	276.0	278.3	279.5	r284.2	r285.9	286.8	290.9	292.8	295.0
11-3	Metalworking machinery and equipment	241.3	246.4	249.6	252.2	254.6	258.9	261.8	264.1	r270.2	r272.9	275.4	278.0	278.9	280.2
11-4	General purpose machinery and equipment	236.4	240.2	242.8	244.2	247.6	251.0	253.3	256.7	r261.1	r262.8	264.3	265.8	266.6	268.9
11-6	Special industry machinery and equipment	247.0	251.2	253.8	254.9	256.1	260.6	263.2	265.5	271.9	r273.0	274.5	277.2	277.3	283.2
11-7	Electrical machinery and equipment	178.9	182.5	184.3	184.9	186.6	190.6	194.3	196.5	r198.9	r199.9	201.2	203.5	204.7	206.0
11-9	Miscellaneous machinery	208.9	212.0	213.6	214.9	216.3	220.3	221.1	223.2	r227.2	r227.3	227.8	230.7	231.5	233.1
12	Furniture and household durables	171.3	172.7	175.1	176.4	177.9	183.4	185.6	185.7	r184.4	r185.4	185.3	186.7	187.3	187.8
12-1	Household furniture	186.3	188.5	190.1	193.0	194.8	197.4	198.5	198.9	r200.3	r203.0	202.0	204.3	206.3	206.6
12-2	Commercial furniture	221.8	222.7	223.3	223.3	225.1	226.9	231.4	232.8	r233.6	r233.9	235.5	237.1	237.1	237.4
12-3	Floor coverings	147.9	150.4	152.1	152.8	152.9	159.0	158.5	160.8	r162.2	r161.9	162.2	163.2	163.5	163.9
12-4	Household appliances	160.9	162.7	163.2	164.5	165.3	166.5	168.9	169.9	r171.1	r173.2	174.7	174.8	175.0	176.2
12-5	Home electronic equipment	91.3	90.3	90.3	90.3	90.5	91.0	91.2	91.3	r91.4	r92.0	89.3	89.3	88.9	89.1
12-6	Other household durable goods	228.2	231.0	245.6	248.2	254.4	287.4	295.3	288.3	r267.3	r265.6	266.1	271.1	273.0	273.2
13	Nonmetallic mineral products	248.6	254.6	256.2	257.4	259.6	268.4	274.0	276.5	r283.7	r284.0	285.2	284.0	284.8	286.0
13-11	Flat glass	183.9	184.5	184.7	185.4	186.4	191.0	191.0	191.4	r195.3	r195.3	193.6	194.3	199.5	199.7
13-2	Concrete ingredients	244.0	246.7	248.3	249.6	251.0	265.0	266.6	267.5	r271.7	r272.4	271.9	272.5	272.7	274.6
13-3	Concrete products	244.1	248.7	250.1	250.6	253.2	265.4	266.7	269.1	r272.9	r275.2	275.9	275.9	275.9	277.5
13-4	Structural clay products excluding refractories	217.9	223.7	221.1	221.8	226.7	229.6	231.0	231.4	r235.0	r230.0	230.2	230.2	229.8	230.2
13-5	Refractories	236.5	242.4	244.6	247.4	248.0	248.5	251.1	253.9	r261.7	r264.4	266.7	269.6	271.4	271.4
13-6	Asphalt roofing	325.3	333.0	337.5	347.4	346.5	356.6	372.5	388.8	r408.9	r401.1	400.7	412.0	409.4	408.2
13-7	Gypsum products	252.3	254.9	255.3	256.2	255.0	255.4	262.2	267.6	264.0	256.5	257.1	253.1	251.8	251.8
13-8	Glass containers	261.1	265.2	265.2	265.2	274.2	274.3	274.3	274.3	r294.3	r294.3	294.6	294.6	294.6	294.6
13-9	Other nonmetallic minerals	313.7	336.0	341.2	342.2	342.2	351.8	381.7	387.0	r399.6	r400.7	394.5	396.1	397.1	400.7
14	Transportation equipment (12/68 = 100)	188.1	186.6	194.2	194.8	195.6	198.7	198.2	198.8	r203.2	r202.5	202.2	204.9	208.6	204.2
14-1	Motor vehicles and equipment	190.5	186.6	197.1	197.4	198.2	200.7	200.1	200.7	r205.4	r204.5	204.4	207.1	211.4	205.3
14-4	Railroad equipment	277.3	281.6	286.3	288.2	289.0	297.5	299.3	302.1	r309.9	r310.5	306.2	316.4	316.4	320.4
15	Miscellaneous products	208.7	213.1	218.9	221.4	227.4	242.9	262.9	256.1	r252.8	r251.7	257.4	261.3	258.9	264.4
15-1	Toys, sporting goods, small arms, ammunition	176.2	179.8	181.1	181.2	183.0	190.9	193.5	194.5	r195.4	r196.0	197.2	200.3	201.0	201.6
15-2	Tobacco products	217.8	221.9	222.1	222.2	226.6	236.6	237.2	237.3	r238.1	r247.7	245.1	247.6	247.6	247.6
15-3	Notions	191.8	191.9	195.7	195.8	196.6	203.1	203.2	207.2	216.8	217.0	217.0	221.7	223.6	223.9
15-4	Photographic equipment and supplies	153.7	154.3	157.4	161.2	164.3	165.9	218.6	219.1	r212.3	r199.6	203.4	202.0	202.3	201.3
15-51	Mobile homes (12/74 = 100)	138.1	140.7	142.9	144.0	144.1	144.7	146.8	147.1	r149.4	r150.4	150.6	151.2	151.4	151.0
15-9	Other miscellaneous products	263.7	272.5	288.3	293.3	308.8	351.6	378.3	351.3	r340.9	r340.2	358.8	369.4	363.3	380.5

[1] Data for April and May 1980 have been revised to reflect the availability of late reports and corrections by respondents. All data are subject to revision 4 months after original publication.

[2] Prices for natural gas are lagged 1 month.

[3] Includes only domestic production.

[4] Most prices for refined petroleum products are lagged 1 month.

[5] Some prices for industrial chemicals are lagged 1 month.

28. Producer Price Indexes, for special commodity groupings

[1967=100 unless otherwise specified]

Commodity grouping	Annual average 1979	1979				1980								
		Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.[1]	May[1]	June	July	Aug.	Sept.
All commodities — less farm products	234.4	241.4	245.3	247.0	249.5	255.7	260.9	262.9	r264.8	r265.9	267.0	270.3	273.0	273.9
All foods	226.4	228.5	226.9	230.0	232.2	231.2	235.8	234.8	r231.9	r237.3	237.7	245.4	253.9	254.2
Processed foods	227.2	230.8	228.9	231.8	234.2	233.3	238.6	236.9	r234.1	239.0	239.9	247.1	255.5	254.8
Industrial commodities less fuels	218.3	222.0	225.9	226.9	228.5	234.7	238.0	238.9	r240.5	r240.6	241.6	243.3	244.8	245.4
Selected textile mill products (Dec. 1975 = 100)	113.9	115.8	116.4	117.0	117.2	118.9	119.3	121.3	r122.2	r122.9	123.5	125.4	125.8	126.9
Hosiery	112.6	112.7	113.3	114.6	115.3	119.2	119.4	120.3	r121.1	121.5	122.2	123.1	125.5	126.1
Underwear and nightwear	168.9	170.8	171.2	171.6	172.9	175.3	177.4	182.1	r182.4	182.8	187.4	188.5	189.4	189.7
Chemicals and allied products, including synthetic rubber and manmade fibers and yarns	212.4	220.9	224.3	226.3	228.7	236.3	239.2	243.2	r250.0	r252.8	252.6	253.8	254.7	253.8
Pharmaceutical preparations	152.0	153.6	155.6	155.4	156.9	159.2	160.3	161.7	r165.6	r165.9	166.1	167.8	168.2	168.8
Lumber and wood products, excluding millwork and other wood products	325.0	341.0	337.3	323.3	310.8	308.6	313.9	312.2	r294.7	r282.0	293.5	306.4	314.3	306.7
Special metals and metal products	234.6	236.4	243.4	244.5	246.3	253.7	256.0	255.1	r255.8	r254.0	254.2	254.9	257.5	257.0
Fabricated metal products	236.8	241.1	244.0	244.6	245.3	247.2	248.4	252.0	r255.9	r256.8	258.9	260.0	261.3	262.7
Copper and copper products	299.3	200.5	212.2	213.8	217.1	227.7	260.7	240.9	r222.0	r212.2	206.7	211.7	209.0	214.1
Machinery and motive products	207.0	208.5	213.4	214.3	215.9	219.7	220.9	222.5	r226.7	r227.1	227.7	230.2	232.5	231.7
Machinery and equipment, except electrical	234.2	238.2	240.8	242.5	244.8	249.1	251.1	253.5	r258.2	r259.6	260.8	263.2	264.1	266.7
Agricultural machinery, including tractors	237.4	243.6	246.3	250.8	251.5	256.1	257.2	260.0	r261.9	r263.9	262.5	264.1	266.4	270.8
Metalworking machinery	259.1	265.6	269.5	272.7	276.0	281.9	284.4	287.5	r293.6	296.8	299.9	303.6	304.7	306.5
Numerically controlled machine tools (Dec. 1971 = 100)	199.8	206.5	208.5	208.8	211.2	213.1	215.4	216.7	r223.8	r226.9	228.7	228.7	229.3	230.0
Total tractors	251.6	256.0	261.2	262.5	266.2	273.0	275.1	276.6	r280.8	r282.9	281.8	286.1	289.3	294.0
Agricultural machinery and equipment less parts	232.7	238.4	241.0	244.9	245.8	250.0	251.5	254.1	r256.2	r258.0	256.8	258.9	260.8	264.6
Farm and garden tractors less parts	236.1	244.1	247.6	250.5	251.1	256.0	257.5	261.5	r263.7	r264.7	262.7	264.9	269.5	276.3
Agricultural machinery excluding tractors less parts	238.7	243.5	245.4	251.3	252.0	255.4	257.3	258.9	r260.7	r263.6	262.6	263.7	264.3	266.6
Industrial valves	256.0	260.1	261.8	263.1	266.1	271.0	273.5	280.0	r287.8	r288.4	288.6	289.5	289.6	290.1
Industrial fittings	261.7	264.3	272.6	276.8	276.8	276.8	280.4	282.8	r289.9	291.5	295.9	295.9	295.9	295.9
Abrasive grinding wheels	226.2	224.6	239.0	239.0	239.0	239.0	244.0	244.0	r261.4	261.3	261.3	261.3	261.3	261.3
Construction materials	251.4	256.6	258.5	256.7	255.4	259.3	262.6	265.1	r262.3	r261.8	264.1	266.5	268.9	268.8

[1] Data for April and May 1980 have been revised to reflect the availability of late reports and corrections by respondents. All data are subject to revision 4 months after original publication.

29. Producer Price Indexes, by durability of product

[1967=100]

Commodity grouping	Annual average 1979	1979				1980								
		Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.[1]	May[1]	June	July	Aug.	Sept.
Total durable goods	226.9	230.1	234.6	235.3	237.0	243.8	247.1	247.0	r247.7	r247.1	248.3	250.3	252.1	252.9
Total nondurable goods	241.7	251.1	253.7	256.2	259.3	263.2	270.2	273.4	r274.4	r277.6	278.4	285.3	289.9	291.1
Total manufactures	228.8	235.2	239.0	240.6	242.6	248.4	253.2	255.2	r257.0	r258.3	259.4	262.5	265.0	265.4
Durable	226.1	229.4	234.0	234.6	236.2	242.9	245.7	245.6	r246.7	r246.7	248.2	250.1	251.7	252.3
Nondurable	231.1	241.0	244.0	246.6	249.0	253.9	260.8	265.2	r267.9	r270.7	271.3	275.6	279.3	279.4
Total raw or slightly processed goods	270.4	276.9	278.7	281.0	285.9	287.6	295.9	295.4	r290.4	292.7	293.0	307.5	314.8	319.5
Durable	262.1	255.7	259.2	265.8	267.8	282.8	305.3	303.4	r286.0	282.2	249.9	253.9	263.1	273.1
Nondurable	270.1	277.5	279.2	281.2	286.3	286.9	294.2	293.8	r289.8	294.0	295.3	310.4	317.6	321.9

[1] Data for April and May 1980 have been revised to reflect the availability of late reports and corrections by respondents. All data are subject to revision 4 months after original publication.

30. Producer Price Indexes for the output of selected SIC industries

[1967=100 unless otherwise specified]

1972 SIC code	Industry description	Annual average 1979	1979				1980								
			Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.[1]	May[1]	June	July	Aug.	Sept.
	MINING														
1011	Iron ores (12/75 = 100)	134.8	138.1	140.2	140.2	142.0	142.0	147.3	152.6	152.6	152.6	152.6	155.8	155.8	155.8
1092	Mercury ores (12/75 = 100)	234.4	252.1	275.0	252.1	300.0	308.3	335.4	330.0	337.5	337.5	332.9	331.2	329.1	335.4
1211	Bituminous coal and lignite	451.3	452.9	455.1	455.5	458.9	459.2	459.6	461.7	r464.6	r466.0	463.3	467.2	468.2	471.2
1311	Crude petroleum and natural gas	459.8	508.4	522.1	533.9	551.3	582.7	598.0	600.6	r612.5	r619.6	631.3	637.8	650.0	666.4
1442	Construction sand and gravel	217.6	221.0	224.0	224.7	225.6	238.8	243.2	243.9	r248.6	r249.3	250.1	249.6	250.6	251.9
1455	Kaolin and ball clay (6/76 = 100)	125.8	125.5	126.7	124.2	129.3	136.6	136.6	136.6	136.6	136.6	136.6	136.6	136.6	136.6
	MANUFACTURING														
2011	Meat packing plants	247.4	247.2	238.9	241.5	243.9	240.8	240.1	238.9	225.6	r227.2	229.9	249.1	265.2	257.1
2013	Sausages and other prepared meats	218.6	211.7	211.9	213.4	220.0	211.9	207.8	209.4	r197.9	r193.3	190.6	213.4	232.8	239.3
2016	Poultry dressing plants	187.1	171.2	183.1	188.3	189.5	186.1	178.2	173.5	164.5	164.7	164.2	214.2	212.1	226.0
2021	Creamery butter	228.8	240.6	240.1	241.7	243.1	241.8	242.8	243.4	r252.7	253.7	255.7	258.3	268.6	265.8

See footnote at end of table.

30. Continued — Producer Price Indexes for the output of selected SIC industries

[1967 = 100 unless otherwise specified]

1972 SIC code	Industry description	Annual average 1979	1979				1980								
			Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr. [1]	May [1]	June	July	Aug.	Sept.
	MANUFACTURING — Continued														
2022	Cheese natural and processed (12/72 = 100)	189.2	200.8	196.8	193.6	193.9	195.4	192.9	195.7	[1]201.9	[1]201.9	204.2	205.1	208.6	209.8
2024	Ice cream and frozen desserts (12/72 = 100)	172.5	176.1	177.5	179.9	180.1	180.9	181.5	185.0	[1]191.3	192.1	195.2	195.2	195.5	196.1
2033	Canned fruits and vegetables	208.6	212.0	212.9	212.2	212.2	213.4	213.6	214.7	216.3	[1]217.3	220.1	222.6	223.5	225.4
2034	Dehydrated food products (12/73 = 100)	174.2	170.0	158.2	156.2	157.3	157.6	159.0	156.4	157.5	156.4	156.3	157.7	159.6	159.9
2041	Flour mills (12/71 = 100)	173.1	183.5	184.2	184.4	184.1	181.7	183.6	181.6	[1]175.0	[1]182.3	181.8	189.6	193.1	196.1
2044	Rice milling	204.0	223.5	227.3	231.8	218.1	217.5	233.0	258.0	260.4	[1]254.5	238.0	225.3	219.9	225.9
2048	Prepared foods, n.e.c. (12/75 = 100)	120.4	120.9	123.6	124.3	125.0	122.0	122.6	121.5	[1]116.5	[1]116.9	116.6	122.6	127.0	130.0
2061	Raw cane sugar	210.3	216.7	224.3	223.3	248.4	260.5	374.9	276.0	320.2	456.1	402.4	381.8	484.0	458.9
2063	Beet sugar	202.6	200.0	204.7	210.6	223.2	224.6	293.2	305.7	[1]286.6	[1]339.9	343.9	343.5	386.3	384.7
2067	Chewing gum	245.8	242.9	242.9	262.3	262.3	262.3	262.3	281.9	[1]282.0	282.0	282.0	282.4	282.4	302.4
2074	Cottonseed oil mills	207.4	217.9	214.9	204.7	205.6	182.4	184.4	170.4	[1]154.7	[1]150.4	155.1	190.1	213.5	232.9
2075	Soybean oil mills	245.0	248.6	244.7	242.4	241.9	235.1	230.4	222.3	[1]211.9	[1]212.9	209.1	224.6	242.9	274.9
2077	Animal and marine fats and oils	338.4	333.8	333.7	315.2	300.7	298.1	292.6	297.4	274.0	[1]262.9	238.3	274.4	297.1	307.0
2083	Malt	203.7	214.9	214.9	228.2	228.2	244.1	244.1	244.1	244.1	244.1	244.1	244.1	244.1	244.1
2085	Distilled liquor, except brandy (12/75 = 100)	113.7	117.1	117.1	118.1	118.1	118.6	118.7	118.7	118.7	118.9	118.9	118.9	127.7	127.7
2091	Canned and cured seafoods (12/73 = 100)	146.4	154.0	154.3	155.6	159.8	160.9	164.0	165.7	170.2	[1]173.1	175.3	175.9	177.5	178.6
2092	Fresh or frozen packaged fish	381.6	389.2	400.1	391.4	388.4	389.7	385.5	391.6	[1]370.5	[1]360.0	352.8	365.2	365.7	355.5
2095	Roasted coffee (12/72 = 100)	254.5	279.2	280.0	287.5	287.5	281.3	273.9	274.0	273.9	273.9	263.1	274.5	274.7	263.9
2098	Macaroni and spaghetti	199.7	210.4	210.4	221.5	227.7	227.7	227.7	227.7	230.5	230.5	230.5	230.5	230.5	239.3
2111	Cigarettes	225.0	229.1	229.2	229.2	234.3	245.8	245.9	246.0	[1]246.3	[1]257.3	254.3	257.2	257.2	257.2
2121	Cigars	147.3	150.1	149.8	150.4	150.4	151.2	154.2	154.4	[1]155.3	[1]155.3	157.1	157.2	157.2	157.2
2131	Chewing and smoking tobacco	248.4	255.8	260.4	260.8	260.8	260.9	265.1	267.3	[1]279.2	[1]278.6	274.7	274.7	274.9	274.9
2211	Weaving mills, cotton (12/72 = 100)	195.3	198.7	201.1	201.6	201.9	204.4	206.9	209.5	[1]211.3	[1]212.9	211.9	217.4	218.7	221.4
2221	Weaving mills, synthetic (12/77 = 100)	115.0	116.2	116.8	117.3	117.2	118.1	118.3	122.7	[1]123.0	[1]122.4	120.4	122.3	124.2	126.1
2251	Women's hosiery, except socks (12/75 = 100)	97.5	97.5	98.2	100.3	100.2	103.3	103.3	104.3	[1]105.0	105.4	105.4	105.4	108.8	108.8
2254	Knit underwear mills	173.3	174.0	174.3	174.6	178.3	182.5	184.1	186.5	[1]186.8	187.1	190.5	192.5	192.8	194.0
2257	Circular knit fabric mills (6/76 = 100)	95.2	96.2	96.9	98.4	98.6	99.3	100.4	103.4	[1]104.0	[1]104.4	104.7	105.1	105.4	105.5
2261	Finishing plants, cotton (6/76 = 100)	121.8	124.0	126.1	126.3	126.6	128.7	129.6	131.9	[1]132.4	[1]134.5	133.7	137.2	137.2	136.8
2262	Finishing plants, synthetics, silk (6/76 = 100)	107.2	108.3	109.3	109.7	109.8	110.3	109.4	110.4	[1]110.7	[1]111.8	111.5	173.7	114.1	115.1
2272	Tufted carpets and rugs	128.0	129.0	129.8	130.1	130.1	134.7	134.5	137.0	[1]137.3	[1]137.1	137.5	137.6	137.9	138.3
2281	Yarn mills, except wool (12/71 = 100)	176.7	179.4	181.2	183.0	183.7	186.0	197.8	199.5	[1]203.7	204.5	202.9	203.0	204.3	205.7
2282	Throwing and winding mills (6/76 = 100)	107.4	111.2	110.4	109.6	109.2	110.1	110.6	112.0	114.8	[1]118.1	114.8	113.4	114.2	115.3
2284	Thread mills (6/76 = 100)	123.7	128.1	128.4	128.4	128.6	128.7	129.2	130.0	[1]134.6	[1]143.0	142.1	143.0	143.1	143.1
2298	Cordage and twine (12/77 = 100)	107.0	115.1	114.9	114.9	114.9	115.0	117.2	118.5	123.6	123.8	125.0	125.0	125.0	125.0
2311	Men's and boys' suits and coats	204.2	206.5	206.6	206.8	206.7	209.0	208.1	208.3	[1]209.7	[1]210.9	207.4	214.9	214.9	214.9
2321	Men's and boys' shirts and nightwear	194.0	196.0	196.1	196.6	196.3	197.7	196.2	199.3	[1]204.0	[1]203.7	204.9	205.4	205.7	206.7
2322	Men's and boys' underwear	188.9	190.0	190.0	190.0	194.0	199.8	202.0	204.0	204.2	204.3	208.5	211.1	211.1	212.8
2323	Men's and boys' neckwear (12/75 = 100)	106.5	110.9	110.9	110.9	110.9	112.4	112.4	112.4	[1]112.4	[1]112.4	106.3	106.3	112.4	112.4
2327	Men's and boys' separate trousers	161.5	162.7	162.9	163.4	163.5	164.2	174.2	174.3	[1]174.9	[1]174.9	175.1	175.3	175.3	175.3
2329	Men's and boys' work clothing	208.6	210.9	212.4	219.1	219.6	225.1	233.6	235.4	[1]241.2	[1]241.8	242.5	244.8	244.1	243.8
2331	Women's and misses' blouses and waists (6/78 = 100)	102.0	102.8	103.0	105.9	106.8	107.1	106.6	106.7	107.6	[1]107.6	107.8	111.4	112.6	112.6
2335	Women's and misses' dresses (12/77 = 100)	107.0	108.3	108.7	108.8	108.8	112.9	113.8	113.8	113.9	113.9	114.0	114.0	115.4	115.4
2341	Women's and children's underwear (12/72 = 100)	144.3	145.3	146.7	147.4	147.7	149.4	150.0	153.1	[1]153.1	153.2	155.2	155.4	156.8	155.7
2342	Brassieres and allied garments (12/75 = 100)	116.9	117.8	117.8	117.8	118.8	119.7	122.9	124.9	125.4	125.4	127.0	128.2	129.4	129.4
2361	Children's dresses and blouses (12/77 = 100)	104.8	103.7	105.7	105.7	105.6	105.3	105.3	105.5	[1]106.3	[1]105.6	106.7	112.4	112.4	111.9
2381	Fabric dress and work gloves	241.4	245.4	245.4	246.9	246.9	257.7	261.7	265.0	267.5	271.1	271.1	271.1	271.1	271.1
2394	Canvas and related products (12/77 = 100)	109.3	111.4	112.3	112.1	120.1	122.1	122.8	123.4	123.4	123.4	123.4	123.4	123.4	124.5
2396	Automotive and apparel trimmings (12/77 = 100)	111.3	114.3	114.3	114.3	114.3	114.3	114.3	122.3	122.3	122.3	122.3	122.3	122.3	122.3
2421	Sawmills and planing mills (12/71 = 100)	251.0	265.6	262.2	250.2	237.9	234.8	239.5	239.1	[1]215.8	[1]209.4	218.1	228.8	233.9	228.0
2436	Softwood veneer and plywood (12/75 = 100)	152.3	156.0	153.1	142.9	138.9	138.5	143.7	139.8	[1]121.9	[1]130.3	140.5	148.7	157.2	150.3
2439	Structural wood members, n.e.c. (12/75 = 100)	151.2	150.8	158.2	158.2	158.2	158.2	158.2	158.3	158.2	152.1	152.1	152.1	152.2	155.5
2448	Wood pallets and skids (12/75 = 100)	166.5	167.9	167.9	171.0	170.5	169.8	167.0	166.3	164.6	162.8	159.7	157.1	156.0	154.9
2451	Mobile homes (12/74 = 100)	138.2	140.7	143.0	144.0	144.1	144.8	146.9	147.2	[1]149.5	[1]150.5	150.6	151.2	151.4	151.1
2492	Particleboard (12/75 = 100)	139.1	138.5	139.5	136.8	134.5	136.9	150.7	158.9	161.9	167.3	171.7	168.7	167.4	162.5
2511	Wood household furniture (12/71 = 100)	165.5	168.0	169.3	172.3	174.5	177.5	178.2	178.9	[1]180.0	[1]182.2	182.4	183.8	185.7	186.0
2512	Upholstered household furniture (12/71 = 100)	150.0	151.6	151.8	153.8	155.7	155.9	158.7	158.7	[1]160.9	[1]161.1	160.3	163.3	163.4	163.4
2515	Mattresses and bedsprings	165.7	165.8	168.9	172.3	172.3	169.9	170.5	170.5	[1]172.8	[1]176.0	174.8	180.7	186.3	186.3
2521	Wood office furniture	215.3	216.8	217.6	217.6	221.9	226.2	233.8	233.8	233.9	233.9	233.9	236.1	236.1	236.2
2611	Pulp mills (12/73 = 100)	200.6	205.8	213.5	213.9	213.9	225.2	225.1	225.5	[1]243.8	[1]243.9	246.0	246.6	246.6	246.6
2621	Paper mills, except building (12/74 = 100)	130.2	131.4	135.1	136.5	136.8	139.0	139.8	142.5	[1]145.0	[1]145.8	146.6	146.7	146.9	146.9
2631	Paperboard mills (12/74 = 100)	119.8	123.4	125.4	126.3	127.6	131.3	132.3	134.6	[1]137.9	[1]139.5	143.1	140.4	140.9	141.6
2647	Sanitary paper products	277.7	285.4	286.3	288.4	290.9	295.8	303.9	311.7	[1]316.7	[1]319.3	321.1	328.4	332.0	332.1
2654	Sanitary food containers	188.7	191.8	195.8	198.2	199.9	202.6	204.8	208.9	212.9	[1]215.5	218.3	219.4	221.5	223.4
2655	Fiber cans, drums, and similar products (12/75 = 100)	134.8	136.6	138.5	138.5	142.3	143.2	143.2	143.3	[1]146.6	[1]148.7	150.6	155.2	155.2	155.2
2812	Alkalies and chlorine (12/73 = 100)	208.8	213.1	214.1	216.7	217.3	220.4	226.5	233.7	[1]241.2	[1]246.5	245.3	250.4	261.9	261.8
2821	Plastics materials and resins (6/76 = 100)	121.2	128.9	132.9	133.8	134.1	138.5	139.7	140.8	[1]146.4	[1]147.3	147.1	146.3	144.6	141.9
2822	Synthetic rubber	210.3	223.8	225.7	228.0	230.4	240.9	244.2	244.7	[1]256.8	[1]259.3	258.5	258.9	259.4	259.1
2824	Organic fiber, noncellulosic	117.6	123.5	123.6	123.2	122.6	124.1	124.7	126.9	[1]128.5	[1]131.7	133.0	133.6	136.1	136.7
2873	Nitrogenous fertilizers (12/75 = 100)	103.4	106.1	108.0	111.7	113.5	114.3	119.8	122.1	[1]123.6	[1]124.5	123.4	122.6	123.7	123.7
2874	Phosphatic fertilizers	193.8	204.3	213.2	221.6	223.4	229.2	233.2	235.0	[1]237.2	[1]236.3	236.8	234.9	240.2	240.5
2875	Fertilizers, mixing only	203.8	211.1	218.3	227.0	227.1	233.2	239.8	242.5	[1]245.2	[1]248.5	248.9	248.3	247.5	249.7
2892	Explosives	239.4	250.3	250.8	251.7	252.5	253.6	255.2	260.2	[1]271.4	[1]272.8	273.6	273.6	273.3	273.2
2911	Petroleum refining (6/76 = 100)	163.6	188.9	196.4	201.0	204.8	213.9	228.4	242.3	[1]250.5	253.0	253.2	255.8	257.0	256.3
2951	Paving mixtures and blocks (12/75 = 100)	134.3	141.6	145.6	145.6	145.7	150.0	161.5	167.9	[1]172.7	[1]172.7	171.6	173.7	175.0	175.9
2952	Asphalt felts and coatings (12/75) = 100)	162.5	145.8	147.6	152.2	151.9	156.1	162.7	169.9	[1]178.2	[1]174.8	175.0	180.1	179.0	177.6
3011	Tires and inner tubes (12/73 = 100)	176.4	184.2	186.9	191.2	191.4	193.0	198.7	198.8	[1]199.1	[1]200.1	201.4	203.3	203.3	205.7

30. Continued—Producer Price indexes for the output of selected SIC industries

[1967=100 unless otherwise specified]

1972 SIC code	Industry description	Annual average 1979	1979				1980								
			Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.[1]	May[1]	June	July	Aug.	Sept.
3021	Rubber and plastic footwear (12/71 = 100)	171.1	173.4	173.5	173.5	173.5	173.5	173.6	173.6	r173.7	r173.7	173.9	181.9	182.1	182.1
3031	Reclaimed rubber (12/73 = 100)	170.0	177.7	178.8	179.2	179.5	179.7	180.0	184.9	r185.9	r186.5	184.3	184.4	183.7	183.9
3079	Miscellaneous plastic products (6/78 = 100)	109.9	113.1	114.3	114.8	115.6	116.6	117.0	119.1	r120.3	r120.5	121.6	121.9	123.1	123.6
3111	Leather tanning and finishing (12/77 = 100)	167.5	155.2	161.9	150.8	153.5	164.3	160.8	146.7	140.8	137.9	134.6	137.7	147.9	141.0
3142	House slippers (12/75 = 100)	135.8	135.0	135.8	135.9	135.9	143.5	145.4	145.4	r145.4	r145.4	146.8	152.5	152.5	152.5
3143	Men's footwear, except athletic (12/75 = 100)	152.7	160.1	160.4	160.3	160.3	160.3	157.9	158.5	r158.5	r158.5	158.6	158.6	159.5	161.6
3144	Women's footwear, except athletic	194.5	201.6	202.3	204.0	204.0	205.6	206.3	213.5	213.8	213.8	213.8	214.3	214.3	215.2
3171	Women's handbags and purses (12/75 = 100)	128.9	131.8	131.8	131.8	131.8	131.9	131.9	132.1	132.1	140.8	140.9	140.9	140.9	140.9
3211	Flat glass (12/71 = 100)	151.7	152.3	152.6	153.3	153.9	157.6	157.6	157.9	r160.8	r160.8	158.9	159.5	162.6	162.8
3221	Glass containers	261.1	265.2	265.2	265.2	274.2	274.3	274.3	274.3	r294.2	294.2	294.5	294.5	294.5	294.5
3241	Cement, hydraulic	283.1	285.4	285.4	285.5	286.2	305.7	305.9	306.3	r312.6	r313.8	310.8	310.5	310.3	309.4
3251	Brick and structural clay tile	258.5	265.9	261.3	261.3	262.7	268.3	270.4	271.9	276.4	278.5	278.5	278.5	277.6	278.5
3253	Ceramic wall and floor tile (12/75 = 100)	117.2	120.2	120.2	120.2	130.3	130.4	130.4	130.4	130.4	117.6	117.6	117.6	117.5	117.6
3255	Clay refractories	242.1	247.1	251.0	252.9	254.0	255.1	259.4	263.7	r273.9	r275.6	277.5	280.7	281.1	281.3
3259	Structural clay products, n.e.c.	189.2	192.1	192.8	192.3	196.5	196.3	198.1	198.4	r203.1	r204.1	204.9	205.1	205.4	205.2
3261	Vitreous plumbing fixtures	207.4	213.1	214.5	215.7	217.3	219.2	224.6	226.7	227.6	236.1	235.8	237.2	240.4	241.1
3262	Vitreous china food utensils	295.2	298.0	298.0	305.4	308.2	308.2	308.2	308.2	313.4	313.4	318.6	318.2	318.2	318.7
3263	Fine earthenware food utensils	244.9	246.0	248.0	248.4	294.3	294.3	294.3	294.3	r295.1	r293.9	294.4	294.3	294.3	296.1
3269	Pottery products, n.e.c. (12/75 = 100)	132.5	133.3	133.3	135.5	150.1	150.1	150.1	150.1	r151.4	r151.5	152.6	152.6	152.6	153.2
3271	Concrete block and brick	233.0	237.8	240.0	240.0	240.2	249.5	250.6	252.3	259.3	259.4	259.4	259.4	259.5	260.4
3273	Ready-mixed concrete	248.2	252.4	254.0	254.6	257.0	270.8	272.6	275.5	r278.8	r281.5	282.5	282.5	282.6	283.5
3274	Lime (12/75 = 100)	141.0	144.2	144.6	144.3	144.6	149.5	153.5	155.6	r157.1	r157.3	157.4	159.6	159.9	158.8
3275	Gypsum products	252.8	255.4	255.9	256.8	255.6	255.9	262.8	268.1	264.6	257.0	257.5	253.5	252.3	252.2
3291	Abrasive products (12/71 = 100)	187.8	190.4	195.1	195.3	198.5	199.4	203.3	203.9	r212.0	r211.8	213.5	215.2	216.7	217.2
3297	Nonclay refractories (12/74 = 100)	145.6	149.7	150.1	152.3	152.3	152.6	153.3	154.2	157.4	159.7	161.2	162.8	164.9	164.9
3312	Blast furnaces and steel mills	288.8	293.2	296.4	297.1	297.7	302.4	302.9	304.1	r312.0	r313.3	313.4	308.5	308.4	308.5
3313	Electrometallurgical products (12/75 = 100)	111.9	116.0	116.2	117.5	117.6	117.8	117.8	118.0	118.7	r118.6	118.7	117.0	117.1	117.2
3316	Cold finishing of steel shapes	265.5	270.9	271.7	273.4	273.9	274.1	277.1	277.2	285.9	288.1	288.2	282.2	282.3	282.3
3317	Steel pipes and tubes	268.6	271.3	272.7	273.1	273.2	280.5	281.0	283.2	r286.8	286.9	290.5	292.5	292.6	292.6
3321	Gray iron foundries (12/68 = 100)	255.8	254.8	267.1	269.6	269.7	273.7	276.9	277.2	r279.8	r280.5	279.9	280.4	280.6	280.7
3333	Primary zinc	265.7	264.2	265.2	257.8	265.7	266.1	272.4	279.6	r274.3	268.2	268.6	255.8	255.8	260.9
3334	Primary aluminum	243.1	248.2	256.0	263.2	266.6	267.0	267.0	267.8	279.0	287.0	288.6	293.3	310.7	313.7
3351	Copper rolling and drawing	213.2	216.7	226.3	222.6	225.0	231.0	253.1	238.6	r227.4	r222.8	220.4	223.3	224.1	220.2
3353	Aluminum sheet plate and foil (12/75 = 100)	148.9	150.0	150.7	151.3	151.7	153.2	153.5	155.5	r157.8	157.6	157.7	158.2	157.6	157.6
3354	Aluminum extruded products (12/75 = 100)	149.3	151.9	155.2	157.4	158.0	158.8	158.9	160.9	r167.7	167.7	167.7	168.3	168.3	168.1
3355	Aluminum rolling, drawing, n.e.c. (12/75 = 100)	132.4	133.5	136.9	139.9	140.5	140.7	141.0	141.1	143.8	145.2	146.5	147.2	147.6	147.6
3411	Metal cans	264.1	263.5	273.8	274.6	274.7	276.6	277.3	279.9	295.1	295.2	294.9	295.6	295.9	296.1
3425	Hand saws and saw blades (12/72 = 100)	163.3	166.4	167.1	169.5	169.8	173.1	174.6	176.4	r178.0	r181.5	181.7	183.3	185.2	185.6
3431	Metal sanitary ware	224.8	229.2	230.1	231.7	232.9	237.8	242.1	243.1	245.5	249.7	249.9	250.9	251.4	251.3
3465	Automotive stampings (12/75 = 100)	128.5	131.6	132.4	132.4	132.4	132.4	132.4	132.7	r133.5	r133.8	138.1	138.1	140.1	140.4
3482	Small arms ammunition (12/75 = 100)	132.2	134.0	133.2	133.6	143.2	143.2	143.2	142.6	r141.7	r141.4	150.2	149.8	152.1	150.1
3493	Steel springs, except wire	219.8	222.8	223.7	224.1	225.6	226.1	226.6	228.6	r229.2	r229.2	230.1	230.1	230.6	231.7
3494	Valves and pipe fittings (12/71 = 100)	204.8	207.5	210.4	212.5	214.3	218.9	219.6	223.1	r229.4	r229.9	231.2	231.8	232.0	232.3
3498	Fabricated pipe and fittings	289.2	294.9	297.3	297.4	297.4	301.7	301.8	303.5	r313.0	r313.1	313.8	317.2	317.2	319.9
3519	Internal combustion engines, n.e.c.	243.3	251.8	254.2	254.9	254.9	260.5	261.8	266.1	r270.6	r271.6	270.3	275.1	276.3	281.8
3531	Construction machinery (12/76 = 100)	125.1	128.5	128.9	129.4	130.9	134.6	135.7	136.3	r138.6	r139.5	140.0	141.5	142.5	143.5
3532	Mining machinery (12/72 = 100)	229.4	232.7	233.1	235.4	236.4	245.8	247.1	247.8	r256.0	r257.3	257.1	259.4	262.0	263.4
3533	Oilfield machinery and equipment	291.6	296.8	300.5	302.8	309.1	314.2	316.2	318.9	r329.8	r333.1	337.4	342.6	343.8	344.7
3534	Elevators and moving stairways	215.9	219.1	219.4	220.6	220.9	225.6	226.1	229.1	232.6	234.1	242.5	244.2	243.8	246.4
3542	Machine tools, metal forming types (12/71 = 100)	242.8	247.9	249.8	253.7	256.7	266.1	268.1	269.4	r274.3	r275.1	279.8	284.9	285.9	286.2
3546	Power driven hand tools (12/76 = 100)	119.3	120.4	122.0	122.8	124.4	126.3	126.6	127.4	r129.0	r131.2	130.6	133.5	134.4	134.7
3552	Textile machinery (12/69 = 100)	194.7	198.2	199.3	200.6	200.6	202.6	205.2	207.0	r213.4	r213.6	217.0	222.1	222.1	222.2
3553	Woodworking machinery (12/72 = 100)	185.4	190.0	192.6	192.7	192.9	201.2	201.6	205.1	r212.3	r212.1	214.0	216.3	216.4	216.5
3576	Scales and balances, excluding laboratory	194.2	195.4	195.7	199.5	201.0	204.2	205.8	206.6	r207.5	208.2	208.6	208.8	217.0	217.0
3592	Carburetors, pistons, rings, valves (6/76 = 100)	139.6	140.7	142.8	145.1	145.3	147.5	147.8	148.6	r152.6	r153.0	153.2	158.3	158.9	159.9
3612	Transformers	168.1	168.4	171.2	170.4	171.6	172.9	176.6	177.5	r180.5	r181.5	183.2	186.2	189.5	190.9
3623	Welding apparatus, electric (12/72 = 100)	192.2	195.1	196.9	198.6	200.3	201.3	203.3	206.0	r207.0	r209.2	211.0	212.3	212.3	211.4
3631	Household cooking equipment (12/75 = 100)	122.2	124.3	124.4	125.9	126.3	128.7	129.3	129.4	r129.7	r133.1	133.4	134.7	134.1	134.6
3632	Household refrigerators, freezers (6/76 = 100)	113.6	115.1	115.1	115.7	116.3	117.0	118.5	118.6	r119.3	r119.4	121.5	121.7	121.7	121.9
3633	Household laundry equipment (12/73 = 100)	148.8	150.6	150.9	152.3	153.5	154.0	156.6	158.3	r160.3	r161.7	162.8	160.1	161.5	165.5
3635	Household vacuum cleaners	141.7	141.9	144.5	144.7	145.8	148.1	149.7	151.3	r148.6	r149.3	149.6	151.9	151.9	152.1
3636	Sewing machines (12/75 = 100)	121.4	122.2	122.6	122.6	122.6	122.6	129.2	129.2	r129.2	r129.2	128.6	129.4	129.4	129.4
3641	Electric lamps	236.2	242.7	244.8	238.7	240.8	248.5	252.4	251.8	r252.3	r251.3	260.0	266.4	268.0	267.8
3644	Noncurrent-carrying wiring devices (12/72 = 100)	204.6	209.1	210.5	211.9	215.0	212.9	215.2	215.3	r217.4	r218.2	222.5	222.3	222.8	223.0
3646	Commercial lighting fixtures (12/75 = 100)	128.5	130.5	131.4	131.6	131.9	133.4	134.3	136.2	r138.0	r138.5	139.6	139.6	140.9	141.9
3648	Lighting equipment, n.e.c. (12/75 = 100)	126.0	128.5	129.6	129.8	130.5	133.0	133.2	134.6	r139.4	r140.2	140.4	140.5	140.8	143.3
3671	Electron tubes receiving type	220.3	227.2	227.2	227.4	227.7	229.1	229.4	229.7	r254.0	r254.7	254.8	255.1	255.2	255.7
3674	Semiconductors and related devices	84.8	84.7	85.1	85.6	86.4	86.8	88.5	89.3	r90.4	r91.2	91.0	91.6	91.3	91.7
3675	Electronic capacitors (12/75 = 100)	125.2	134.1	133.9	135.8	138.0	147.7	149.1	151.3	r157.0	r160.7	156.2	164.3	164.5	174.0
3676	Electronic resistors (12/75 = 100)	124.4	125.2	126.6	126.7	127.3	127.4	128.8	131.8	r131.9	r133.0	135.0	135.1	136.1	136.9
3678	Electronic connectors (12/75 = 100)	131.7	137.6	138.9	140.7	142.1	145.1	146.4	146.7	r146.5	146.8	148.8	149.0	149.2	149.7
3692	Primary batteries, dry and wet	170.1	172.8	173.1	173.1	174.1	174.2	176.5	176.6	176.8	176.4	176.4	176.4	176.7	176.8
3711	Motor vehicles and car bodies (12/75 = 100)	125.1	122.5	130.2	130.1	130.4	132.7	131.6	131.8	r135.5	r134.5	134.1	136.8	138.1	131.1
3942	Dolls (12/75 = 100)	110.8	112.8	112.9	112.9	113.0	122.7	125.4	125.6	r127.7	r128.4	126.7	126.7	126.7	126.7
3944	Games, toys, and children's vehicles	182.7	185.1	186.2	186.3	186.6	198.7	203.8	204.0	r205.0	r205.3	204.0	204.4	204.5	204.5
3955	Carbon paper and inked ribbons (12/75 = 100)	118.6	118.7	120.1	125.2	125.2	128.2	128.2	128.3	131.5	133.3	136.4	136.4	136.4	136.4
3995	Burial caskets (6/76 = 100)	122.5	124.8	123.1	124.8	124.8	128.3	128.3	128.3	r128.4	r130.3	132.2	132.2	132.2	132.9
3996	Hard surface floor coverings (12/75 = 100)	126.3	128.3	131.0	134.1	134.1	138.6	138.7	138.7	143.2	143.3	143.3	146.1	146.6	146.6

[1] Data for April and May 1980 have been revised to reflect the availability of late reports and corrections by respondents. All data are subject to revision 4 months after original publication.

PRODUCTIVITY DATA

Productivity data are compiled by the Bureau of Labor Statistics from establishment data and from estimates of compensation and output supplied by the U.S. Department of Commerce and the Federal Reserve Board.

Definitions

Output is the constant dollar gross domestic product produced in a given period. Indexes of **output per hour of labor input,** or labor productivity, measure the value of goods and services produced per hour of labor. **Compensation per hour** includes wages and salaries of employees plus employers' contributions for social insurance and private benefit plans. The data also include an estimate of wages, salaries, and supplementary payments for the self-employed, except for nonfinancial corporations, in which there are no self-employed. **Real compensation per hour** is compensation per hour adjusted by the Consumer Price Index for All Urban Consumers.

Unit labor cost measures the labor compensation cost required to produce one unit of output and is derived by dividing compensation by output. **Unit nonlabor payments** include profits, depreciation, interest, and indirect taxes per unit of output. They are computed by subtracting compensation of all persons from the current dollar gross domestic product and dividing by output. In these tables, **Unit nonlabor costs** contain all the components of unit nonlabor payments except unit profits. **Unit profits** include corporate profits and inventory valuation adjustments per unit of output.

The **implicit price deflator** is derived by dividing the current dollar estimate of gross product by the constant dollar estimate, making the deflator, in effect, a price index for gross product of the sector reported.

The use of the term "man-hours" to identify the labor component of productivity and costs, in tables 31 through 34, has been discontinued. **Hours of all persons** is now used to describe the labor input of payroll workers, self-employed persons, and unpaid family workers. **Output per all-employee hour** is now used to describe labor productivity in nonfinancial corporations where there are no self-employed.

Notes on the data

In the private business sector and the nonfarm business sector, the basis for the output measure employed in the computation of output per hour is Gross Domestic Product rather than Gross National Product. Computation of hours includes estimates of nonfarm and farm proprietor hours.

Output data are supplied by the Bureau of Economic Analysis, U.S. Department of Commerce, and the Federal Reserve Board. Quarterly manufacturing output indexes are adjusted by the Bureau of Labor Statistics to annual estimates of output (gross product originating) from the Bureau of Economic Analysis. Compensation and hours data are from the Bureau of Economic Analysis and the Bureau of Labor Statistics.

Beginning with the September 1976 issue of the *Review*, tables 31–34 were revised to reflect changeover to the new series—private business sector and nonfarm business sector—which differ from the previously published total private economy and nonfarm sector in that output imputed for owner-occupied dwellings and the household and institutions sectors, as well as the statistical discrepancy, are omitted. For a detailed explanation, see J. R. Norsworthy and L. J. Fulco, "New sector definitions for productivity series," *Monthly Labor Review*, October 1976, pages 40–42.

31. Annual indexes of productivity, hourly compensation, unit costs, and prices, 1950–79

[1967=100]

Item	1950	1955	1960	1965	1970	1972	1973	1974	1975	1976	1977	1978	1979
Private business sector:													
Output per hour of all persons	61.2	70.6	79.0	95.1	104.4	111.5	113.6	110.2	112.6	116.6	118.7	119.3	118.3
Compensation per hour	42.6	56.1	72.2	88.7	123.3	138.8	151.3	165.2	181.7	197.6	213.3	231.4	253.1
Real compensation per hour	59.2	69.9	81.4	93.9	106.0	111.6	113.6	111.8	112.7	115.9	117.5	118.4	116.4
Unit labor cost	69.6	79.4	91.4	93.3	118.2	125.4	133.2	149.8	161.3	169.5	179.7	194.0	214.0
Unit nonlabor payments	73.1	80.4	85.4	95.9	105.8	118.9	124.9	130.3	150.3	157.9	165.5	174.3	184.4
Implicit price deflator	70.8	79.8	88.3	94.2	113.9	123.2	130.3	143.1	157.5	165.5	174.8	187.2	203.8
Nonfarm business sector:													
Output per hour of all persons	67.2	74.8	81.2	96.0	103.2	110.1	112.0	108.6	110.7	114.6	116.4	116.9	115.7
Compensation per hour	45.6	58.0	74.5	89.4	121.9	138.4	149.2	163.0	179.3	194.2	209.6	227.5	247.9
Real compensation per hour	63.3	73.6	84.1	94.6	104.8	110.5	112.1	110.4	111.2	113.9	115.5	118.4	114.0
Unit labor cost	68.0	78.1	91.7	93.2	118.1	125.7	133.2	150.1	161.9	169.5	180.1	194.6	214.4
Unit nonlabor payments	71.4	80.1	84.4	95.8	106.0	117.4	117.8	124.7	145.9	156.0	163.8	169.9	178.6
Implicit price deflator	69.1	78.4	89.2	94.1	114.0	122.9	127.9	141.4	156.4	164.8	174.5	186.1	202.1
Nonfinancial corporations:													
Output per hour of all employees	(1)	(1)	80.6	96.9	103.7	110.6	112.9	108.7	112.2	115.8	117.0	118.0	117.5
Compensation per hour	(1)	(1)	78.0	90.1	121.8	136.7	147.6	161.7	177.9	192.7	208.0	225.0	244.9
Real compensation per hour	(1)	(1)	85.7	95.3	104.7	108.1	110.9	109.5	110.4	113.0	114.8	115.2	112.7
Unit labor cost	(1)	(1)	94.3	93.0	117.4	123.7	130.7	148.8	158.6	166.4	177.7	190.6	208.4
Unit nonlabor payments	(1)	(1)	90.8	100.1	103.5	114.8	116.8	124.8	148.1	156.8	164.4	170.6	179.5
Implicit price deflator	(1)	(1)	93.1	95.5	112.5	120.5	125.6	140.2	154.9	163.0	173.0	183.5	198.1
Manufacturing:													
Output per hour of all persons	65.8	75.0	79.8	98.4	105.0	115.7	118.9	113.0	118.8	124.0	127.7	128.2	129.2
Compensation per hour	45.6	61.2	78.0	91.1	122.3	138.6	148.5	161.7	181.1	196.1	212.7	229.9	250.8
Real compensation per hour	60.3	78.3	88.0	98.4	105.1	109.0	110.1	109.5	112.3	115.0	117.2	117.6	115.3
Unit labor cost	69.4	81.6	97.7	92.6	116.5	118.1	123.2	143.1	152.4	158.2	166.6	179.4	194.1
Unit nonlabor payments	82.3	88.6	82.3	103.3	98.2	107.4	108.4	105.6	128.4	139.6	147.4	152.4	154.4
Implicit price deflator	73.3	83.8	96.1	95.9	110.3	114.8	118.0	131.8	145.1	152.5	160.7	171.1	181.9

[1] Not available.

32. Annual changes in productivity, hourly compensation, unit costs, and prices, 1969–79

Item	Year											Annual rate of change	
	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1950-79	1960-79
Private business sector:													
Output per hour of all persons	0.2	0.7	3.3	3.4	1.9	−3.0	2.1	3.5	1.8	0.5	−0.8	2.5	2.1
Compensation per hour	6.9	7.2	6.7	6.2	8.2	9.2	10.0	8.8	8.0	8.5	9.4	5.9	6.9
Real compensation per hour	1.4	1.2	2.3	2.8	1.9	−1.6	.8	2.8	1.4	0.8	−1.7	2.5	2.0
Unit labor cost	6.6	6.4	3.3	2.8	6.2	12.5	7.7	5.0	6.0	8.0	10.3	3.3	4.7
Unit nonlabor payments	1.0	1.2	6.8	5.3	5.0	4.4	15.3	5.1	4.8	5.3	5.8	3.0	4.2
Implicit price deflator	4.7	4.7	4.4	3.6	5.8	9.8	10.1	5.0	5.6	7.1	8.9	3.2	4.5
Nonfarm business sector:													
Output per hour of all persons	.2	.2	3.0	3.6	1.7	−3.1	2.0	3.5	1.5	.5	−1.1	2.1	1.9
Compensation per hour	6.4	6.8	6.7	6.4	7.8	9.2	10.0	8.3	7.9	8.6	9.0	5.6	6.7
Real compensation per hour	1.0	.8	2.3	3.0	1.5	−1.6	.8	2.4	1.4	.8	−2.1	2.2	1.7
Unit labor cost	6.7	6.5	3.5	2.7	6.0	12.7	7.9	4.7	6.3	8.0	10.2	3.4	4.7
Unit nonlabor payments	.4	1.6	6.7	3.8	.3	5.9	17.0	6.9	5.0	3.7	5.1	2.9	4.0
Implicit price deflator	4.5	4.9	4.5	3.1	4.1	10.5	10.6	5.4	5.9	6.6	8.6	3.3	4.5
Nonfinancial corporations:													
Output per hour of all employees	.4	.0	3.3	3.1	2.1	−3.7	3.2	3.2	1.1	.9	−.4	(1)	1.9
Compensation per hour	6.8	6.8	6.2	5.7	7.9	9.6	10.0	8.3	7.9	8.2	8.9	(1)	6.5
Real compensation per hour	1.3	.8	1.8	2.4	1.6	−1.3	.8	2.4	1.4	.5	−2.2	(1)	1.6
Unit labor cost	6.3	6.8	2.7	2.5	5.7	13.8	6.6	4.9	6.8	7.3	9.3	(1)	4.5
Unit nonlabor payments	0	.5	7.3	3.3	1.8	6.8	18.7	5.8	4.9	3.8	5.2	(1)	3.6
Implicit price deflator	4.1	4.6	4.2	2.8	4.4	11.5	10.5	5.2	6.1	6.1	7.9	(1)	4.2
Manufacturing:													
Output per hour of all persons	1.3	−.1	5.2	4.8	2.8	−5.0	5.1	4.4	3.0	.4	0.8	2.5	2.5
Compensation per hour	6.6	7.1	6.2	5.2	7.2	10.4	12.0	8.3	8.4	8.1	9.1	5.5	[r]6.5
Real compensation per hour	1.2	1.1	1.9	1.8	.9	−.5	2.6	2.4	1.9	.4	−2.0	2.1	1.5
Unit labor cost	5.2	7.2	.9	.4	4.3	16.1	6.6	3.8	5.3	7.7	8.2	2.9	3.9
Unit nonlabor payments	−4.4	−3.2	9.2	2.3	−1.0	−.7	21.6	8.8	5.5	3.4	1.3	1.9	2.5
Implicit price deflator	2.3	4.2	3.1	1.0	2.8	11.5	10.2	5.1	5.4	6.5	6.3	2.6	3.5

[1] Not available.

r = revised.

33. Quarterly indexes of productivity, hourly compensation, unit costs, and prices, seasonally adjusted

[1967 = 100]

Item	Annual average		Quarterly indexes										
			1977	1978				1979				1980	
	1978	1979	IV	I	II	III	IV	I	II	III	IV	I	II
Private business sector:													
Output per hour of all persons	119.3	118.3	119.0	118.5	119.1	119.7	119.8	118.9	118.3	117.8	117.7	117.7	117.1
Compensation per hour	231.4	253.1	218.8	224.6	228.8	233.7	238.4	244.8	250.4	255.7	260.3	267.6	275.3
Real compensation per hour	118.4	116.4	117.9	118.8	118.3	118.2	117.9	117.9	117.0	115.8	114.2	112.9	112.4
Unit labor cost	194.0	214.0	183.9	189.4	192.1	195.2	199.0	205.9	211.7	217.0	221.1	227.5	235.1
Unit nonlabor payments	174.3	184.4	166.5	164.8	173.9	177.0	181.3	180.8	183.7	185.6	188.3	190.0	193.1
Implicit price deflator	187.2	203.8	176.6	180.9	185.8	188.9	192.9	197.2	202.0	206.1	209.7	214.5	220.6
Nonfarm business sector:													
Output per hour of all persons	116.9	115.7	116.4	116.2	116.7	117.4	117.6	116.6	115.4	115.0	115.2	114.9	114.1
Compensation per hour	227.5	247.9	[r]215.1	221.0	224.9	229.5	234.4	240.2	244.9	249.9	255.6	262.2	269.0
Real compensation per hour	116.4	114.0	[r]115.9	116.9	116.3	116.1	115.9	115.7	114.4	113.2	112.1	110.6	109.9
Unit labor cost	194.6	214.4	[r]184.8	190.2	192.8	195.6	199.3	206.0	[r]212.1	217.3	221.8	228.2	235.8
Unit nonlabor payments	169.9	176.6	[r]165.9	161.1	169.1	173.0	176.1	174.3	177.6	180.5	182.5	185.9	191.1
Implicit price deflator	186.1	202.1	[r]178.3	180.2	184.7	187.8	191.4	195.1	200.3	204.7	208.4	213.7	220.5
Nonfinancial corporations:													
Output per hour of all employees	118.0	117.5	116.9	116.9	118.0	118.5	118.8	118.1	117.3	117.2	117.1	117.1	116.7
Compensation per hour	225.0	244.9	213.2	219.0	222.6	226.9	231.3	237.3	242.1	247.1	252.1	258.8	265.7
Real compensation per hour	115.2	112.7	114.9	115.8	115.1	114.8	114.4	114.3	113.1	111.9	110.6	109.2	108.5
Total unit costs	193.3	210.4	186.3	190.8	191.6	194.0	196.8	202.3	208.0	213.2	218.0	224.3	233.2
Unit labor cost	190.6	208.4	182.3	187.3	188.7	191.5	194.8	201.0	206.4	210.8	215.3	221.1	227.6
Unit nonlabor costs	201.8	216.6	198.7	201.5	200.8	201.6	203.1	206.5	213.2	220.5	226.1	234.4	250.7
Unit profits	127.2	127.8	122.2	107.1	129.2	132.7	136.7	130.3	129.2	127.5	124.0	120.5	110.9
Implicit price deflator	183.5	198.1	176.8	178.3	182.3	184.9	188.2	191.6	196.3	200.4	204.0	208.9	215.0
Manufacturing:													
Output per hour for all persons	128.2	129.2	128.3	126.3	127.7	129.3	129.5	128.3	128.8	129.6	129.1	128.4	127.0
Compensation per hour	229.9	250.8	218.3	223.9	227.1	231.7	236.6	242.3	248.0	252.7	258.0	264.6	274.1
Real compensation per hour	117.6	115.3	117.6	118.4	117.5	117.2	117.0	116.7	115.9	114.4	113.2	111.6	112.0
Unit labor cost	179.4	194.1	170.1	177.2	177.9	179.1	182.7	189.0	192.6	195.0	199.8	206.0	215.9

[1] Not available.

r = revised.

34. Percent change from preceding quarter and year in productivity, hourly compensation, unit costs, and prices, seasonally adjusted at annual rate

[1967=100]

Item	Quarterly percent change at annual rate						Percent change from same quarter a year ago					
	IV 1978 to I 1979	I 1979 to II 1979	II 1979 to III 1979	III 1979 to IV 1979	IV 1979 to I 1980	I 1980 to II 1980	I 1978 to I 1979	II 1978 to II 1979	III 1978 to III 1979	IV 1978 to IV 1979	I 1979 to I 1980	II 1979 to II 1980
Private business sector:												
Output per hour of all persons	−3.1	−2.0	−1.4	−0.3	−0.3	−1.9	0.3	−0.7	−1.6	−1.7	−1.0	−1.0
Compensation per hour	11.0	9.5	8.7	7.5	11.7	11.9	9.0	9.4	9.4	9.2	9.3	c9.9
Real compensation per hour	−.2	−2.9	−4.1	−5.4	−4.5	−1.6	−0.8	−1.1	−2.1	−3.2	−4.2	−3.9
Unit labor cost	14.6	11.8	10.3	7.8	12.1	14.1	8.7	10.2	11.2	11.1	10.5	11.0
Unit nonlabor payments	−1.0	6.5	4.2	5.9	3.8	6.6	9.7	5.7	4.8	3.9	5.1	5.1
Implicit price deflator	9.3	10.1	8.3	7.2	8.4	11.8	9.0	8.7	9.1	8.7	8.8	9.2
Nonfarm business sector:												
Output per hour of all persons	−3.3	−3.9	−1.5	0.8	−1.1	−2.9	.4	−1.1	−2.0	−2.0	−1.4	−1.2
Compensation per hour	10.2	8.1	8.5	9.5	10.7	10.7	8.7	8.9	8.9	9.1	9.2	9.8
Real compensation per hour	−.9	−4.2	−4.4	−3.6	−5.3	−2.6	−1.0	−1.6	−2.5	−3.3	−4.4	−4.0
Unit labor cost	14.0	12.5	10.1	8.6	12.0	14.1	8.3	10.1	11.1	11.3	10.8	11.2
Unit nonlabor payments	−3.9	7.7	6.6	4.6	7.5	11.7	8.2	5.0	4.3	3.7	6.6	7.6
Implicit price deflator	6.1	11.0	9.0	7.4	10.6	13.3	8.3	8.5	9.0	8.9	9.5	10.1
Nonfinancial corporations:												
Output per hour of all employees	−2.3	−2.7	−0.3	−0.4	−0.1	−1.1	1.0	−.6	−1.1	−1.4	−0.9	−0.5
Compensation per hour	10.8	8.3	8.5	8.4	11.0	11.1	8.4	8.7	8.9	9.0	9.0	9.7
Real compensation per hour	−.4	−4.1	−4.3	−4.5	−5.1	−2.3	−1.3	−1.6	−2.6	−3.3	−4.5	−4.1
Total unit costs	11.7	11.8	10.2	9.3	12.2	16.8	6.1	8.6	9.9	10.8	10.9	12.1
Unit labor costs	13.4	11.2	8.8	8.9	11.1	12.3	7.3	9.4	10.1	10.6	10.0	10.3
Unit nonlabor costs	6.8	13.5	14.6	10.6	15.4	31.0	2.5	6.2	9.4	11.3	13.5	17.6
Unit profits	−22.1	−3.4	−5.3	−10.4	−10.9	−28.2	21.7	0	−3.9	−10.6	−7.6	14.2
Implicit price deflator	7.6	10.2	8.6	7.3	9.9	12.3	7.5	7.7	8.4	8.4	9.0	9.5
Manufacturing:												
Output per hour of all persons	−3.8	1.7	2.5	−1.4	−2.2	−4.5	1.5	.9	0.2	−0.3	0.1	−1.4
Compensation per hour	10.1	9.6	7.8	8.8	10.5	15.2	8.2	9.2	9.1	9.1	9.2	10.5
Real compensation per hour	−.9	−2.8	−4.9	−4.2	−5.5	1.3	−1.5	−1.3	−2.4	−3.3	−4.4	−3.4
Unit labor cost	14.5	7.9	5.2	10.3	13.0	20.7	6.6	8.2	8.9	9.4	9.0	12.1

c=corrected

LABOR-MANAGEMENT DATA

MAJOR COLLECTIVE BARGAINING DATA are obtained from contracts on file at the Bureau of Labor Statistics, direct contact with the parties, and from secondary sources. Additional detail is published in *Current Wage Developments*, a monthly periodical of the Bureau. Data on work stoppages are based on confidential responses to questionnaires mailed by the Bureau of Labor Statistics to parties involved in work stoppages. Stoppages initially come to the attention of the Bureau from reports of Federal and State mediation agencies, newspapers, and union and industry publications.

Definitions

Data on wage changes apply to private nonfarm industry agreements covering 1,000 workers or more. Data on wage and benefit changes *combined* apply only to those agreements covering 5,000 workers or more. **First-year wage settlements** refer to pay changes going into effect within the first 12 months after the effective date of the agreement. **Changes over the life of the agreement** refer to total agreed upon settlements (exclusive of potential cost-of-living escalator adjustments) expressed at an average annual rate. **Wage-rate changes** are expressed as a percent of straight-time hourly earnings, while **wage and benefit changes** are expressed as a percent of total compensation.

Effective wage-rate adjustments going into effect in major bargaining units measure changes actually placed into effect during the reference period, whether the result of a newly negotiated increase, a deferred increase negotiated in an earlier year, or as a result of a cost-of-living escalator adjustment. Average adjustments are affected by workers receiving no adjustment, as well as by those receiving increases or decreases.

Work stoppages include all known strikes or lockouts involving six workers or more and lasting a full shift or longer. Data cover all workers idle one shift or more in establishments directly involved in a stoppage. They do not measure the indirect or secondary effect on other establishments whose employees are idle owing to material or service shortages.

35. Wage and benefit settlements in major collective bargaining units, 1975 to date

[In percent]

Sector and measure	Annual average					Quarterly average							
	1975	1976	1977	1978	1979	1978		1979				1980 p	
						III	IV	I	II	III	IV	I	II
Wage and benefit settlements, all industries:													
First-year settlements	11.4	8.5	9.6	8.3	9.0	7.2	6.1	2.8	10.5	9.0	8.5	8.6	10.1
Annual rate over life of contract	8.1	6.6	6.2	6.3	6.6	5.9	5.2	5.3	7.8	6.1	6.0	6.4	6.8
Wage rate settlements, all industries:													
First-year settlements	10.2	8.4	7.8	7.6	7.4	7.5	7.4	5.7	8.9	6.8	6.3	7.8	8.7
Annual rate over life of contract	7.8	6.4	5.8	6.4	6.0	6.4	5.9	6.6	7.2	5.1	5.3	6.3	6.8
Manufacturing:													
First-year settlements	9.8	8.9	8.4	8.3	6.9	8.4	9.5	8.7	9.7	6.3	5.6	7.0	6.6
Annual rate over life of contract	8.0	6.0	5.5	6.6	5.4	7.2	7.4	7.7	8.1	4.7	4.2	5.6	4.9
Nonmanufacturing (excluding construction):													
First-year settlements	11.9	8.6	8.0	8.0	7.6	7.4	6.4	3.2	8.5	9.4	7.8	9.1	10.4
Annual rate over life of contract	8.0	7.2	5.9	6.5	6.2	5.9	5.1	5.6	5.8	6.5	7.4	7.1	8.6
Construction:													
First-year settlements	8.0	6.1	6.3	6.5	8.8	7.0	6.4	9.7	8.7	9.7	7.5	9.6	12.7
Annual rate over life of contract	7.5	6.2	6.3	6.2	8.3	7.2	7.1	8.2	8.3	8.5	7.6	9.3	10.3

36. Effective wage adjustments going into effect in major collective bargaining units, 1975 to date

[In percent]

Sector and measure	Average annual changes					Average quarterly changes								
	1975	1976	1977	1978	1979	1978			1979				1980 ᵖ	
						II	III	IV	I	II	III	IV	I	II
Total effective wage rate adjustment, all industries	8.7	8.1	8.0	8.2	9.1	2.6	2.7	1.4	1.4	2.6	3.3	1.8	1.4	2.6
Change resulting from —														
Current settlement	2.8	3.2	3.0	2.0	3.0	.6	.5	.4	.2	1.1	1.0	.5	.4	.7
Prior settlement	3.7	3.2	3.2	3.7	3.0	1.4	1.2	.5	.6	1.0	1.0	.4	.5	1.2
Escalator provision	2.2	1.6	1.7	2.4	3.1	.6	1.0	.5	.6	.5	1.2	.7	.6	.6
Manufacturing	8.5	8.5	8.4	8.6	9.6	2.2	2.9	1.9	1.5	2.3	3.2	2.4	1.7	2.9
Nonmanufacturing	8.9	7.7	7.6	7.9	8.8	2.9	2.5	1.1	1.4	2.6	3.4	1.0	1.2	2.2

NOTE: Because of rounding and compounding, the sums of individual items may not equal totals.

37. Work stoppages, 1947 to date

Month and year	Number of stoppages		Workers involved		Days idle	
	Beginning in month or year	In effect during month	Beginning in month or year (thousands)	In effect during month (thousands)	Number (thousands)	Percent of estimated working time
1947	3,693		2,170		34,600	.30
1948	3,419		1,960		34,100	.28
1949	3,606		3,030		50,500	.44
1950	4,843		2,410		38,800	.33
1951	4,737		2,220		22,900	.18
1952	5,117		3,540		59,100	.48
1953	5,091		2,400		28,300	.22
1954	3,468		1,530		22,600	.18
1955	4,320		2,650		28,200	.22
1956	3,825		1,900		33,100	.24
1957	3,673		1,390		16,500	.12
1958	3,694		2,060		23,900	.18
1959	3,708		1,880		69,000	.50
1960	3,333		1,320		19,100	.14
1961	3,367		1,450		16,300	.11
1962	3,614		1,230		18,600	.13
1963	3,362		941		16,100	.11
1964	3,655		1,640		22,900	.15
1965	3,963		1,550		23,300	.15
1966	4,405		1,960		25,400	.15
1967	4,595		2,870		42,100	.25
1968	5,045		2,649		49,018	.28
1969	5,700		2,481		42,869	.24
1970	5,716		3,305		66,414	.37
1971	5,138		3,280		47,589	.26
1972	5,010		1,714		27,066	.15
1973	5,353		2,251		27,948	.14
1974	6,074		2,778		47,991	.24
1975	5,031		1,746		31,237	.16
1976	5,648		2,420		37,859	.19
1977	5,506		2,040		35,822	.17
1978	4,230		1,623		36,922	.17
1979: August	463		119		3,152	.15
September	464		135		2,319	.13
October	443		230		2,968	.15
November	257		91		2,720	.15
December	134		42		1,976	.11
1980: January ᵖ	352	441	207	292	3,142	.16
February ᵖ	354	590	114	332	3,025	.17
March ᵖ	398	631	123	310	2,705	.14
April	425	663	116	231	2,786	.14
May	505	752	139	214	2,484	.13
June	435	714	184	201	2,553	.13
July	491	768	270	394	4,030	.21
August	409	768	64	238	3,363	.17

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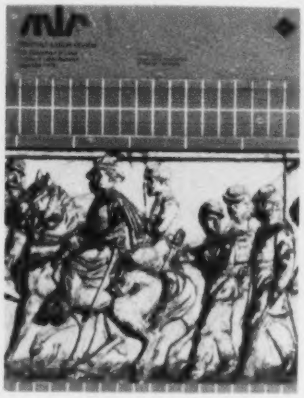

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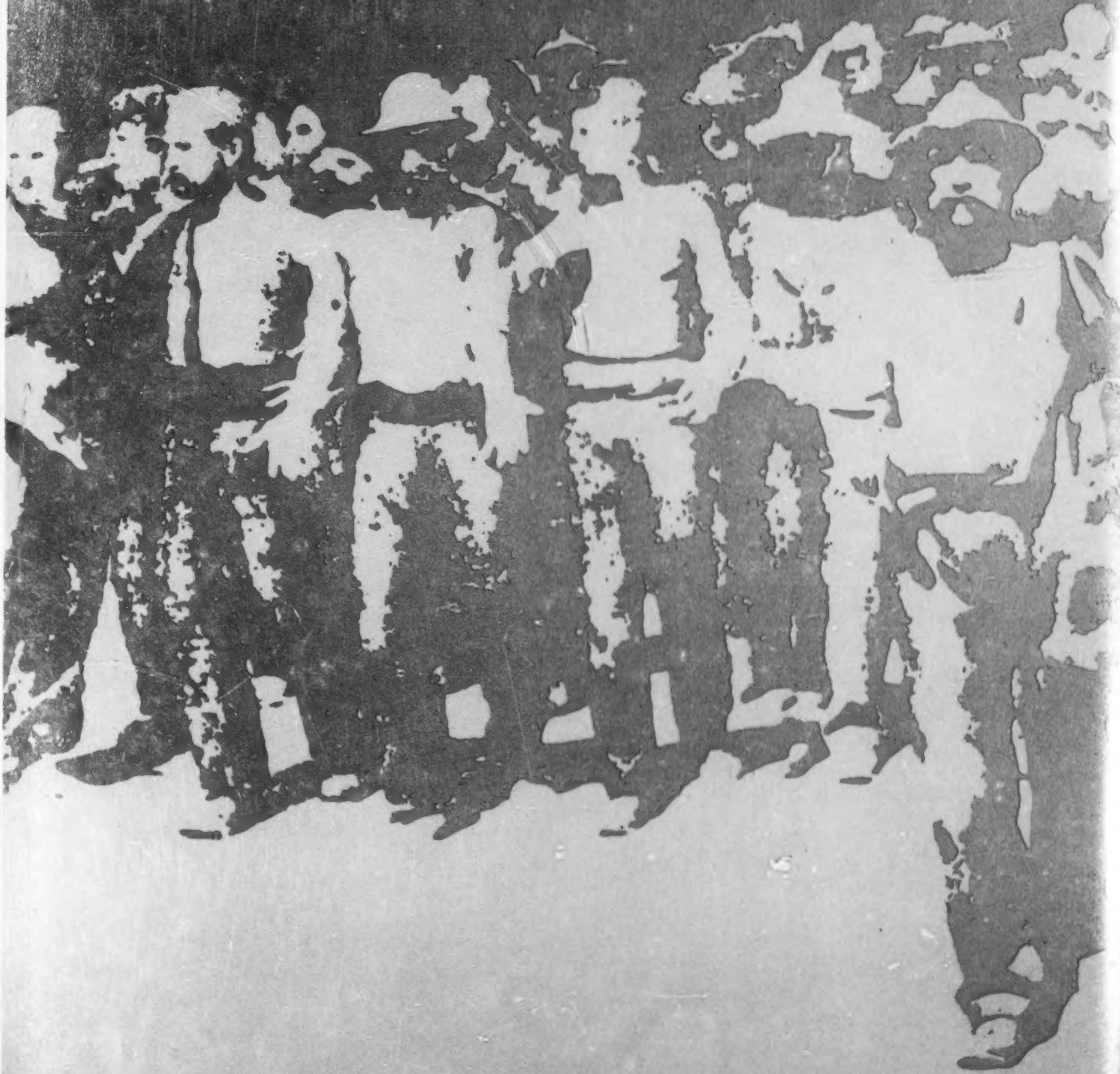

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MONTHLY LABOR REVIEW

U.S. Department of Labor
Bureau of Labor Statistics
December 1980

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Collective bargaining in 1981

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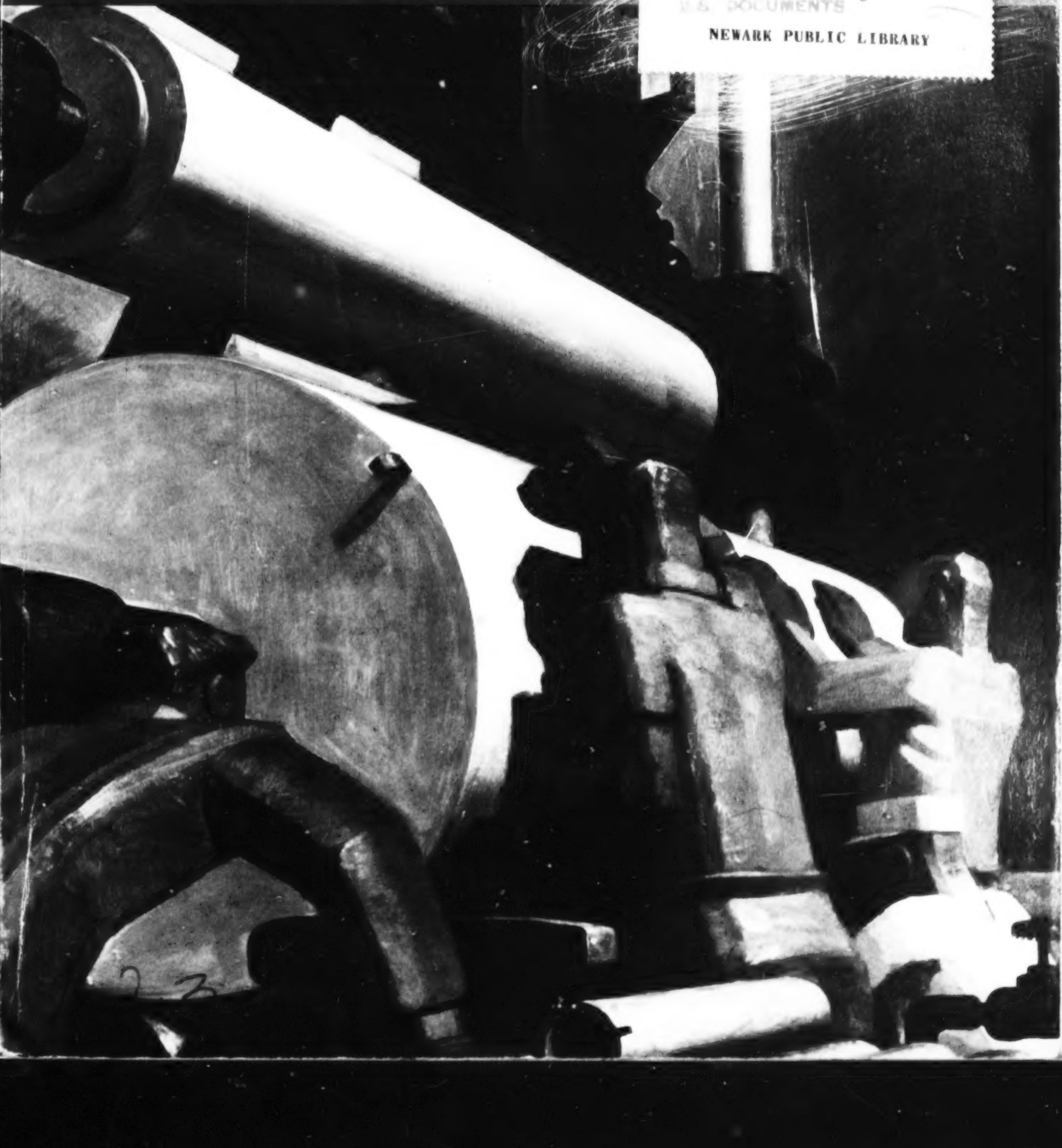

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Labor Month In Review

UNDERSTANDING THE CPI. In an effort to promote better public understanding of Canada's Consumer Price Index, the Economic Council of Canada has published an excellent booklet explaining the CPI in non-technical language. The booklet will be of interest to U.S. as well as Canadian readers because the Canadian and U.S. indexes, though different in some respects, share many concepts, uses, limitations, and problems, as the following excerpts demonstrate:

Weights. Once Statistics Canada assigns weights to the many items of the CPI, the weights do not change until the index is revised on the basis of new family spending surveys. Thus, between revisions, the CPI "basket" always measures the same quantity of whatever is surveyed, giving it the same importance, to make valid comparisons of price change over time. By holding the quantity and importance of individual items "constant"—necessary for the sake of comparability—the CPI assumes that consumers do not reallocate the elements of their budgets in response to price changes. Such an assumption breaks with reality, of course, but all consumer price indexes in the industrialized world give up a little realism in the interest of creating a useful measurement which give comparisons over time. The risk, naturally, is in losing touch with reality and for that reason Statistics Canada makes revisions, based on family spending surveys, to catch up with events and incorporate them into the CPI.

Substitution. One difficulty inherent in the CPI is that it has no scope for substitution once weights are assigned to the contents of the "basket." However, consumer buying habits are continually in flux as technology improvements and taste changes bring new products on the market and as incomes rise or fall. The faster these permutations in spending patterns, the more the CPI drifts away from reality. Trends such as eating more convenience foods are only incorporated at the time of revision—and then are held constant in the basket until the next revision. In the meantime, incomes tied to changes in a "fixed" CPI will be over-compensated if, in practice, they have substituted cheaper products and services. The CPI measures rising energy prices but does not recognize until the next revision that consumers may be using less energy through conservation or cheaper alternatives; as a result, consumers may have more income left over than what appears from a reading of the CPI.

Housing. Statistics Canada's treatment of housing in the CPI still does not solve the controversial issue—for index purposes—of housing as an asset whose value is changing. But as the CPI measures only price changes in consumption, increasing capital values can be ignored. Certainly this may not be true for individual owners who sell their houses and make a capital gain, but the purpose of the CPI is to reflect—not speculate on—changes in consumer prices.

Deflator. Another widely used application of the CPI is as a tool to calculate "real" income, which provides a view of what happens once the effect of inflation has been removed. Use of the CPI as a "deflator" enables analysts to determine retail sales figures, average weekly wages, and personal expenditures with the inflation factor removed. But there are risks in using the CPI as a "deflator" because, in some circumstances, it may present an inaccurate picture. For example, some but not all taxes are included in the CPI and it may be inappropriate to use the index as a "deflator" for pre-tax wages. Because income tax is not included in the CPI, it is not affected by any changes which may occur in income tax payments. As a result, the CPI is best equipped to deflate after-tax income.

Using the CPI to deflate other concepts of wage income may introduce biases. If governments choose to decrease sales taxes (included in the CPI) and increase income taxes (excluded from the index), then there appears to be an increase in real wages even though the consumer is no better off in real terms than before. In a similar vein, deflation of retail sales may produce incomplete conclusions about what appears to be happening in the economy. If, for instance, increases in energy prices drive up the CPI, it would appear to deflate retail sales even though energy may not be a significant component of those sales. Thus, the CPI as a "deflator" would overcompensate for changes which had not occurred in retail sales.

Limits. The index tells only of the rate of change, not of absolute price increases and will never match one person's monthly shopping basket. However, as a guide to inflation at one level of prices, the CPI is a convenient and useful tool for all the economic partners: government, business, labour, and consumers. In their search for an equitable arbitrator for inflation, they have turned to the CPI because its features lend easily to annual or quarterly adjustments for inflation. As a result, however, the CPI increasingly is assumed to be the final word about inflation, when, in fact, it is only one word.

The 32-page *Toward a Better Understanding of the Consumer Price Index,* by M. C. McCracken and E. Ruddick, is available from the Canadian Government Publishing Centre, Supply and Services Canada, Hull Quebec, Canada K1A0S9. Price is $3.50 in Canada, $4.20 in other countries. □

Special panel suggests changes in BLS Family Budget Program

Committee proposes four budget levels applicable to six different types of families, and based on median expenditures, rather than detailed commodity lists

HAROLD W. WATTS

The Bureau of Labor Statistics' Family Budget Program produces one of the most popular and widely publicized series in the repertoire of labor statistics. It provides annual estimates of the cost of purchasing hypothetical "market baskets" of goods that represent "lower," "intermediate," and "higher" standards of living. The budgets are styled for the traditional four-person family, and for a retired couple. For the worker's family, they estimate a corresponding total income, which provides for taxes and expenses consistent with the three consumption expenditure levels. These budgets are replicated for major cities and for regional averages. They provide the only available basis for inter-area comparisons of living costs or "real" income levels.[1]

In 1978, the Bureau of Labor Statistics contracted with the Wisconsin Institute for Research on Poverty to recommend revisions in the Family Budget Program. The Institute appointed the Expert Committee on Family Budget Revisions, which embodied a wide range of experience related both to methods of developing budget standards and to uses of the standards. The Bureau used similar outside expertise when it reviewed the budgets in 1948 and 1967. The committee and staff, which included members of the Poverty Institute, reviewed the existing program in detail, analyzed new evidence on spending patterns based on the 1972–73 Consumer Expenditure Surveys, and assessed the enlarged possibilities provided by the projected continuous Consumer Expenditure Survey. The panel heard testimony from government experts familiar with the development of the current budgets and commissioned several papers by other experts.

The committee recommended that four American Family Budget Standards be developed in place of the current three budgets. The revised standards have been designed to take advantage of the new information on family behavior collected in the new Consumer Expenditure Surveys. These recommendations have been submitted in the committee's report to the Commissioner of Labor Statistics and are now being considered.

This article explains the basic recommendations and the reasoning behind them. Although the proposed new standards are based on methods that diverge from past practices, they will yield budget totals that are very much in line with the existing series. But a more important continuity—the aim to express normative and quantitative standards that can be used to evaluate relative levels of living among groups, between times and across regions—has been maintained. Because such comparisons yield valuable insights and are widely used in the design and implementation of policy, it is important that they be based on clear and understandable principles. The committee, with only one dissenting vote, believes this report proposes a sound and improved basis

---

Harold W. Watts is a professor of economics at Columbia University and chairperson of the Expert Committee on Family Budget Revisions.

for such comparisons and unanimously recommends a program to study the direct estimation of standards from household attitude surveys. Refinement and validation of the direct methods hold the promise of still further improvements in the Family Budget Program.

Principal recommendations

Budget levels. The committee recommends four levels to replace the existing three budgets:

- Prevailing Family Standard
- Social Minimum Standard
- Lower Living Standard
- Social Abundance Standard

The Prevailing Family Standard, designed to reflect the level of living achieved by the typical family, is set at the median expenditure of two-parent families with two children. In the judgment of the committee, this standard affords a family full opportunity to participate in contemporary society, and to enjoy the basic options it offers. This level is the conceptual descendant of the intermediate budget, but it is also closely related to the traditional "modest but adequate" level of living or the "prevailing standards" of ordinary moderate living.

The other three levels are determined in fixed proportion to this basic standard; standards for other family sizes or types are also expressed relative to the archetypical four-person family. The Lower Living Standard, set at two-thirds of the Prevailing Family Standard, is a successor to the current lower budget. It represents a level that the committee regards as requiring frugal and careful management, leaving little room for choice in achieving what Americans regard as an acceptable standard of living. The Social Minimum Standard is set at half of the Prevailing Family Standard and lies, in the committee's judgment, in a boundary zone below which issues of deficiency and deprivation are appropriate matters of social concern. The Social Abundance Standard, set 50 percent higher than the Prevailing Family Standard (or three times the Social Minimum Standard), rounds out the set by providing a balancing view of a higher living standard. The committee regards this standard as marking the beginning of the expenditure range that increasingly affords choices in the luxury categories of consumption.

Table 1. Recommended equivalence scale and updated values of American family expenditure standards for 1979

Number of persons	Equivalence scale	Social Minimum Standard	Lower Living Standard	Prevailing Family Standard	Social Abundance Standard
1 aged	.50	$ 4,032	$ 5,376	$ 8,064	$12,096
1 nonaged	.54	4,355	5,806	8,710	13,064
2 aged	.61	4,919	6,559	9,839	14,758
2 nonaged	.67	5,403	7,204	10,806	16,210
3	.80	6,452	8,602	12,903	19,355
4	1.00	8,064	10,753	16,129	24,193
5	1.20	9,677	12,903	19,355	29,032
6	1.39	11,210	14,946	22,419	33,629
7	1.57	12,661	16,882	25,323	37,984
8	1.74	14,032	18,710	28,064	42,097
9	1.90	15,322	20,430	30,645	45,968
10	2.05	16,532	22,043	33,064	49,597
11	2.19	17,661	23,548	35,323	52,984
12	2.32	18,710	24,946	37,419	56,129
13+	2.32+ .12 for each over 12	18,710+ 967 for each over 12	24,946+ 1,290 for each over 12	37,419+ 1,935 for each over 12	56,129+ 2,903 for each over 12

NOTE: Assumes no real growth in median income from 1978 value for four-person household.

The committee members

Harold W. Watts (Chairperson)	Columbia University Department of Economics
Anne Draper	American Federation of Labor and Congress of Industrial Organizations, Department of Economic Research; and member, Labor Research Advisory Council, Bureau of Labor Statistics
Lawrence Gibson	General Mills, Marketing Research; and member, Business Research Advisory Council, Bureau of Labor Statistics
James E. Jones, Jr.	University of Wisconsin Law School
Bette Silver Mahoney	System Development Corporation Human Systems Division
Lee Rainwater	Harvard University Department of Sociology
Eugene Smolensky	University of Wisconsin Department of Economics
Barbara Starfield	The Johns Hopkins University School of Hygiene and Public Health

The interfamily equivalence scales. To allow for different family sizes, the expenditure standards for the four-person household are varied using an equivalence scale. The scale recommended has been adapted from the updated "poverty cut-offs" developed by Mollie Orshansky and Carol Fendler, which rely in turn on the relative cost of the "Thrifty Food Plans" provided by the U.S. Department of Agriculture.[2] The proposed scale sets the current expenditure levels for an aged single-person household at 50 percent of the four-person reference standard. A non-aged couple's standard is set at 67 percent of a four-person standard, and that of a family of eight at 174 percent. Table 1 shows the equivalence scale and the full set of levels evaluated for 1979.

The following estimates, based on the 1972–73 Consumer Expenditure Survey, give some idea of the distribution of the population relative to the proposed standards. More than two-thirds of the population lives between the Social Minimum Standard and the Social Abundance Standard; 13 percent are below the Social Minimum Standard, and 18 percent are above the Social Abundance Standard; more than one in four persons live below the Lower Living Standard. The all-too-familiar finding of lower incomes for black persons shows here as a rate of 36.1 percent below the Social Minimum Standard, in contrast to only 10.4 percent for nonblack persons. Children and older persons also show distinctly higher likelihood of living below the minimum and lower chances of living in abundance.

Methods of annual updating. A major objective in developing the recommendations was to provide continuous updating of the standards, based on current information and relatively free of discretionary choices. The recent BLS decision to conduct Consumer Expenditure Surveys on a continuous basis provides a way to keep the budgets up to date that has not existed in the past. The committee recommends that the median expenditures for the reference family type be estimated directly from the annual waves of survey data (using adjacent size groups if needed to enhance precision). For the interim until the survey estimates are available, an estimated expenditure can be obtained by adjusting annual income medians from the Current Population Survey.

Linking the structure of expenditure standards to the median level of the four-person reference family assures that the standards will not be made obsolete by changing economic conditions. Short-run variations in median expenditure levels should not, however, be reflected in norms or standards that gain much of their usefulness from their stability. Consequently, the committee recommends that the expenditure standards be maintained at their previous peak in real terms until a higher real median level is observed. This feature is called a "ratchet." The Consumer Price Index would be used for making the required estimates of real expenditure, thus preventing any decline in the real level of the various standards. During periods of constant or declining real median expenditures the nominal standards would continue to rise in tandem with the general price level, thus staying constant in "real" terms.

Detailed budgets and total income estimates. The new standards have been defined and expressed in terms of expenditure totals. But for many kinds of comparisons and to communicate the meaning of the standards more clearly, further detail is needed. An allocation of expenditures among major categories can be derived from the Consumer Expenditure Surveys. Average allocation patterns can be estimated for each of several types of families at each of the expenditure standards. It must be noted that for any level of total expenditure apparently identical families spend their money differently. These differences are surely due in part to different, but unobserved, circumstances, but there are also differences in tastes and preferences that lead a household to favor one line of consumption over another. Such differences have no apparent ill effect on the interests of the general public and are evidently preferred by the individuals concerned; consequently, the committee feels that to invest the average, or any other allocation, with normative or prescriptive significance is unjustified. The average patterns recommended show plausible allocations because they are based on observed behavior. However, equally plausible allocations can be obtained by trading some expenditures for others, and within a wide range there is no basis for authorative judgment that one is better than another.

The committee proposes that detailed allocations be developed and displayed for six different types of families:

- Two parents and two children (the reference family)
- An aged couple 65 and over
- A non-aged single person
- A one-parent, two-child family
- A two-parent, five-child family
- An aged single person

The budgets would be shown in detail for all four standards, except that the Social Abundance Standard should be omitted for the last three types. There are too few families of those kinds at that level to permit reliable estimation of allocation patterns.

For the non-aged family types, it is also necessary to estimate the level of gross income that will enable a worker's family to spend the amount specified for a given standard. Several adjustments apply here, but income and payroll tax adjustments are the most important and vary from State to State. The committee proposes that calculations based on current Federal and State laws be carried out to determine the tax adjustments needed to arrive at the appropriate equivalent gross income for each State.

Interarea differentials. The committee recommends the introduction of an interarea price index program based on fixed-weight or market-basket procedures. This program should provide price comparisons among all city and regional aggregates for which sufficient price data are regularly collected. While basic price comparisons are useful for many purposes, they do not show the cost of achieving equivalent living levels in different places. This second problem, the "true cost of living" question, cannot be directly resolved by reference to price data *or* to observed expenditure patterns. The committee urges continuing research on this problem, but for the imme-

One committee member dissents

The present BLS Family Budgets are based on detailed cost estimates of items necessary for a worker's family to maintain or achieve specified living standards. Under the proposal of the majority of the Expert Committee on Family Budget Revisions, these would be replaced by a set of declaratory judgments by the committee as to levels of total expenditure, tied to median consumption, that are designated as representing particular living standards.

Even the committee appears rather uncomfortable with this. It produces an ultimate proposal for surveys, that would ascertain public opinion on what is needed to maintain various living standards. Such a project has many useful possibilities as an adjunct to family budget research, and I support it. However, I do not believe it can substitute for systematic budget cost calculations from customary statistical data. In any case the results of such explorations lie far in the future. The immediate question is whether to adopt the committee's specific proposals, based on its judgments.

Why should we accept the committee's judgments? Its answer, in effect, is that the present budgets are equally based on judgments, although less obviously. Thus is discarded a history of Bureau budget-making and evolutionary development that spans more than 70 years. Has the Congress, in commissioning, accepting, and using such budgets, been fooled all this time?

The committee majority objects to the present budgets for their commodity lists, their use of scientific standards and expert opinion, and their elements of relativism. This fails to recognize the purpose of budget-making: estimating costs and making their nature explicit in terms of specific items of purchase, quantity, and price. Necessary costs for a given standard of living are not a mirror image of expenditures taken from a Consumer Expenditure Survey.

The Bureau's work in budget-making, in accordance with Congressional directives, has been skilled and honest. I would have interpreted the mandate of the committee as that of recommending improvements in the methodologies for selecting goods and services to be priced for the worker budgets, not that of overturning the bases of the present budgets in their entirety.

It would be difficult to describe the committee's declaratory judgments on expenditure totals as "methodology." The judgments were not, however, picked out of thin air. Essentially, they were arrived at by consulting the results of other people's judgments, including those of the rejected BLS budget-makers, and converting them to percentage relationships with median consumption figures. It was felt to be important not to have the dollar results diverge markedly from existing numbers that have already been accepted. With acceptable "number" results, the methodology, or lack of it, would not matter.

Thus, the choice of median consumption to represent the Prevailing Family Standard rests essentially upon the present Intermediate Family Budget, which the committee observes to have fallen historically "within the middle range of family incomes." The establishment of the Lower Living Standard at two-thirds of median consumption is pegged at the consumption level of the existing Lower Budget, and is further buttressed by Gallup poll opinion data on "how much it takes to get along." The Social Minimum Standard, set at 50 percent of the consumption median, is similar to other estimates for poverty threshold. When nonconsumption items and taxes are included, it will also be about 70 percent of the Lower Living Standard as referenced in the Comprehensive Employment and Training Act. The Social Abundance Standard, at 150 percent of the median, is simply the obverse of the Social Minimum and rests upon no particular observations or other reference data.

The committee's living standard lines essentially are derivative judgments based on existing estimates, rather than

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diate future, it recommends that adjustments in fuel and clothing that can be explicitly related to climate differences be recognized as the only basis for interarea adjustments. It is likely that additional adjustments are warranted, but in the absence of consistent evidence of their direction or size, differentials that are based on conjecture may cause more mischief than no adjustments at all.

Measuring popular conceptions of norms. The principles and basic notions that have inspired the new standards suggest the possibility of eliciting normative standards through general public surveys. Recent work in Europe and the United States suggests that people can be asked how much it takes to live comfortably, for example, or to just get along. Their answers can be related to their own income or expenditure levels. From these relationships a consensus can be derived that directly reflects popular views about standard living levels.

Potentially, a measure of this kind could replace the median expenditure standard that forms the basis of the committee's recommendations. All four standards might be estimated separately, for example, and the proportional relationship among them validated or improved. The system of interfamily equivalence scales could also be examined in light of directly expressed requirements of differently composed households. Direct survey questions could also produce independent evidence of interarea differentials.

But at present these approaches need further study and experimental implementation. The committee urges an extensive effort to evaluate these promising new methods. An experimental survey program is practical because the questions required could be added to both the new Consumer Expenditure Survey and other large-scale surveys. The survey program should be carefully designed to identify the best form for the questions. A coordinated analytic program, inside or outside the Buresting upon independent findings or methodologies developed by the committee.

The percentages arrived at are further mandated to remain indefinitely in the same fixed relationships. The Social Minimum is always to be 50 percent of the current year's median, the Lower Living two-thirds, and so forth.

The postulate that adequacy at prevailing levels of living is always at median consumption, and that other standards remain in fixed percentage relationships to the median, is inherently insupportable. In a very poor society, for example, or even our own at different periods in history, median consumption may be the minimum of needed consumption. At other times, median consumption may be well above such a minimum.

The committee's formula is particularly troublesome to contemplate in what may become an era of falling real living levels. There is no genuine safety net to protect whatever is represented in terms of necessary consumption, particularly at the Lower and Social Minimum levels. For the short term, the committee has devised a "ratchet" mechanism. This would obviate the problem by mandating that the median will always be at the real levels of 1972–73, or any subsequent higher real level, as determined through the Consumer Price Index. Under this specification, the "formula" median can readily exceed the actual median, producing a need for complicated explanations. If real living levels are reduced over a long period, the Bureau of Labor Statistics must drop the ratchet and presumably revise the percentages. No guidance is offered concerning when to drop the ratchet or what to do about the percentages. Quantity-cost budgets would no longer be available for guidance.

Regarding geographical or place-to-place variations for national median consumption, the logic of using expenditure totals instead of calculated costs is questionable. Obviously the committee would not want area median expenditures to be the basis for area variations from the national total. This is a problem the committee has not truly resolved, and on which it urges "continuing research." It has endorsed development of an interarea fixed-weight price index, which would ignore local area usage differences for such items as fuel, transportation, clothing, and food preferences. On a separate track, it suggests "climate adjustments" for home fuel use (and possibly clothing) based on degree days in each State; this to represent "living cost" differences on a State basis. The recommendations are incomplete and ad hoc.

The production of equivalent consumption totals for families of different sizes through use of the Orshanky scales is not necessarily objectionable. But, as the committee itself recognizes, this entails no real advance over existing methodologies, all of which are tied to food consumption. The main defect is the failure to detail what any of the budgets actually contain, in terms of tangible goods and services. In the committee formulations, "detail" consists only of percentages allocated to different categories, such as food, clothing, and housing.

In conclusion, I believe that abandonment of the Bureau's traditional quantity-cost budgets would be a grave loss. The budgets have made an independent and substantial contribution to studies of income adequacy. The explicit lists they provide of the commodities and services that go into the budgets are a crucial part of their value. People can judge for themselves whether the lists are reasonably representative of living standards at specified levels.

—Anne Draper
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reau of Labor Statistics, should also be developed in order to explore all possible uses of directly elicited living standard estimates.

New socioeconomic report. The final recommendation calls for the design of a new report that can take advantage of the evidence in the continuous Consumer Expenditure Survey, as well as other major Federal surveys, to illuminate the condition of American families and households as consumers. The new budget standards provide a framework in which the population of households and persons can be distributed and the latest information on spending patterns can also be displayed. Such a report would also explicate the annually updated living standards and combine them with revised tax and related adjustments in order to determine the income standards appropriate for each State. In addition to reporting on standard annual series, the report could offer interpretative analytical articles based on expenditure data and methodological articles on possible improvements to the Family Budget Standards Program.

Rationale for the changes

To the small and select group of individuals closely familiar with the Family Budgets Program, it will be evident that these recommendations depart sharply from existing practices. For readers who have used and followed the budget series, but are less familiar with the details of the series construction, this section will point out the main contrasts. The reasoning behind the changes is presented for both groups of readers.

Dollar totals vs. shopping lists. A major and far-reaching departure is proposed in the basic formulation of the budget. The existing budget total can be regarded as the cost of a specific list of goods and services drawn from a variety of sources to characterize a "modest but adequate" standard of living. The proposed Prevailing Family Standard aims at the same general level, but arrives at it by: (1) examining the living standards of a specified and familiar category of household spending a median number of dollars on current consumption relative to others of that type; and (2) taking that level as typifying the ordinary concept of prevailing living standards. Subtotals of expenditure for categories of consumption such as food, shelter, or clothing can be based upon average patterns observed for households at the median level. Illustrative lists of quantities of goods affordable within those totals can also be compiled on the basis of average price data. The critical difference is that the new procedure abandons the notion of a rigidly fixed list of things that are interpretable as minimum *needs* in achieving a given level of living.

Because of evidence that different families commanding the same set of choices select rather different commodities without apparent deterioration in health, vitality, or human dignity, the committee found mistaken the belief that there is a best or unique "recipe" for attaining a living standard. More important, careful examination showed that the existing lists of commodities were in fact not based on objective assessment of needs.

The idea that there are experts who can prescribe what is necessary for a working family to live decently is both widespread and attractive. It promises a basis for claims to "just wages" or "fair treatment" that are apparently supported by the absolute authority of science. Such claims are generally regarded as harder to refute than those based on relativistic standards such as the ones proposed by the committee. The committee might have embraced a set of well-authenticated needs that could be translated directly into costs. But no experts could be found who were willing to formulate such requirements. Nutritional experts can combine agreed-upon nutritional requirements (that can, in themselves, be satisfied at very low cost) with palatability limits and evidence related to food preferences to produce any number of need-filling food quantity lists. These lists have differing costs, and most people would prefer a higher cost "food plan" over a lower one. But the nutritional criteria provide no basis for choosing one plan over another, and the actual choice of a plan for the existing budget depends on relativistic measures that are no less arbitrary than the committee's proposal to assign median total expenditure as a standard of comparison.

Physical standards for housing have also been used in forming the budgets but, again, the standards do not determine a unique cost. The selection from among the wide range of values and prices of units that meet the standard is made by applying arbitrary and relativistic standards. Yet food and housing are usually considered the best cases for application of expert or scientifically sanctioned standards. The same recourse to arbitrary and essentially relative criteria was apparent at all stages of development of the quantity lists currently used for the family budgets.

The majority of the committee concluded that the main claimed advantage of lists of qualities of goods and services—that such lists assure the meeting of authoritatively established needs—was in fact illusory. Any cost total derived from lists of commodities has perforce been based on a myriad of individual judgments. Consequently, the committee majority, recognizing that a judgment based on individual values and *not* on scientific requirements must be made at some stage whatever the method used, decided to exercise that judgment in the choice of an expenditure *total* rather than in several hundred item choices.

It must be emphasized that the decision did not involve rejection of scientific or expert-based cost of living criteria. What was rejected was a complex and often obscure set of judgmental choices that has often and mistakenly been confused with scientific or expert-based standards. The theoretical and practical possibility of deriving genuine scientific quantity standards was also explored, but no promising new approach to determining detailed quantity lists was discovered. Finding no alternative to relying on its collective experience and judgment in assigning numerical totals to the more abstract notion of living standards, the committee chose an alternative that makes the exercise of judgment both explicit and "out front." The committee believes that family budgets based on its recommendations will be at least as useful as the current budgets but very much hopes that unsupportable claims will *not* be made by those who use them.

However, the family budgets do need an explicit conceptual base, and if the authoritative list of needs is abandoned, what is the alternative that informs the recommendations? The alternative is the notion of a popular or democratic consensus about norms or standards of comparison. The committee asserts that there is a general consensus about how much it takes for an ordinary family to "get along"—perhaps not an exact figure, but rather a range or "band" of total expenditure levels that contains what most people would agree is the "get along" amount. Similar consensus may be defined for thresholds for deprivation or abundance, and survey research, both in Europe and the United States, has been able to measure these levels.[3]

Assuming the existence of such norms as social facts, the committee addresses the task of finding acceptable ways of eliciting and expressing them in quantitative detail. The majority of the committee believes the reason the existing practice has been acceptable is that the numbers arrived at are consistent with the popular norms, not that they were derived from expert judgment. If "experts" had decided that everyone must have new shoes every week, for example, resulting budgets would have been widely rejected as outside the consensus for such norms. But it also follows that any method of establishing norms that succeeds in approximating the consensus will be reasonably well-received and found useful.

But this view of norms also suggests that a more direct way to elicit them would be to inquire about them in surveys. For this reason the committee recommends a major effort to evaluate and perfect the survey method so that it eventually may be considered in designing possible alternatives for the methods already recommended in this report.

In short, this report recommends a basic shift toward a more populist or democratic framework—the notion that ordinary people, not experts, know what they need in order to get along or to prosper. Thus, recommendations for new measurement are directed toward the task of finding stable and reproducible estimates of those levels.

Related differences. There are several implications of the basic change. First of all, in order to determine the cost of the shopping list, the existing budgets require current price data on the listed items; the process of updating the cost, between list revisions, similarly depends on a continuous flow of appropriate price data. The proposed approach does not require price data to establish a "bottom line" total cost number, but it does require continuous survey data on household expenditure behavior both for the total cost and for the current allocation among different lines of expenditure. Since price data would no longer be needed for the Family Budget Program (except for the "ratchet" computation which prevents reductions in real budget levels), the committee recommends that fixed-weight price index numbers be developed for inter-city and inter-regional comparisons. The existing budgets provide cost differentials that are often used as price differentials. The committee urges that the price data be kept separate from the budgetary norms but recognizes that each has its legitimate use and urges that both be surveyed and published.

Unlike the existing budgets which are shown only for specific cities and for regional aggregates that do not have homogeneous tax laws or climate, the new budget standards would be designed to cover all areas, State by State. In the event that dependable and consistent estimates of differential living costs according to urbanization can be formed, they could be added to the array of variations. But this should be done on a size or type-of-place basis rather than for specific cities. Because price data are collected only for specific cities, the committee recommends that the price comparisons be limited to those same cities.

The change in concept also implies a shift from an "absolute" to a "relative" standard, at least to the extent that the underlying, popularly conceived norms will be based on what the individuals are experiencing directly and on what they see going on around them. If the underlying norms can be faithfully reflected in the family budgets, they will automatically keep pace with the constantly changing levels and patterns of expenditure that correspond to the different standards. The absolute standards embodied in detailed lists of commodities must be overhauled periodically; only for a very short time do they approximate the patterns and items of actual current spending. (Pedal pushers, for example, are among the anachronistic items in the current budgets.)

Equivalence scales and family types. The proposed approach to the family budgets allows for extension of the budget levels and allocations to as many family types as desired. The committee recommends only six, but it would be possible to prepare other budgets of the same type on short notice if needed for special purposes. The equivalence scale provides an adjustment factor for calculating the appropriate budget total for any kind or size of family, and the most recently estimated expenditure allocation system will yield average patterns of spending for each. Finally, the tax and "other expense" categories can be calculated and added to yield a total "gross income" requirement for maintaining the standard for each kind of family. With the existing system a whole new list of goods and services must be specified for each separately budgeted family type. Clearly the size of this task has been an obstacle to providing coverage for a wider variety of family types. While the existing program has its own set of equivalence scales that can be used to adjust the four-person spending totals, they have never been widely used or given prominent attention.

ALTHOUGH THE COMMITTEE recommends substantial changes in the way family budgets are conceived, estimated, and presented, the new standards are very much in line with the traditional ones. The levels that have been chosen provide essential continuity with those that have been developed and found useful in the existing program. Consequently, the typical user will not notice any sharp change in the overall appearance of the budgets despite the sharp change in methodology. If the recommendations are accepted the committee believes that the broader coverage of the budgets, both as to family types and areas, will make the budgets useful for a wider range of users and that the proposed new Report on Household Consumption will add an important dimension to our array of social indicators. ☐

FOOTNOTES

[1] A large part of the estimates were based on analysis of the 1960–61 Survey of Consumer Expenditures. Given the availability of data from the 1972–73 Consumer Expenditure Survey and the mandate of the Comprehensive Employment and Training Act (CETA) of 1973 that "the Secretary (of Labor) shall develop methods to establish and maintain more comprehensive household and budget data at different levels of living, including a level of adequacy, to reflect the differences of household living costs in regions and localities, both urban and rural," the Bureau of Labor Statistics began to plan for a comprehensive revision of the Family Budget Program.

[2] See Carol Fendler and Mollie Orshansky, "Improving the Poverty Definition" in *Statistical Uses of Administrative Records with Emphasis on Mortality and Disability Research: Selected Papers given at the 1979 Annual Meeting of the American Statistical Association*, Washington, D.C., August 1979. Social Security Administration, Office of Research and Statistics, pp. 161–68.

[3] See Denton Vaughn and S. Lancaster, "Income Levels and Their Impact on Two Subjective Measures of Wellbeing: Some Early Speculation from Work in Progress," *1979 Proceedings of the Section on Survey Research Methods, American Statistical Association*, Forthcoming; and Frank M. Andrews and Stephen B. Withy, *Social Indicators of Wellbeing: Americans' Perceptions to Life Quality* (New York, Plenum Press, 1976.)

Inflation's diffused pattern

Inflation is characterized by a general and widely diffused rise in prices and costs. However, all prices and factors affecting prices do not begin to rise or fall at the same time. In part, this is due to the existence of more or less regular sequences in the movement of different prices. Prices in some markets almost always begin to rise more promptly than in other markets. Similarly, some prices typically begin to fall sooner than others.

Moreover, prices do not all move at the same pace, and in particular, they do not necessarily move at the same pace as wages or costs of production. Prices of some types of assets, such as common stocks or land, rise or fall, while the money price of other assets, such as savings accounts or debt instruments, may not change at all. These differences in price behavior have significant consequences. Real wages—money wages adjusted for price changes—may rise or fall, with vital effects on the wage earner and his family. Profit margins, dependent on the difference between prices and costs, may rise or fall, thereby encouraging or discouraging expansion of production, development of investment plans, or shifts of resources from one activity to another.

——GEOFFREY H. MOORE,
Business Cycles, Inflation, and Forecasting (New York,
National Bureau of Economic Research, Inc., 1980),
p. 214.

The 1995 labor force: a first look

All three projections—high, middle, and low—indicate that women will account for two-thirds of the growth, most of which will occur in the prime working-age group; the black labor force will grow twice as fast as the white force

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By the mid-1980's, persons in the labor force are projected to exceed those not in the labor force—including babies. This development reflects the changing age composition of the population which, in turn, is caused by the swings in births over the past 50 years. By 1995, this labor force would have a greater proportion of women and minorities; indeed, about two-thirds of the labor force growth would be generated by women, reflecting their continued labor force participation.[1]

The projections discussed in this article are part of a continuing program of economic projections made by the Bureau of Labor Statistics. As part of this program, every 2 years labor force projections are prepared, followed by projections of the economy, of employment by industry, of demand, and ultimately, of occupations by industry.

The Bureau of Labor Statistics developed three labor force growth scenarios: a *high-growth* projection, which assumes rapid growth in the labor force participation of women in the 1980's and the convergence of participation between black men and white men under age 65; a *middle-growth* scenario, with the expansion coming from women; and a *low-growth* path with only moderate increases in the participation of women and with the divergence in male participation between races continuing.[2]

In the intermediate scenario, the labor force is projected to reach 115 million by 1985 and 128 million by 1995. (See table 1.) This represents 1.8 percent growth per year from 1979 to 1985 and 1.0 percent per year from 1985 to 1995. (See table 2.) Under this scenario, labor force rates of women age 20 to 44 are assumed to rise at an increasing rate until 1983. For most age groups of men, participation is projected to decline, although not as fast as it did in the 1970's. Overall participation is assumed to increase more rapidly for whites than for blacks.[3]

In the high-growth scenario, the labor force is projected to grow 2.3 percent per year between 1979 and 1985 and 1.1 percent per year between 1985 and 1995. Under this scenario, about 135 million persons would be in the labor force in 1995. The participation rates for women age 16 to 19 and 45 to 64 are projected to grow at an increasing rate until 1985, before tapering off in the 1990's. The rates for white men age 25 to 39 are assumed to rise, reversing a long-term drop since 1960. By the end of the century, the labor force participation ratio of black men are projected to converge to the ratio of white men. (With the higher rate of black involvement in the Armed Forces and higher rates of institutionalization, the civilian labor force rates for

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some age groups of black men would exceed those of white men.) However, because blacks make up about 12 percent of the labor force, this assumption of the high-growth scenario does not have a significant impact on the level of the overall labor force.

In the low-growth scenario, the labor force is projected to grow 1.1 percent a year from 1979 to 1985 and 0.8 percent from 1985 to 1995. By 1995, the civilian labor force is projected to be only 122 million. The participation rates of women age 20 to 44 are projected to rise over the entire period, but at a decreasing rate. For other age groups of women, participation is assumed to increase at a slower rate than in the middle-growth path, reflecting a longer run experience than that in the 1970's. For men, labor force activity is projected to decrease more rapidly than in the middle-growth scenario, leading to an increased disparity in rates by race.

Women provide most growth

As a base for these projections, we used the population projections prepared by the Bureau of the Census. Under the Series II (middle) projection, the population 16 and older grows steadily through 1995, although the decrease in births (which began around 1960) means slower rates of growth during the remainder of this century.[4] (See table 3.) Because of reduced birth rates during the 1930's and the 1970's and the baby boom of the 1950's, the age composition of the population and, thus, of the labor force will change significantly during the next 15 years.[5]

In the past, much of the increase in the labor force has been generated by the entrance of youth and women. The number of new labor force entrants could drop in the future because there will be fewer youths. This means that the labor force would consist of more experienced workers than now. By 1985, the small number of persons born during the Great Depression will begin to leave the prime working ages. They will be replaced by the more populous baby-boom generation; the growth of the older population will be slowed.

More than two-thirds of the 1980–95 labor force growth would come from women. (These projections do not yield estimates of new entrants and of re-entrants.) Women are expected to compose an additional 4 percent of the labor force in 1995 under each of the three patterns of labor force growth. The increase in the proportion of employed women in the prime working-age group would more than offset the decreasing proportions of younger and older working women. On the other hand, the proportion of men in the labor force is assumed to be slightly less. Under the medium- and low-growth scenarios, the activity rates of men age 25 and over is expected to drop. Under the high-growth path, the rates for men age 40 to 64 are projected to remain constant and the rates for men age 25 to 39 will increase slightly. Rates for men and women under age 25 are moving up, but those for women are increasing faster. In the older age groups, where rates for men and women are dropping, those for men are dropping faster. Hence, women's increasing share of the labor force reflects their own greater activity as well as the decrease in male participation.

Until recently, labor force participation has been dropping for most age groups of black men, while their population has been increasing at a higher rate than that of whites. As the black population continues to grow at a faster rate, the black labor force also can be expected to grow at a faster rate. Thus, under all three projections, the black labor force is growing considerably faster—at about twice the rate of whites. That the relatively rapid growth is related to population growth may be seen by comparing possible participation rates. Under middle and low scenarios, the overall rate is lower for blacks than for whites. Under the high-growth scenario, which assumes convergence of male total participation ratios for blacks and whites, black civilian la-

Table 1. Civilian labor force based on three different growth paths to 1995

Growth path	Actual (in millions)			Projected (in millions)			Annual percent change[1]					Participation rate					
												Actual			Projected		
	1965	1975	1979	1985	1990	1995	1965 to 1975	1975 to 1979	1979 to 1985	1985 to 1990	1990 to 1995	1965	1975	1979	1985	1990	1995
Total	74.5	92.6	102.9				2.2	2.7				58.9	61.2	63.7			
Middle growth				115.0	122.4	127.5			1.9	1.3	0.8				66.5	67.9	68.6
High growth				118.3	128.1	134.7			2.4	1.6	1.0				68.4	71.1	72.4
Low growth				111.7	117.4	121.7			1.4	1.0	.7				64.6	65.2	65.9
Men	48.3	55.6	59.5				1.4	1.7				80.7	77.9	77.9			
Middle growth				63.6	65.9	67.6			1.1	.7	.5				77.7	77.2	76.8
High growth				64.8	68.2	70.8			1.4	1.0	.8				79.2	79.9	80.5
Low growth				62.5	63.9	64.9			.8	.4	.3				76.3	74.9	73.7
Women	26.2	37.0	43.4				3.5	4.1				39.3	46.3	51.0			
Middle growth				51.4	56.5	59.9			2.9	1.9	1.2				56.5	59.6	61.2
High growth				53.4	59.9	63.9			3.5	2.3	1.0				58.7	63.2	65.2
Low growth				49.2	53.5	56.8			2.1	1.7	1.2				54.1	56.4	57.9

[1] Compounded continuously.

Table 2. Annual rate of growth of the civilian labor force by sex, age, and race, 1975–79 and projected to 1995

[In percent]

Age, sex, and race	Actual	Projected								
		Middle growth			High growth			Low growth		
	1975 to 1979	1979 to 1985	1985 to 1990	1990 to 1995	1979 to 1985	1985 to 1990	1990 to 1995	1979 to 1985	1985 to 1990	1990 to 1995
Total, age 16 and over	2.67	1.86	1.25	.83	2.34	1.61	1.01	1.37	.99	.72
Men	1.70	1.11	.70	.52	1.43	1.01	.76	.80	.45	.32
16 to 24	3.15	−1.47	−2.17	−1.16	−1.11	−1.67	−.63	−1.67	−2.26	−1.19
16 to 19	1.39	−2.25	−.79	−.34	−1.76	−.14	.28	−2.41	−.87	−.38
20 to 24	2.72	−.06	−2.94	−1.66	.22	−2.53	−1.21	−.28	−3.04	−1.89
25 to 54	1.83	2.06	1.88	1.10	2.24	2.04	1.23	1.88	1.72	.96
25 to 34	3.32	2.18	.52	−1.59	2.43	.75	−1.40	2.01	.35	−1.74
35 to 44	2.45	3.88	3.18	1.87	4.00	3.28	1.97	3.72	3.03	1.75
45 to 54	−.91	−.41	2.37	4.03	−.28	2.50	4.14	−.63	2.19	3.88
55 and over	−.91	.78	−1.20	−.57	1.69	−.26	.14	−.27	−2.30	−1.48
55 to 64	.56	−.04	−1.43	−.44	.58	−.83	.00	−.99	−2.37	−1.15
65 and over	−6.96	4.47	−.33	−1.04	6.51	1.64	.56	2.98	−2.01	−2.80
Women	4.06	2.85	1.91	1.18	3.52	2.33	1.29	2.13	1.67	1.18
16 to 24	3.30	.49	−.90	−.21	1.02	−.24	−.28	−.04	−1.20	−.46
16 to 19	2.63	−1.16	.08	.30	−.84	.48	.73	−1.55	−.23	.10
20 to 24	3.73	1.48	−1.46	−.52	2.12	−.65	−.88	.85	−1.76	−.81
25 to 54	4.88	4.28	3.24	1.73	5.05	3.56	1.86	3.42	3.04	1.83
25 to 34	7.19	4.98	2.06	−.73	6.03	2.38	−.60	3.82	1.93	−.55
35 to 44	5.78	6.12	4.64	2.59	6.84	5.01	2.85	5.35	4.41	2.84
45 to 54	.72	.52	3.28	4.56	.80	3.59	4.75	.12	2.96	4.31
55 and over	2.05	.45	−.61	.01	.86	−.15	.30	.07	−.85	−.10
55 to 64	1.91	.44	−.98	.11	.83	−.63	.29	.13	−1.26	−.04
65 and over	2.60	.47	.78	−.36	1.02	1.62	.33	−.13	.72	−.30
WHITE										
Total, age 16 and over	2.49	1.71	1.08	.63	2.10	1.37	.76	1.22	.84	.57
Men	1.56	.96	.55	.36	1.20	.77	.52	.68	.32	.19
16 to 24	2.07	−.97	−2.28	−1.25	−.91	−2.14	−1.09	−1.16	−2.34	−1.26
25 to 54	1.68	1.88	1.72	.93	2.04	1.84	1.01	1.75	1.59	.82
55 and over	.39	−.22	−1.32	−.64	.60	−.47	−.01	−1.31	−2.47	−1.60
Women	3.89	2.72	1.74	.96	3.32	2.11	1.04	1.87	1.49	1.02
16 to 24	3.11	.36	−1.07	−.57	.68	−.72	−.78	−.16	−1.38	−.59
25 to 54	4.74	4.19	3.11	1.55	4.92	3.44	1.67	3.29	2.91	1.68
55 and over	1.94	.28	−.88	−.16	.68	−.43	.09	−.08	−1.12	−.29
BLACK AND OTHER										
Total, age 16 and over	3.97	2.97	2.39	2.02	4.01	3.14	2.46	2.42	2.05	1.65
Men	2.95	2.27	1.85	1.58	3.26	2.71	2.32	1.80	1.40	1.20
16 to 24	3.29	−.07	−1.41	−.56	2.33	1.06	1.66	−.32	−1.05	−.76
25 to 54	3.13	3.42	3.06	2.29	3.82	3.45	10.35	2.91	2.62	1.91
55 and over	1.52	.46	−.07	.07	2.11	1.57	1.49	−.18	−.19	−1.02
Women	5.15	3.71	2.92	2.44	4.81	3.56	2.58	3.09	2.70	2.08
16 to 24	4.67	1.35	.13	1.90	3.19	2.37	2.11	.72	−.11	.28
25 to 54	5.11	4.85	3.96	2.73	5.79	4.18	2.84	4.20	3.74	2.63
55 and over	2.94	1.77	1.25	1.18	2.27	1.79	1.62	133	1.03	1.14

NOTE: Compounded continuously.

bor force participation exceeds that of whites by 1995. (This reflects, for black women, an expected continuation of higher participation and, for black men, higher rates of institutionalization and of participation in the Armed Forces.) Under the middle and low scenarios, the racial gap in male participation rates is projected to approximately double from the percentage point difference in 1979.

The above description of population and labor force changes suggests that the discussion of future labor force trends should focus on two periods, 1979 to 1985, and 1985 to 1995. During 1979–85, the teenage and young adult population will decline in absolute numbers and the prime-age population will grow sharply. During 1985–95, the older adult population will grow at a slower rate. Further, during the late 1980's and early 1990's, women of the baby-boom generation will pass their prime childbearing ages.

The changing labor force, 1979–85

A look back to 1975 will help our gaze forward to 1985. In 1975, the total fertility rate was 1.8 children per woman; for 1985, the Census Bureau's Series II population projection is for 2.0 children per woman.[6] Because the total fertility rate adjusts for changing age composition, there would be an increase in births from the levels of the 1970's. This increase in fertility rates, coupled with the increase in the labor force participation of women, means there would be more working mothers.

In 1975, 46 percent of all women were in the labor force. By 1985, this is projected to increase to 56.4 percent under the middle-growth scenario. (See tables 4 and 5.) This dramatic increase reflects both the movement of women of the baby-boom generation into the prime working-age group and the projection of increased activity rates. In 1975, women represented 40 percent of the labor force—by 1985 they would represent about 45 percent. The percents do not vary much across scenarios.

Slow growth for youths. Since the early 1960's, the youth population (age 16 to 24) has been growing at a faster rate than has the older population. However, 20 years have passed since the years of peak births, and the size of this age group has begun to fall. Thus, with the aging of the baby-boom cohort, the numbers of those age 16 to 24 almost certainly will decline so that, despite a projected increase in their labor force participation rates, the level of the youth labor force would fall. (Of course, the drop would not be as sharp as that for the population component.)

The composition of the younger population will also be affected by the difference in fertility between blacks and whites. Although fertility for both groups has been falling, black fertility rates remain higher. As a consequence, the black population is younger (the median age is lower), and the youth population will have a greater proportion of blacks than will the population age 25 and over. At the same time, black youths have lower labor force participation than do their white counterparts, so if other things remained the same, the

Table 3. Civilian noninstitutional population, by age, sex, and race, 1975–79 and projected to 1995

[Numbers in thousands]

Age, sex, and race	Actual population		Projected population			Net change				Annual percent change[1]			
	1975	1979	1985	1990	1995	1975 to 1979	1979 to 1985	1985 to 1990	1990 to 1995	1975 to 1979	1979 to 1985	1985 to 1990	1990 to 1995
Total, 16 and over	151,268	161,532	172,850	180,129	186,034	10,264	11,318	7,279	5,905	1.65	1.14	0.83	0.65
Men	71,403	76,449	81,889	85,285	88,031	5,046	5,440	3,396	2,746	1.72	1.15	.82	.64
16 to 24	16,793	17,669	16,364	14,695	13,983	876	−1,305	−1,669	−712	1.28	−1.27	−2.13	−.99
16 to 19	8,046	8,155	6,920	6,521	6,403	109	−1,235	−399	−118	.34	−2.70	−1.18	−.35
20 to 24	8,747	9,514	9,444	8,174	7,580	767	−70	−1,270	−594	2.21	−.12	−2.85	−1.50
25 to 54	36,617	39,381	44,707	49,224	52,190	2,764	5,326	4,517	2,966	1.84	2.14	1.94	1.18
25 to 34	14,537	16,552	18,988	19,574	18,122	2,015	2,436	586	−1,452	3.30	2.31	.61	−1.53
35 to 44	10,756	11,838	14,947	17,510	19,236	1,082	3,109	2,563	1,726	2.43	3.96	3.22	1.90
45 to 54	11,324	10,991	10,772	12,140	14,832	−333	−219	1,368	2,692	−.74	−.33	2.42	4.09
55 and over	17,994	19,399	20,818	21,386	21,858	1,405	1,419	548	492	1.90	1.18	.52	.46
55 to 64	9,215	9,782	10,217	9,819	9,738	567	435	−398	−81	1.50	.73	−.79	−.82
65 and over	8,779	9,617	10,601	11,547	12,120	838	984	946	573	2.31	1.64	1.72	.97
Women	79,865	85,083	90,961	94,844	98,003	5,218	5,878	3,883	3,159	1.59	1.12	0.84	0.66
16 to 24	17,686	18,397	17,012	15,322	14,560	711	−1,385	−1,690	−762	.99	−1.30	−2.07	−1.02
16 to 19	8,215	8,224	6,981	6,560	6,421	9	−1,243	−421	−139	.03	−2.69	−1.24	−.43
20 to 24	9,471	10,173	10,031	8,762	8,139	702	−142	−1,269	−623	1.80	−.23	−2.67	−1.46
25 to 54	39,326	42,031	47,318	52,022	55,156	2,705	5,287	4,704	3,134	1.68	1.99	1.91	1.18
25 to 34	15,488	17,499	19,906	20,533	19,071	2,011	2,407	627	−1,462	3.14	2.17	.62	−1.47
35 to 44	11,632	12,780	15,938	18,553	20,384	1,148	3,158	2,615	1,831	2.36	3.75	3.06	1.92
45 to 54	12,206	11,752	11,474	12,936	15,701	−454	−278	1,462	2,765	−.94	−.40	2.43	3.95
55 and over	22,853	24,656	26,631	27,500	28,287	1,803	1,975	869	787	1.92	1.29	.64	.71
55 to 64	10,347	10,930	11,293	10,736	10,637	583	363	−557	−99	1.38	.55	−1.01	−.19
65 and over	12,506	13,726	15,338	16,784	17,650	1,220	1,612	1,426	886	2.35	1.87	1.79	1.01
WHITE													
Total, 16 and over	133,501	141,614	150,085	155,029	158,791	8,113	8,471	4,944	3,762	1.49	.97	.65	.48
Men	63,385	67,493	71,632	73,982	75,770	4,108	4,139	2,350	1,788	1.58	1.00	.65	.48
16 to 24	14,526	15,175	13,796	12,154	11,418	649	−1,379	−1,645	−733	1.10	−1.58	−2.50	−1.24
25 to 54	32,569	34,816	39,151	42,788	45,002	2,247	4,335	3,637	2,214	1.68	1.98	1.79	1.01
55 and over	16,291	17,501	18,685	19,040	19,350	1,210	1,184	355	310	1.81	1.10	.38	.32
Women	70,115	74,120	78,453	81,047	83,021	4,005	4,333	2,594	1,974	1.48	.95	.65	.48
16 to 24	15,068	15,522	14,118	12,482	11,724	454	−1,404	−1,636	−758	.74	−1.57	−2.43	−1.25
25 to 54	34,315	36,339	40,457	44,115	46,352	2,024	4,118	3,658	2,237	1.44	1.81	1.75	.99
55 and over	20,733	22,257	23,878	24,450	24,945	1,524	1,621	572	495	1.79	1.18	.47	.40
BLACK AND OTHER													
Total, 16 and over	17,768	19,918	22,765	25,100	27,243	2,150	2,847	2,335	2,143	2.90	2.25	1.97	1.65
Men	8,018	8,955	10,257	11,303	12,261	937	1,302	1,042	958	2.80	2.29	1.96	1.64
16 to 24	2,267	2,493	2,568	2,541	2,565	226	75	−27	24	2.40	.50	−.29	.19
25 to 54	4,048	4,564	5,556	6,436	7,188	516	992	880	752	3.04	3.33	2.98	2.23
55 and over	1,703	1,897	2,133	2,326	2,508	194	236	193	182	2.73	1.97	1.75	1.52
Women	9,750	10,963	12,508	13,797	14,982	1,213	1,545	1,289	1,185	2.97	2.22	1.98	1.86
16 to 24	2,618	2,873	2,894	2,840	2,836	255	21	−54	−4	2.36	.12	−.38	−.03
25 to 54	5,011	5,691	6,861	7,907	8,804	680	1,170	1,046	897	3.23	3.17	2.88	2.17
55 and over	2,120	2,399	2,753	3,050	3,342	279	354	297	292	3.14	2.32	2.07	1.85

[1] Compounded continuously.

Table 4. Civilian labor force participation rate by sex, age, and race, 1975–79 and projected to 1995

[In percent]

Sex, age, and race	Actual		Projected								
			Middle growth			High growth			Low growth		
	1975	1979	1985	1990	1995	1985	1990	1995	1985	1990	1995
Total, age 16 and over	61.2	63.7	66.5	67.9	68.6	68.4	71.1	72.4	64.6	65.2	65.4
Men	79.7	77.9	77.7	77.2	76.8	79.2	79.9	80.5	76.3	74.9	73.7
16 to 24	78.7	77.9	76.9	76.8	76.1	78.7	80.5	82.0	76.1	75.5	74.7
16 to 19	59.2	61.7	63.4	64.7	64.7	65.3	68.8	71.1	62.8	63.8	63.7
20 to 24	84.6	86.6	86.9	86.4	85.7	88.4	89.8	91.2	85.8	84.9	84.1
25 to 54	94.4	94.4	94.0	93.7	93.4	95.0	95.5	95.7	93.0	92.0	91.0
25 to 34	95.3	95.4	94.7	94.3	94.0	96.1	96.7	97.4	93.7	92.5	91.5
35 to 44	95.7	95.8	95.4	95.2	95.1	96.0	96.4	96.7	94.4	93.6	93.0
45 to 54	92.1	91.4	91.0	90.8	90.6	91.7	92.1	92.4	89.8	88.8	87.9
55 and over	49.5	44.2	43.1	39.6	37.6	45.5	43.8	43.1	40.5	35.1	31.8
55 to 64	75.8	73.0	69.7	67.5	66.5	72.4	72.2	72.8	65.8	60.7	57.8
65 and over	21.7	20.0	17.5	15.8	14.3	19.7	19.6	19.2	16.1	13.3	11.0
Women	46.3	51.0	56.5	59.6	61.2	58.7	63.2	65.2	54.1	56.4	57.9
16 to 24	48.3	62.6	69.7	73.9	77.0	71.9	78.9	81.8	67.5	70.5	72.5
16 to 19	49.2	54.5	59.8	63.9	66.3	61.0	66.5	70.5	58.4	61.4	63.1
20 to 24	64.1	69.1	76.5	81.4	85.3	79.5	68.1	90.7	73.8	77.3	79.8
25 to 54	55.0	62.2	71.1	75.9	78.0	74.3	80.5	83.3	67.7	71.5	73.9
25 to 34	54.6	63.8	75.1	80.7	83.7	79.7	86.9	90.8	70.3	75.0	78.5
35 to 44	55.8	63.6	72.9	78.6	81.7	75.9	83.2	87.2	69.8	74.4	77.9
45 to 54	54.0	58.4	61.7	64.3	66.2	62.7	66.4	69.0	60.2	61.8	62.9
55 and over	23.1	23.2	22.1	20.7	20.2	22.6	21.7	21.5	21.6	20.0	19.4
55 to 64	41.0	41.9	41.6	41.7	42.3	42.6	43.4	44.5	40.9	40.3	40.6
65 and over	8.3	8.3	7.7	7.3	6.8	7.9	7.9	7.6	7.4	7.0	6.6
WHITE											
Total, age 16 and over	61.5	64.0	66.8	68.3	68.8	68.4	70.9	7.19	65.0	65.6	65.9
Men	78.7	78.6	78.5	78.1	77.7	79.6	80.1	80.3	77.2	76.0	74.9
16 to 24	74.3	77.2	80.1	81.0	80.9	80.4	81.9	82.5	79.2	79.8	79.7
25 to 54	95.1	95.1	94.6	94.3	93.9	95.5	95.7	79.9	93.8	93.0	74.0
55 and over	49.8	47.1	43.6	40.0	38.1	45.8	43.9	43.1	40.8	35.3	32.1
Women	45.9	50.6	56.2	59.3	60.7	58.2	62.5	64.3	53.8	56.1	57.6
16 to 24	59.0	64.8	72.8	78.0	80.6	74.2	80.9	82.8	70.5	74.4	76.9
25 to 54	56.2	61.6	70.8	75.7	77.8	73.8	80.2	83.0	67.2	71.2	73.6
55 and over	22.8	22.9	21.7	20.3	19.7	22.2	21.2	20.9	21.2	19.6	18.9
BLACK AND OTHER											
Total, age 16 and over	59.3	61.8	64.4	65.8	67.0	68.5	72.5	75.4	62.4	62.7	62.7
Men	71.5	71.9	71.9	71.5	71.3	76.2	79.0	81.7	69.9	68.0	66.6
16 to 24	60.1	62.3	60.2	56.6	54.5	69.4	74.0	79.6	59.3	55.1	52.5
25 to 54	89.0	89.3	89.8	90.2	90.5	91.8	94.0	96.0	87.1	85.6	84.3
55 and over	45.1	43.0	39.3	35.9	33.5	43.4	43.0	42.9	37.8	33.5	30.3
Women	49.2	53.5	58.3	61.1	63.5	62.2	67.1	70.3	56.3	58.3	59.5
16 to 24	46.4	50.8	54.7	56.1	61.8	60.9	69.8	77.6	52.7	53.4	54.2
25 to 54	60.8	66.3	73.1	77.0	79.2	77.1	82.1	84.9	70.4	73.5	75.2
55 and over	26.4	26.2	25.4	24.4	23.6	26.2	25.8	25.5	24.7	23.5	22.7

growth of the youth labor force would be slower. (See table 6.)

The number of black youths should increase slightly while the number of whites should drop. Only black young men had lessening labor force participation during the 1970's. Under the middle-growth projection, this drop is assumed to continue, although at a decreasing rate. The effects of greater labor force participation by black women and a proportionately larger youth population would offset the decline in male participation, and black youths would constitute the same proportion of the labor force in 1985 as at present. Under both the middle- and high-growth projections, the black youth labor force would be half men and half women. In the high-growth scenario, black youths represent an even greater proportion of the labor force in 1985; the more pessimistic low-growth pattern yields a lower proportion.

Prime-age labor force. The prime-age workers (25 to 54 years) would be the fastest growing component of the labor force under each of the growth paths. The following tabulation shows annual growth rates by major age group and race, 1975–79, and projected growth for 1979–85:

	1975–79	*1979–85*
Youth	3.2	−0.6
Prime	3.0	3.0
Older	.2	.7
White	2.6	1.7
Black and other	4.0	3.0

In each scenario, the prime-age labor force of women would grow at a faster rate than that of men. Under the high projection, between 1975 and 1985, the female labor force is projected to grow at twice the male rate and at a pace faster than that experienced in the 1970's. This is due to three factors: the movement of women of the baby-boom generation into this age group, a moderate rise in fertility, and a continued growth in female labor force participation. The high-growth scenario for women in this age group is an attempt to reflect the acceleration in participation that was exhibited in the 1970's.

Under the high-growth scenario, prime-age men (particularly young men), are also expected to experience an increase in participation. Under the high-growth path, prime-age men would represent 78 percent of the total male labor force, a moderate increase from 1979. Under the middle-growth path, such trends would also be evident, although less significantly. For example, by 1985, prime-age male workers would represent only 75 percent of the male labor force. With the more pronounced drop anticipated under the low-growth scenario, the proportion of prime-age men would be less than in 1975, while their female counterparts would be more than 10 percentage points higher than in 1975.

Older workers. Older people (age 55 and over) have the most on-the-job experience, although on average, they have the least formal education. From 1979 to 1985, older workers are expected to participate less intensively in the labor force. These projections do not indicate the extent of part-time labor force activity that this growing segment of the population might elect.

Under the high-growth scenario, men age 55 to 64 are expected to have only a modest decrease in participation. This decrease, coupled with population growth, will result in an increase in their labor force. Under the

Table 5. Civilian labor force by sex, age, and race, 1975–79 and projected to 1995
[Numbers in thousands]

Sex, age, and race	Actual		Projected								
			Middle growth			High growth			Low growth		
	1975	1979	1985	1990	1995	1985	1990	1995	1985	1990	1995
Total, age 16 and over	92,613	102,908	114,985	122,375	127,542	118,252	128,123	134,753	111,706	117,394	121,684
Men	55,615	59,517	63,600	65,880	67,611	64,825	68,174	70,835	62,458	63,888	64,918
16 to 24	12,158	13,769	12,592	11,282	10,641	12,873	11,833	11,463	12,445	11,099	10,450
16 to 19	4,760	5,031	4,387	4,216	4,144	4,521	4,489	4,553	4,344	4,158	4,078
20 to 24	7,398	8,738	8,205	7,066	6,497	8,352	7,344	6,910	8,101	6,941	6,372
25 to 54	34,569	37,180	42,029	46,147	48,758	42,473	46,988	49,950	41,584	45,287	47,507
25 to 34	13,854	15,792	17,976	18,453	17,029	18,239	18,934	17,645	17,796	18,113	16,563
35 to 44	10,288	11,337	14,252	16,672	18,297	14,353	16,873	18,604	14,116	16,393	17,900
45 to 54	10,426	10,051	9,801	11,022	13,432	9,881	11,181	13,701	9,672	10,781	13,044
55 and over	8,888	8,568	8,979	8,451	8,212	9,479	9,353	9,422	8,429	7,502	6,961
55 to 64	6,982	7,140	7,122	6,625	6,479	7,393	7,090	7,092	6,725	5,963	5,626
65 and over	1,906	1,428	1,857	1,826	1,733	2,086	2,263	2,330	1,704	1,539	1,335
Women	36,998	43,391	51,385	56,495	59,931	53,427	59,949	63,918	49,248	53,506	56,766
16 to 24	10,108	11,511	11,854	11,325	11,205	12,235	12,083	11,912	11,477	10,800	10,551
16 to 19	4,039	4,481	4,176	4,194	4,259	4,259	4,363	4,526	4,079	4,031	4,053
20 to 24	6,069	7,029	7,678	7,131	6,946	7,976	7,720	7,386	7,398	6,769	6,498
25 to 54	21,613	26,156	33,650	39,469	43,021	35,163	41,885	45,934	32,020	37,198	40,735
25 to 34	8,456	11,167	14,955	16,568	15,971	15,870	17,853	17,322	13,988	15,396	14,971
35 to 44	6,493	8,130	11,617	14,581	16,651	12,094	15,444	17,781	11,121	13,805	15,887
45 to 54	6,665	6,860	7,078	8,320	10,399	7,199	8,588	10,831	6,911	7,997	9,877
55 and over	5,277	5,724	5,881	5,701	5,705	6,029	5,981	6,072	5,751	5,508	5,480
55 to 64	4,244	4,579	4,703	4,476	4,502	4,812	4,662	4,731	4,615	4,330	4,320
65 and over	1,033	1,145	1,178	1,225	1,203	1,217	1,319	1,341	1,136	1,178	1,160
WHITE											
Total, age 16 and over	82,084	90,602	100,316	105,867	109,292	102,667	109,930	114,208	97,496	101,661	104,604
Men	49,881	53,074	56,228	57,800	58,871	57,014	59,245	60,817	55,287	56,197	56,752
16 to 24	10,795	11,718	11,047	9,843	9,242	11,090	9,953	9,421	10,923	9,699	9,103
25 to 54	30,965	33,105	37,041	40,342	42,256	37,370	40,939	43,051	36,742	39,775	41,447
55 and over	8,121	8,251	8,140	7,615	7,373	8,554	8,353	8,345	7,622	6,723	6,202
Women	32,203	37,528	44,088	48,067	50,421	45,653	50,685	53,391	42,209	45,464	47,852
16 to 24	8,890	10,051	10,271	9,731	9,453	10,472	10,100	9,710	9,952	9,284	9,013
25 to 54	18,595	22,382	28,635	33,379	36,052	29,872	35,391	38,462	27,187	31,399	34,118
55 and over	4,717	5,095	5,182	4,957	4,916	5,309	5,194	5,219	5,070	4,781	4,721
BLACK AND OTHER											
Total, age 16 and over	10,529	12,306	14,669	16,508	18,250	15,585	18,193	20,545	14,210	15,733	17,080
Men	5,734	6,443	7,372	8,080	8,740	7,811	8,929	10,018	7,171	7,691	8,166
16 to 24	1,363	1,552	1,545	1,430	1,399	1,783	1,880	2,042	1,522	1,400	1,347
25 to 54	3,602	4,075	4,988	5,805	6,502	5,103	6,049	6,899	4,842	5,512	6,060
55 and over	768	816	839	836	839	925	1,000	1,077	807	779	759
Women	4,795	5,883	7,297	8,428	9,510	7,774	9,264	10,527	7,039	8,042	8,914
16 to 24	1,216	1,480	1,583	1,594	1,752	1,763	1,983	2,202	1,525	1,516	1,538
25 to 54	3,001	3,774	5,015	6,090	6,969	5,291	6,494	7,472	4,833	5,809	6,617
55 and over	580	629	698	744	789	720	787	853	681	717	759

other two scenarios, their participation is expected to drop more sharply, and the male labor force age 55 to 64 would actually decrease. Participation rates for women in this age group are expected to increase under both the moderate- and high-growth projections. The result would be an older labor force with proportionately more women.

The scenarios in these projections for the age group 65 and over are the same for both sexes. For the high projection, recent legislation forbidding mandatory retirement before age 70 is expected to hold participation constant. Under the moderate-growth scenario, the measured rate of decrease in participation is reduced somewhat, so that labor force activity drops at a slower rate than in the past. Under the low-growth projection, the measured declines in labor force participation are projected to continue.

An experienced labor force, 1985–95

During 1985–95, the baby-boom generation will be in the prime working ages and the relatively small number of persons born in the Great Depression will begin retiring, easing pressures on retirement systems.

To put the 1995 projections in context, it is useful to look back to 1965, a time of the buildup of forces in Vietnam and a period of lower inflation. The fertility rate was 2.9 children per woman, well above the Census Bureau's Series II projection of 2.1 for 1995.[7] In fact, 1965 was the first year in which births were below 4 million—after 11 years of high birth rates. In 1965, 40 percent of all women, 34 percent of all married women, and 23 percent of mothers with children under age 6 were in the labor force. Although comparable projections of the labor force by marital and parental status were not made by the Bureau of Labor Statistics for 1995, more than half of all married women were already in the labor force by 1979, as were 45.2 percent of mothers with preschool children. Both groups (which, of course, overlap) are projected to supply much of the labor force growth in the 1990's.

Youths. In 1965, youths were a relatively small proportion of the labor force, 18 percent. By 1979, this number had climbed to 24.4 percent. The effects of changes in the composition of the labor force may be seen by looking at the median age of the labor force. In 1965, it was 40 years; by 1979, it had dropped 5 years, taking the effects of both greater retirement and the aging of the baby-boom generation into account; by 1995, the median age of the labor force is projected to be 37.5 years.

Based on the Census Bureau's Series II birth rate projection, the youth labor force would continue to decrease from 1985 to 1995, although a larger proportion of teenagers would participate in the labor force. Only under the high-growth pattern would young men age 20 to 24 have a greater participation rate than in 1979. By 1995, the youth labor force would be a smaller proportion of the labor force than in either 1979 or 1985.

Prime-age workers. By 1995, more than 70 percent of the labor force would be in the prime working ages. For the middle- and high-growth scenarios, this is actually a lower proportion than in 1985. The projected growth for prime-age men is about the same under all three scenarios; consequently, even after the growth in female participation is taken into account, the prime-age labor force is still more stable over the scenarios than that of the younger and older age groups. (See table 6.) In the middle- and low-growth projections, it is assumed that the youth and the older labor force grow relatively slower than the prime-age labor force, so these scenarios have a higher proportion of prime-age workers. However, the greatest number of prime-age workers would be attained under the high-growth pattern. Under all projections, the labor force would have more women and more blacks than now: 47 percent of the labor force would be women, and 14 to 15 percent of the labor force would be black. Following are selected annual growth rates (in percent) of all persons in the labor force, by major age group and race, 1965–79, and projected growth to 1995:

	1965–79	*1979–95*
Youth	3.9	−0.9
Prime	2.2	2.3
Older	.4	−.2
White	2.3	1.2
Black and other	2.8	2.5

Older workers. Under all scenarios, workers age 55 and older would continue to be a decreasing proportion of the workforce. The changes for the 25 years from 1970 are most dramatic in the low-growth projection—in 1995, older workers would constitute about two-thirds the proportion of the labor force that they did in 1970. This drop reflects both their expected continued drop in participation and the increase in the numbers of persons in the prime working ages, when participation is highest. The drop in the proportions for the middle- and high-growth paths is less extreme, from 14 percent in 1979 to around 11 percent in 1995.

How the projections were revised

The uncertainty of the projection process is indicated by the changes from the 1978 set.[8] (See table 7.) The difference between the high and low in 1985 and 1990 is about the same as that in the 1978 projections; the current middle projection is midway between the previous middle and high. Each scenario, high, middle, and low was revised upward—the low one the most, to almost

Table 6. Labor force distribution by sex, age, and race, 1975–79 and projected to 1995

[In percent]

Sex, age, and race	Actual		Projected								
			Middle growth			High growth			Low growth		
	1975	1979	1985	1990	1995	1985	1990	1995	1985	1990	1995
Total, age 16 and over	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Men	60.0	57.8	55.3	53.8	53.0	54.8	53.2	52.5	55.9	54.4	53.3
16 to 24	13.1	13.3	10.9	9.2	8.3	10.8	9.2	8.5	11.1	9.4	8.5
16 to 19	5.1	4.8	3.8	3.4	3.2	3.8	3.5	3.3	3.8	3.5	3.3
20 to 24	7.9	8.0	7.1	5.7	5.0	7.0	5.7	5.1	7.2	5.9	5.2
25 to 54	37.3	36.1	36.5	37.7	38.2	35.9	36.6	37.0	37.2	38.5	39.0
25 to 34	14.9	15.3	15.6	15.0	13.3	15.4	14.7	13.0	15.9	15.4	13.6
35 to 44	11.1	11.0	12.3	13.6	14.3	12.1	13.1	13.8	12.6	13.9	14.6
45 to 54	11.2	9.7	8.5	9.0	10.5	8.3	8.7	10.1	8.6	9.1	10.7
55 and over	9.5	8.3	7.8	6.9	6.4	8.0	7.3	6.9	7.5	6.3	5.7
55 to 64	7.5	6.9	6.1	5.4	5.0	6.2	5.5	5.2	6.0	5.0	4.6
65 and over	2.0	1.3	1.6	1.4	1.3	1.7	1.7	1.7	1.5	1.3	1.0
Women	39.9	42.1	44.6	46.1	46.9	45.1	46.7	47.4	44.0	45.5	46.6
16 to 24	10.9	11.1	10.3	9.2	8.7	10.3	9.4	8.8	10.2	9.1	8.6
16 to 19	4.3	4.3	3.6	3.4	3.3	3.6	3.4	3.3	3.6	3.4	3.3
20 to 24	6.5	6.8	6.6	5.8	5.4	6.7	6.0	5.4	6.6	5.7	5.3
25 to 54	23.3	25.4	29.2	32.2	33.7	29.7	32.6	34.0	28.6	31.6	33.4
25 to 34	9.1	10.8	13.0	13.5	12.5	13.4	13.9	12.8	12.5	13.1	12.3
35 to 44	7.0	7.9	10.1	11.9	13.0	10.2	12.0	13.1	9.9	11.7	13.0
45 to 54	7.1	6.6	6.1	6.7	8.1	6.0	6.7	8.0	6.1	6.8	8.1
55 and over	5.6	5.5	5.1	4.6	4.4	5.0	4.6	4.5	5.1	4.6	4.5
55 to 64	4.5	4.4	4.0	3.6	3.5	4.0	3.6	3.5	4.1	3.6	3.5
65 and over	1.1	1.1	1.0	1.0	.9	1.0	1.0	.9	1.0	1.0	.9
WHITE											
Total, age 16 and over	88.6	88.0	87.2	86.5	85.6	86.8	85.8	84.7	87.2	86.5	85.9
Men	53.8	51.5	48.9	47.2	46.1	48.2	46.2	45.1	49.4	47.8	46.6
16 to 24	11.6	11.3	9.6	8.0	7.2	9.3	7.7	6.9	9.7	8.2	7.4
25 to 54	33.4	32.1	32.2	32.9	33.1	31.6	31.9	31.9	32.8	33.8	34.0
55 and over	8.7	8.0	7.0	6.2	5.7	7.2	6.5	6.1	6.8	5.7	5.0
Women	34.7	36.4	38.3	39.2	39.5	38.6	39.5	39.6	37.7	38.7	39.3
16 to 24	9.5	9.7	8.9	7.9	7.4	8.8	7.8	7.2	8.9	7.9	7.4
25 to 54	20.0	21.7	24.9	27.2	28.2	25.2	27.6	28.5	24.3	26.7	28.0
55 and over	5.0	4.9	4.5	4.0	3.8	4.4	4.0	3.8	4.5	4.0	3.8
BLACK AND OTHER											
Total, age 16 and over	11.3	11.9	12.7	13.4	14.3	13.1	14.1	15.2	12.7	13.4	14.0
Men	6.1	6.2	6.4	6.6	6.8	6.6	6.9	7.4	6.4	6.5	6.7
16 to 24	1.4	1.5	1.3	1.1	1.0	1.5	1.4	1.5	1.3	1.1	1.1
25 to 54	3.8	3.9	4.3	4.7	5.0	4.3	4.7	7.3	4.3	4.6	4.9
55 and over	.8	.7	.7	.6	.6	.7	.7	.7	.7	.6	.6
Women	5.1	5.6	6.3	6.8	7.4	6.5	7.2	7.8	6.3	6.8	7.3
16 to 24	1.3	1.4	1.3	1.3	1.3	1.4	1.5	1.6	1.3	1.2	1.2
25 to 54	3.3	3.6	4.3	4.9	5.4	4.4	5.0	5.5	4.3	4.9	5.4
55 and over	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6

the level of the previous middle-growth path. The changes reflect the effects of two additional years of observations, as well as changes in the assumptions made for women age 20 to 44 mentioned earlier. They also reflect the general experience that it is more difficult to project an increasing phenomenon.

In 1990, the projected number of women would be about 2.5 million higher under each scenario, but the proportion of the labor force in each major age group differs among scenarios. Under both the high and middle scenarios, the number of young women in the labor force would be smaller than in the previous projection, reflecting their slower participation growth. For women in the 20 to 44 age group, the 1978 projection included an adjustment to the high-growth scenario to reflect accelerating participation rates; in the current projection, this assumption was formally introduced in both the middle- and high-growth scenarios.

The differences between the two sets of projections are less uniform for men. The number of men in the labor force is essentially unchanged in the high-growth scenario; in the low and middle scenarios the number of men is projected to increase. The Bureau of Labor Statistics typically revised downward the number of men in the labor force with each succeeding labor force projection (while increasing the number of women). These changes reflect the slowing or ending of the decline in male participation rates. For the high-growth scenario, it is assumed that male participation rates will either rise or at least hold constant.

To summarize, for each scenario, the number of women expected to be in the labor force was revised upward by about the same amount. For men, the high-growth projection was approximately the same as the last projection, the middle-growth path was revised upward slightly, and the low-growth path was revised upward significantly.

Possible consequences

A number of questions could be asked about the possible consequences of the changes in the structure of the population and of the labor force in these projections. Would these changes affect the ability of society to maintain the responsibilities it has assumed, such as social security? Could the changing composition of the labor force make goals such as equal employment opportunity easier or more difficult to accomplish? Is there potential for changes in productivity? Will there be scarcities of certain kinds of workers? How would migration affect the composition of the labor force?

Societal responsibilities. One of the implications of these projections is the change in the "economic dependency ratios" for both the high and middle projections. The economic dependency ratio is defined as all persons not in the labor force (including those under age 16) divided by the total in the labor force.[9] This ratio should drop to below 100 nonworkers per 100 workers. Under the conditions of the middle-growth pattern, the dependency ratio would stabilize after 1990. Under the conditions of the high-growth scenario, (which assumes higher participation), the dependency ratio drops significantly; in fact, it shows no sign of leveling off in this century. Under the conditions of the low-growth projection, the dependency ratio would stabilize above the 100-nonworker-per-100-worker level, but well below historic levels. The following tabulation shows dependency ratios for 1965–79 and projected ratios for the three scenarios, 1985–95:

		Projected		
	Actual	*Middle*	*High*	*Low*
1965	151.8	...	...	...
1970	138.5	...	...	...
1975	125.4	...	...	...
1979	110.1	...	...	...
1985	...	98.8	93.5	104.5
1990	...	95.6	87.0	103.4
1995	...	94.5	84.4	104.1

These favorable ratios are a characteristic of the age of the baby-boom cohort and of the numbers of projected births. A large labor force is combined with low births to give low economic dependency ratios. As the baby-

Table 7. Comparison of the current and previous projections for 1985 and 1990

[Numbers in thousands]

Growth path, sex, and age	1985			1990		
	Previous[1]	Current	Difference[2]	Previous[1]	Current	Difference[2]
MIDDLE						
Total, age 16 and over	112,953	114,985	2,032	119,366	122,375	3,009
Men	63,007	63,600	593	65,115	65,880	765
16 to 24	12,465	12,592	127	11,156	11,282	126
25 to 54	41,824	42,029	205	45,845	46,147	302
55 and over	8,718	8,979	261	8,114	8,451	337
Women	49,946	51,385	1,439	54,251	56,495	2,244
16 to 24	11,934	11,854	-80	11,225	11,325	100
25 to 54	32,432	33,650	1,218	37,713	39,469	1,756
55 and over	5,580	5,881	301	5,313	5,701	388
HIGH						
Total, age 16 and over	117,005	118,252	1,247	125,603	128,123	2,520
Men	65,013	64,825	-188	68,220	68,174	-46
16 to 24	12,882	12,873	-9	11,879	11,833	-46
25 to 54	42,533	42,473	-60	47,056	46,988	-68
55 and over	9,598	9,479	-119	9,285	9,353	68
Women	51,992	53,427	1,435	57,383	59,949	2,566
16 to 24	12,510	12,235	-275	12,054	12,083	29
25 to 54	33,596	35,163	1,567	39,630	41,885	2,256
55 and over	5,886	6,029	143	5,699	5,981	282
LOW						
Total, age 16 and over	108,900	111,706	2,806	113,521	117,394	3,873
Men	61,169	62,458	1,289	62,472	63,888	1,416
16 to 24	12,134	12,445	311	10,744	11,099	355
25 to 54	41,219	41,584	365	44,844	45,287	443
55 and over	7,816	8,429	613	6,884	7,502	618
Women	47,731	49,248	1,517	51,049	53,506	2,457
16 to 24	11,315	11,477	162	10,375	10,800	425
25 to 54	31,220	32,020	800	35,942	37,198	1,256
55 and over	5,196	5,751	555	4,732	5,508	776

[1] The previous projections were published in Paul O. Flaim and Howard N Fullerton, Jr., "Labor force projections to 1990: Three possible paths," *Monthly Labor Review*, pp. 25-35, December 1978.

[2] A minus sign indicates that the current projection is lower than the previous projection.

boom cohort leaves the prime working ages (after 2015), the dependency ratios should rise again, although the higher mortality of older people will prevent it from reaching the levels of the 1960's. Differences in the number of older people are a consequence of past fertility—not improvements in mortality—but if spectacular increases in longevity occur, this could change.[10] Thus, the current difficulties of the social security system are not a result of the current age composition of the population. This favorable age composition effect on social security almost certainly will reverse in the early part of the next century.

Black-white differentials. One dilemma confronting labor force forecasters and policymakers concerned with employment and training programs has been the continued divergence of labor force participation between blacks and whites in the prime-age groups. As recently as the mid-1950's, the rates for men were virtually the same; but since then, the participation rates for black men have dropped more rapidly than those for white men. The high-growth scenario projects a possible return to parity of their labor force rates. The extent to which black rates have to increase is a measure of the problems that have to be confronted. In numbers, about 1.3 million more black men would participate in the high than in the middle-growth path labor force. For women, the picture has been different; in 1979, the rate for prime-age black women was higher than that for their white counterparts (despite higher fertility among black women). Moreover, participation of women in both groups is increasing, although faster for whites.

The differences in female participation reflect the greater family responsibilities of black women—more are single parents than are whites, although the number of such white women is increasing.[11] The higher fertility of black women obviously translates into higher population growth and then into higher labor force growth. Thus, the youth groups of the 1980's and 1990's will have a higher proportion of blacks.

Productivity. One question raised by these projections is the effect of a proportionally greater prime-age labor force on productivity. The proportion of prime-age workers will increase at least by 10 percentage points (with the low-growth projection having the greatest concentration in the prime ages). Analyses have centered on the relative size of the youth labor force (which will diminish) and on the likely impact this would have on productivity gains.[12] The growing proportion of the prime-age labor force should have a favorable impact on productivity because of the greater continuity of participation by women and because of the higher educational attainment of all age, sex, and ethnic components.[13]

In the 1980's and 1990's, employers may have increasing difficulty finding young workers. The decline in the number of youths will be particularly important to the Armed Forces—the largest single employer of youths. Given the decrease in the youth labor force, those who employ unskilled workers may also experience difficulty—depending to some extent on the Nation's immigration policy.

The growth of the prime-age labor force would exceed that of the overall labor force by 20 percent. Because this is the experienced component of the labor force, analysts who look for a shortage of skilled workers must consider likely changes in the composition of the prime-age labor force. More than half (59 percent) of the growth is projected to be generated by women and 22 percent by blacks (black women are in both groups). Skilled and professional workers will have to come from these groups in greater numbers than in the past if there is not to be a shortage.

In the U.S. labor market, there is a tradition of male occupations and of female occupations, and there has been little change in this pattern.[14] The growth in female participation has occurred largely in occupations traditionally held by women. What would happen if demand would no longer grow in those sectors? The argument has been presented that higher participation would be translated into greater continuity of work and, thus, into more capacity to retain skills and professional abilities that diminish if not used. Given that much of the increase in female labor force activity will probably come from mothers, employers may have to review their personnel practices (such as provision of day care) to attract these workers.[15]

By 1995, the youngest of the baby-boom generation will be in their thirties. They may well face competition for career positions which may result in frustration for some and greater productivity for all. The older members of the baby-boom generation will be in the preretirement years and should be at the peak of their productivity.

Immigration. Along with growth in the native adult population and increased labor force activity, immigration represents a possible source of labor force growth. For purposes of this discussion, migration can be divided into two groups, legal or "documented" migration and illegal or "undocumented" migration. The Bureau of the Census projects that "documented" net migration will average 400,000 persons a year, with bulges in a few years such as 1976 and 1980 when large numbers of refugees reached our shores. To estimate the proportion of the labor force growth that net migration represents, we can look at 1979. The labor force participation rate for those age 16 and older was 63.7 percent. If the comparable rate for the migrant population was about the same, and ignoring the fact that there are proportionately fewer older persons in the migrant population, some 173,000 would have been in the labor force in 1979, or about 7 percent of the actual labor force growth.[16] Documented workers vary from those with high skills (the brain drain) and professional athletes to lower skilled agricultural and service workers.

Undocumented workers also represent a variety of skills, from college graduates to unskilled workers. By their nature, we know little about these people as a group. The discussion that follows is based on a study conducted by Jacob S. Siegel, Jeffrey S. Passel, and J. Gregory Robinson for the Select Commission on Immigration and Refugee Policy.[17] After a review of past estimates, they concluded that there are 3 to 6 million undocumented workers in the United States. It is important not to confuse the *stock* of undocumented workers with the *flow* of documented workers discussed in the preceding paragraph. The only information available about flows of undocumented workers is for Mexicans. There appears to be considerable movement in both directions netting to zero (with large seasonal fluctuation). There is no way of ascertaining what portion of undocumented workers, if any, are currently accounted for in existing labor force data. Therefore, no changes have been made to the projections to account for undocumented workers.

Obviously, these last few paragraphs have raised rather than answered questions about the implications of the changing structure of the labor force. The topics discussed here illustrate some uses for which these projections have been generated; there also are other uses. ☐

FOOTNOTES

These projections replace those described by Paul O. Flaim and Howard N Fullerton, Jr. in "Labor force projections to 1990: three possible paths," *Monthly Labor Review*, pp. 25–35, December 1978.

[2] These scenarios are prepared by projecting the changes in the ratio of the total labor force to the total population for each of 54 age-sex-race groups; the levels of the anticipated labor force were calculated by applying the projected rates to the Bureau of the Census' population projections. The high and low scenarios do not represent "confidence intervals," but rather different views of the future. A complete methodological statement is in preparation.

[3] The term "blacks" refers to black and other races, which includes Negroes, American Indians, Eskimos, and others. At the time of the 1970 Census of Population, 89 percent of this population group was black.

[4] *Projections of the Population of the United States: 1977 to 2050, Current Population Reports* (Bureau of the Census, Series P-25, No. 704, 1977). For an analysis of recent fertility trends, see Arthur A. Campbell, "Baby Boom to Birth Dearth and Beyond," *Annals*, January 1978, pp. 40–60.

[5] There is no standard definition of the baby-boom period; this article uses the 1950's, as described in Leon F. Bouvier, "America's Baby Boom Generation: The Fateful Bulge," *Population Bulletin*, Vol. 35, No. 1, 1980.

[6] *Projections of the Population* . . . , Table A-5. A moderate increase in fertility is plausable because the Series II population projections are tracking well at this time.

[7] *Projections of the Population* . . . , Table A-5.

[8] Flaim and Fullerton, "Labor force projections. . . . " Projections were not published for 1995.

[9] There is no standard definition of the "economic dependency ratio." See Henry S. Shryock, Jacob S. Siegel, and others, *The Methods and Materials of Demography* (Bureau of the Census, 1973), p. 235.

[10] Jacob S. Siegel, "On the Demography of Aging," *Demography*, forthcoming, and Nathan Keyfitz, *Applied Mathematical Deomography* (New York, John Wiley and Sons, 1977).

[11] Elizabeth Waldman and others, "Working mothers in the 1970's: a look at the statistics," *Monthly Labor Review*, October 1979, pp. 39 –49.

[12] George L. Perry, "Potential Output and Productivity," *Brookings Papers on Economic Activity*, 1977; J. R. Norsworthy, M. J. Harper, and K. Kunze, "The Slowdown in Productivity Growth: Analysis of Some Contributing Factors," *Brookings Papers on Economic Activity*, 1979; and the discussion by Martin Neil Baily, Edward F. Denison, and Michael L. Wachter in the same issue.

[13] Edward F. Denison, *Accounting for United States Economic Growth, 1929–1969* (Washington, The Brookings Institution, 1974), and *Accounting for Slower Economic Growth* (Washington, The Brookings Institution, 1979).

[14] Valerie K. Oppenheimer, "Demographic Influence on Female Employment and the Status of Women," in Joan Hamber, ed., *Changing Women in a Changing Society* (Chicago, University of Chicago Press, 1973).

[15] Peter F. Drucker, *Managing in Turbulent Times* (New York, Harper and Row, 1980).

[16] *Projections of the Population*. . . . Table C-1 contains the distribution of the immigrant population.

[17] Jacob S. Siegel, Jeffery S. Passel, and J. Gregory Robinson, "Preliminary Review of Existing Studies of the Number of Illegal Residents in the United States" (Washington, Select Commission on Immigration and Refugee Policy, 1980).

Contracts in six key industries scheduled to expire in 1981

New settlements are expected to cover almost 2.6 million workers in this light bargaining year; unions are still formulating goals, but several have indicated that safety and job security may be among the issues pressed

DAVID SCHLEIN

Following 2 years of relatively heavy bargaining activity, collective bargaining in 1981 will be light. About 2.6 million workers are covered by major agreements expiring or reopening in 1981, compared with approximately 3.7 million in both 1979 and 1980.[1] Except for the airline industry, which has negotiations scheduled throughout the year, most of the talks will occur before midsummer. Contracts in the railroad and coal industries expire in March; contracts in the maritime industry expire in June; and those in the postal and West Coast longshore industries, in July.

We do not know, of course, what economic conditions will exist at the time of the negotiations. But, as the Nation entered the fourth quarter of 1980, some indicators, such as gross national product, housing starts, and industrial production rebounded after declining in the first half of 1980.[2] The third quarter saw an increase in retail sales and a recovery in durable goods orders. Interest rates, although dropping from recent record levels, have remained high. Employment has remained relatively stable since the first of the year, but the unemployment rate rose to 7.7 percent by midyear (from 6.2 percent in January), and remained at about that rate until it inched down to 7.6 percent in August, and to 7.5 percent in September. Double-digit inflation continued through the first half of 1980. However, in the third quarter, the Consumer Price Index, which had risen at an 18.7-percent annual rate in the first quarter, slowed to a 7.0-percent rate.

The recent high rate of inflation may cause negotiators to focus on cost-of-living adjustment (COLA) clauses as a means of helping workers recoup lost purchasing power.[3] About 42 percent of the workers under major agreements that either expire or are subject to reopening in 1981 have COLA protection. In recent years, there has not been a substantial increase in the prevalence of COLA provisions in major agreements, but there has been a tendency to liberalize existing formulas.[4] Major contracts with COLA clauses have tended to provide for a larger total wage increase, as can be seen from the following tabulation, which shows the average annual wage change (in percent) of the expiring contracts:[5]

	Negotiated change	*Negotiated change plus COLA*
Contracts expiring in 1981 . .	6.9	8.1
With COLA	5.8	8.6
Without COLA	7.7	—

Railroads

Contracts expire on March 31, 1981, for 400,000 employees of the Nation's class 1 railroads (rail carriers with operating revenues of more than $50 million a year). Proposals for changes in the agreements will be exchanged no earlier than January 1. Representatives of 13 railroad unions will conduct coordinated bargaining sessions with the National Railway Labor Conference, the bargaining agent for most of the rail carriers. Three

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organizations represent a majority of the workers—the United Transportation Union; Brotherhood of Maintenance of Way Employes; and the Brotherhood of Railway, Airline and Steamship Clerks, Freight Handlers, Express and Station Employees.[6]

The movement towards coordinated bargaining with common expiration dates began in 1973, when all of the major unions agreed to negotiate as a group with the conference. The parties are limited to negotiating on wages, cost-of-living adjustments, and health and welfare benefits. Issues specific to individual unions are considered in separate negotiations between each union and the conference.

In 1978, for the first time since it was formed in 1963, the conference did not represent all class 1 railroads, as Conrail and several bankrupt railroads bargained on their own.[7] It is possible that one or more of the major rail carriers will not be represented by the conference in 1981.

The last round of rail negotiations began in July 1977 and continued into the summer of 1979. The 39-month agreements, consummated by the various unions, generally provided for straight wage increases of 14 percent over the life of the contract;[8] two cost-of-living adjustments payable under the expired contracts; semiannual cost-of-living reviews, providing up to an 8-percent increase per year; improved vacation, medical, and dental benefits; and some changes in work rules intended to cut labor costs. The parties also agreed to refer the issue of the size of crews to local negotiations.

The 1978 round of bargaining was conducted without a work stoppage. Only one emergency board was established, as specified in the Railway Labor Act, to hear the dispute between the conference and the Train Dispatchers.[9] The board mediated a settlement within the required 30 days, the first such mediated agreement in a national railroad case.

Information on 1981 union demands is not now available. However, negotiations will undoubtedly be influenced by the industry's improved economic performance and the recent deregulation, which has spurred merger proposals and increased competition among the major rail carriers.

Table 1. Calendar of major collective bargaining activity

[Workers in thousands]

Year and month	Principal industry	Contract expirations[1]		Scheduled wage reopenings	
		Number	Workers covered	Number	Workers covered
All years	.....	1,979	9,311	41	137
Total 1981	.....	672	2,504	29	102
January	.....	31	90	2	4
February	.....	33	91	.....	.....
March	Railroads, mining	86	790	.....	.....
April	Construction	124	331	4	16
May	Construction	94	307	6	13
June	Construction, maritime	103	301	7	43
July	Retail food stores	35	151	5	13
August	.....	26	75	2	6
September	.....	35	93	.....	.....
October	Airlines	52	139	1	2
November	.....	19	36	2	5
December	.....	34	100	.....	.....
Total 1982	.....	562	3,464	12	35
January	Oil refineries	38	88	2	2
February	.....	17	46	.....	.....
March	Trucking	41	544	2	4
April	Construction, rubber	88	312	2	3
May	Apparel, construction	117	530	2	8
June	Electrical equipment, food and kindred products, and construction	96	449	1	1
July	Electrical equipment	47	166	1	8
August	Food production	35	138	1	2
September	Automotive companies	32	1,023	.....	.....
October	.....	23	54	.....	.....
November	.....	18	79	.....	.....
December	.....	10	35	1	6
Total 1983		408	2,488	.....	.....
January - June	Construction, lumber, and food production	283	1,123	.....	.....
July - December	Telephone companies	125	1,365	.....	.....
1984 or later	.....	9	40	.....	.....
Year unknown or in negotiation[2]	.....	328	815	.....	.....

[1] Eleven agreements covering 23,000 workers are excluded because they have no fixed expiration or reopening date.

[2] These include 55 major agreements, covering 178,000 workers, which are due to expire between November 1 and December 31, 1980; and 273 agreements, covering 637,000 workers, which expired prior to November 1, but for which necessary information had not been fully gathered.

NOTE: Only bargaining units in the private nonagricultural economy affecting 1,000 workers or more are considered for this table. Because of rounding, sums of individual items may not equal totals.

Bituminous coal

The contract between the United Mine Workers of America (UMW, Ind.) and the Bituminous Coal Operators Association (BCOA), covering about 125,000 miners, mostly in the Appalachian region, expires March 26. Settlement terms for bituminous coal miners traditionally set the pattern for other agreements covering coal mine construction workers (14,000), western surface miners (12,000), and anthracite coal miners (2,000).

Before the discovery of vast western petroleum and natural gas fields, coal had been the primary energy source in the United States. After a long decline, annual coal production has risen steadily since 1961, spurred in recent years by soaring oil prices and intermittent shortages. However, a rapidly increasing proportion of coal production is coming from new western surface fields where the UMW is weak. During much of the 1970's, the Appalachian deep mines, where the union has its principal strength, have been plagued by overproduction and unemployment.

The 90 year-old UMW has been ridden by internal dissent, financial problems,[10] and competition of other unions for the miners in the prosperous western fields.[11] During the 1980's, however, continued oil price rises are likely to accelerate the demand for coal, and may help provide jobs for 20,000 UMW members now unemployed.[12]

The expiration of the UMW-BCOA agreement in December 1977 marked the start of a bitter 111-day strike. The first agreement, negotiated by UMW President Arnold Miller, was rejected by the union's bargaining council; a second agreement was rejected by the membership. In an attempt to get the miners back to work, President Jimmy Carter invoked the emergency dispute procedures of the Taft-Hartley Act, explaining that "at least a million more Americans will be unemployed if the walkout continues."[13]

A settlement, reached March 14, 1978, terminated the automatic cost-of-living adjustments but provided for an immediate $1-per-hour pay increase and additional 70-cent increases in 1979 and 1980. The miners also received increased shift differentials, additional vacation time, an improved health benefit program for employees and retirees, and an improved retirement plan. The coal operators were allowed to introduce production incentive plans, if approved by a majority of the union members at individual mines.[14]

Strikes have been a chronic problem in the coal mining industry; the last five rounds of national negotiations have been marked by walkouts. Such strikes can idle workers in other industries, particularly those in railroads and primary metals. Local and regional disputes, usually over noneconomic issues such as safety and mine administration, and often unauthorized by the UMW national leadership, occur more frequently in coal mining than in other industries. However, since the 1978 settlement, the incidence of "wildcat" strikes has declined by 90 percent, even though the BCOA did not secure the right to discipline the leaders of unauthorized strikes; hence, such walkouts may not be a major issue in the 1981 negotiations.

According to UMW sources, major union demands in 1981 include a substantial wage increase, an "uncapped" escalator clause, greater shift differentials and a shorter work week. The union is likely to seek additional safety measures (including full-time safety inspectors and nurses at each mine, and the right to stop work over unsafe conditions), an expedited arbitration procedure similar to that used in the primary metals industry, and placement of arbitrators under contract which would help to avoid delays and fee raising.

UMW President Sam Church has expressed optimism that negotiations will be peacefully concluded. Talks began in mid-September, although serious bargaining is not expected until early next year.

Postal Service

A national agreement covering 570,000 employees of the U.S. Postal Service is up for renewal July 20. Negotiating unions include the American Postal Workers Union, the National Association of Letter Carriers, the Mail Handlers' division of the Laborers' International Union of North America, and the National Rural Letter Carriers Association (Ind.).

Postal unions were primarily lobbying organizations until they gained some bargaining rights in the 1960's, but most economic and job security issues were decided by the Congress. Employee dissatisfaction led to a postal strike in 1970, followed by passage of the Postal Reorganization Act of 1970.[15] The act established the Postal Service as an independent agency, and authorized collective bargaining similar to that in private industry. Unions representing the majority of postal workers set up a coordinated bargaining committee to negotiate with postal officials.

Bargaining experience since 1970 has varied. The 1971 talks lasted 6 months and were marked by acrimony, deadlocks, and factfinding intervention. Negotiations in 1973 went fairly smooth, but the 1975 settlement required mediation, and 1978 negotiations were submitted to arbitration. Negotiations at the national level have been aggravated by intermittent postal budget deficits; declining employment resulting from automation and private competition; the differing impact of inflation and automation on local postal facilities; and varying interpretations of the agreements at the local level.

The initial agreement of the 1978 negotiations was ratified by the National Rural Letter Carriers but rejected by members of the other three unions. Further bargaining was unsuccessful, and an arbitrator decided the terms in dispute, awarding the workers an annual pay increase of $500, a 3-percent increase after 1 year, and $500 after 2 years; an "uncapped" escalator clause; and continuation of the job security clause, introduced in 1971. (The wage terms were similar to those awarded members of the National Rural Letter Carriers.) The arbitrator ruled that regular employees on payroll as of September 1, 1978, were protected from layoff "during their worklife" and that employees hired later would gain the same protection after 6 years of qualifying service.

The postal talks are scheduled to start in early 1981 and are anticipated to be difficult. It has been mentioned that the unions will abandon coalition bargaining, meaning that Postal Service management will have to conduct separate negotiations with each national union. Management, under pressure to cut labor costs, may seek to roll back union gains won in previous rounds, particularly the "uncapped" COLA clause, and the "worklife" protection of employees from layoff. The unions almost certainly will resist such efforts, and additionally, may seek new gains, such as greater safety protection for employees working with automated mail

Table 2. Major contract expiration and wage reopening dates, by industry

[Workers in thousands]

Industry	Total		Year of contract termination[1]										Scheduled wage reopening			
			1981		1982		1983		1984 or later		Unknown or in negotiation[2]		1981		1982	
	Contracts	Workers covered	Contracts	Workers covered	Contracts	Workers covered	Contracts	Workers covered	Contracts	Workers covered	Contracts	Workers covered	Contracts	Workers covered	Contracts	Workers covered
All industries	1,979	9,311	672	2,504	562	3,464	408	2,488	9	40	328	815	29	102	12	35
Manufacturing	941	4,050	271	585	269	2,108	195	974	2	2	204	381	9	21	4	10
Food and kindred products	99	314	38	88	31	164	16	33	...	...	14	28	3	5	...	...
Tobacco manufacturing	8	28	...	...	1	1	7	26	...	...	...	...	...	...	...	...
Textile mill products	17	43	8	14	4	9	3	17	...	...	2	3	1	7	...	...
Apparel and other finished products	55	486	8	26	40	444	...	...	...	...	7	17	...	...	...	...
Lumber and wood products, except furniture	15	66	2	2	2	4	11	59	...	...	...	...	...	...	1	2
Furniture and fixtures	17	28	4	5	8	14	2	3	...	...	3	6	...	...	...	...
Paper and allied products	66	98	27	36	13	13	12	26	...	...	14	23	1	2	...	...
Printing, publishing and allied industries	33	63	18	35	4	11	5	11	...	...	6	6	...	...	...	...
Chemicals and allied products	36	65	17	29	8	13	9	21	...	...	2	2	1	2	...	...
Petroleum refining and related industries	19	37	4	7	15	29	...	...	...	...	...	...	...	...	...	...
Rubber and miscellaneous plastics	15	83	...	...	12	78	2	3	...	...	1	1	...	...	...	...
Leather and leather products	16	38	10	22	2	12	2	3	...	...	2	2	...	...	1	2
Stone, clay, glass and concrete products	36	91	12	22	5	8	12	42	...	...	7	19	...	...	...	...
Primary metals industries	118	476	17	30	12	17	35	330	1	1	53	98	1	1	1	1
Fabricated metal products	59	116	19	51	12	22	5	7	...	...	23	36	...	...	...	...
Machinery, except electrical	93	289	25	40	21	142	18	55	1	1	28	51	...	...	...	...
Electrical machinery equipment and supplies	103	448	22	45	44	264	21	111	...	...	16	29	...	...	1	6
Transportation equipment	107	1,209	32	120	25	833	29	203	...	...	21	53	1	3	...	...
Instruments and related products	16	49	5	9	3	14	4	21	...	...	4	6	...	...	...	...
Miscellaneous manufacturing industries	13	23	3	4	7	15	2	3	...	...	1	1	1	2	...	...
Nonmanufacturing	1,038	5,261	401	1,920	293	1,356	213	1,514	7	38	124	434	20	82	8	24
Mining, crude petroleum and natural gas production	16	217	3	163	1	1	7	23	...	...	5	31	...	...	...	...
Construction	489	1,588	212	648	149	402	108	477	5	13	15	48	11	61	4	13
Transportation, except railroads and trucking	66	287	35	163	7	37	11	40	...	...	13	48	...	...	...	...
Railroads	18	432	18	432	...	...	...	...	...	...	...	...	...	...	...	...
Trucking	20	476	1	2	16	469	2	4	...	...	1	1	...	...	...	...
Communications	42	734	6	17	5	18	27	692	...	...	4	7	...	...	...	...
Utilities, gas and electric	77	224	33	79	24	60	8	32	...	...	12	52	3	9	1	2
Wholesale trade	26	44	5	7	8	12	2	3	...	...	11	22	...	...	...	...
Retail trade, except restaurants	155	678	41	211	48	182	38	194	...	...	28	90	...	...	1	4
Restaurants	25	60	7	22	9	24	4	24	...	...	5	10	2	6	...	...
Finance, insurance and real estate	21	126	10	45	5	40	...	...	...	...	6	41	1	2	...	...
Services, except hotels and health services	45	151	16	46	10	37	2	5	...	...	17	63	...	...	1	1
Hotels	21	126	7	52	5	16	3	18	2	25	4	15	1	1	1	3
Health services	17	97	7	33	6	57	1	1	...	...	3	6	2	4	...	...

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[2] These include 55 major agreements, covering 178,000 workers, which are due to expire between November 1 and December 31, 1980; and 273 agreements, covering 637,000 workers, which expired prior to November 1, but for which necessary information had not been fully gathered.

NOTE: Only bargaining units in the private nonagricultural economy affecting 1,000 workers or more are considered for this table. Because of rounding, sums of individual items may not equal totals.

processing equipment. Although strikes against the Federal Government carry stiff penalties, such action is possible. Delegates to recent Letter Carriers' and Postal Workers' conventions adopted "no contract, no work" mandates, and the Postal Workers' union has a new president, Morris Biller, who, reportedly, is more militant than his predecessor, Emmet Andrews.

West Coast longshoring

On July 1, 1981, the 3-year agreement between the International Longshoremen's and Warehousemen's Union (Ind.) and the Pacific Maritime Association is due to expire. Although the agreement covers only about 11,500 workers, it involves virtually all firms engaged in longshoring operations at West Coast ports. Interruption of such operations can quickly affect shipping, trucking, railroads, and eventually can spread to other industries.

Until the 1950's (except during World War II), West Coast dock negotiations usually were marked by impasses and strikes, and at times by violence.[16] With the advent of the Pacific Maritime Association in 1949, labor-management relations gradually improved. The Mechanization and Modernization Agreement of 1959,

(Text continued on p. 29)

Table 3. Expiration and wage adjustment provisions of selected collective bargaining agreements

[Contracts are listed in order of the Standard Industrial Classification Code]

1972 SIC Code	Industry and employer [1]	Union [2]	Employees covered	Contract term [3]	1981 provisions for automatic cost-of-living review [4]	1981 provisions for deferred wage increases [5]
	Manufacturing					
20	Food and kindred products:					
	Armour and Co. (Interstate) [6]	Food and Commercial Workers	6,000	Sept. 1, 1979 to Aug. 31, 1982	January and July	Sept. 1: 25 cents
	California Processors, Inc.	Teamsters (Ind.)	55,000	July 1, 1979 to July 1, 1982	July	July 1: 5.7 percent
	John Morrell and Co. (Interstate)	Food and Commercial Workers	6,100	Sept. 1, 1979 to Sept. 1, 1982	January and July	Sept. 7: 25 cents
	Kellogg Co. (Interstate)	Grain Millers	5,350	Oct. 10, 1978 to Sept. 26, 1981	April, thereafter quarterly	Apr. 1: 3 percent
	Nabisco, Inc. (Interstate) [6]	Bakery, Confectionery and Tobacco Workers	11,000	Sept. 1, 1979 to Aug. 31, 1981	.....	.....
	Sugar Cos., Negotiating Committee (Hawaii)	Longshoremen and Warehousemen (Ind.)	7,000	Feb. 1, 1980 to Jan. 31, 1982	.....	Feb. 1: 55 – 75 cents
	Swift and Co. (Interstate) [6]	Food and Commercial Workers	5,200	Sept. 1, 1979 to Aug. 31, 1982	January and July	Sept. 1: 25 cents
	Wilson Foods Corp. (Interstate)	Food and Commercial Workers	6,000	Sept. 1, 1979 to Aug. 31, 1982	May and November	Sept. 7: 25 cents
21	Tobacco manufacturers:					
	Philip Morris, U.S.A. (Richmond, Va.)	Bakery, Confectionery and Tobacco Workers	7,200	Feb. 1, 1980 to Jan. 31, 1983	January thereafter quarterly	Feb. 1: 43 cents
22	Textile mill products:					
	Fieldcrest Mills, Inc. (Virginia and North Carolina)	Clothing and Textile Workers	5,000	Mar. 1, 1978 to Feb. 28, 1981	.....	.....
23	Apparel and other finished products:					
	Cotton Garment Manufacturers (Interstate) [6]	Clothing and Textile Workers	60,000	Sept. 1, 1979 to Aug. 31, 1982	.....	.....
	New York Coat and Suit Assn.; Affiliated Dress Manufacturers, Inc. [6]	Ladies' Garment Workers	47,000	May 1, 1979 to May 31, 1982	January and March	June 1: 7 percent
	United Knitwear Manufacturers League (New York, N.Y.) [6]	Ladies' Garment Workers	10,000	July 16, 1979 to July 31, 1982	.....	June 1: 25 cents
24	Lumber and wood products, except furniture: [6]					
	Western States Wood Products Employers Association (Boise Cascade Corp., Champion International Co., Crown Zellerbach Corp., Georgia-Pacific Corp., International Paper Co., ITT-Rayonier, Inc., Louisiana-Pacific Corp., Publishers Paper Co., Simpson Timber Co., and Weyerhaeuser Co.)	Woodworkers and Carpenters	37,000	June 1, 1980 to May 31, 1983	.....	June 1: 75 cents
26	Paper and allied products:					
	International Paper Co., Southern Kraft Division (Interstate)	Paperworkers and Electrical Workers (IBEW)	8,000	June 1, 1979 to May 31, 1983	.....	June 1: 4 percent to nearest 1/2 cent
30	Rubber and miscellaneous plastic products:					
	B. F. Goodrich Co. (Interstate) [6]	Rubber Workers	9,600	Apr. 20, 1979 to Apr. 19, 1982	January, thereafter quarterly	Apr. 20: 20 cents, plus 15 cents advance COLA
	Firestone Tire and Rubber Co. (Interstate)	Rubber Workers	15,250	Apr. 20, 1979 to Apr. 19, 1982	January, thereafter quarterly	Apr. 20: 20 cents, plus 15 cents advance COLA
	General Motors Corp., Inland Manufacturing Division (Dayton, Ohio)	Rubber Workers	6,900	Sept. 15, 1979 to Sept. 14, 1982	March, thereafter quarterly	Sept. 14: 25 – 36 cents
	Goodyear Tire and Rubber Co. (Interstate)	Rubber Workers	22,300	Apr. 21, 1979 to Apr. 20, 1982	January, thereafter quarterly	Apr. 20: 20 cents, plus 15 cents advance COLA
	Uniroyal, Inc. (Interstate)	Rubber Workers	8,300	June 18, 1979 to Apr. 19, 1982	.....	Apr. 20: 20 cents, plus 15 cents advance COLA
32	Stone, clay and glass products:					
	Anchor Hocking Glass Co. (Interstate) [6]	Glass Bottle Blowers	7,000	Apr. 1, 1980 to Mar. 31, 1983	.....	Apr. 1: 20 – 24 cents
	Brockway Glass Co., Inc. (Interstate)	Glass Bottle Blowers	7,150	Apr. 1, 1980 to Mar. 31, 1983	April	Apr. 1: 55 cents
	Owens-Illinois, Inc. (Interstate)	Glass Bottle Blowers	14,350	Apr. 1, 1980 to Mar. 31, 1983	April	Apr. 1: 55 cents
33	Primary metal industries [6]					
	9 major basic steel companies: Allegheny Ludlum Industries, Inc.; Armco Steel Corp.; Bethlehem Steel Corp.; Inland Steel Co.; Jones and Laughlin Steel Corp.; National Steel Corp.; Republic Steel Corp.; United States Steel Corp.; Wheeling-Pittsburgh Steel Co.	Steelworkers	286,000	Apr. 15, 1980 to July 31, 1983	.....	Aug. 1: 20 – 52 cents
	Aluminum Co. of America (Interstate)	Aluminum Workers	9,000	June 1, 1980 to May 31, 1983	.....	June 1: 20 – 46 cents
	Aluminum Co. of America (Interstate)	Steelworkers	9,000	June 1, 1980 to May 31, 1983	January, thereafter quarterly	June 1: 20 – 46 cents
	Kaiser Aluminum and Chemical Corp. (Interstate)	Steelworkers	10,000	June 2, 1980 to May 31, 1983	January, thereafter quarterly	June 1: 20 – 46 cents
	Reynolds Metals Co. (Interstate)	Steelworkers	8,100	June 2, 1980 to May 31, 1983	January, thereafter quarterly	June 1: 20 – 46 cents
34	Fabricated metal products:					
	American Can Co. (Interstate)	Steelworkers	7,000	Nov. 1, 1977 to Feb. 15, 1981	February	.....
	Continental Group, Inc. (Interstate)	Steelworkers	11,000	Nov. 1, 1977 to Feb. 15, 1981	February	.....

Table 3. Continued—Expiration and wage adjustment provisions

[Contracts are listed in order of the Standard Industrial Classification Code]

1972 SIC Code	Industry and employer [1]	Union [2]	Employees covered	Contract term [3]	1980 provisions for automatic cost-of-living review [4]	1980 provisions for deferred wage increases [5]
35	Machinery, except electrical:					
	Caterpillar Tractor Co. (Interstate)	Auto Workers (Ind.)	25,000	Oct. 1, 1979 to Sept. 30, 1982	January, thereafter quarterly	Oct. 5: 27 - 35 cents
	Cummins Engine Co., Inc. (Columbus, Ind.)	Diesel Workers' Union (Ind.)	6,700	May 1, 1978 to May 3, 1981	March, thereafter quarterly	.....
	Deere and Co. (Illinois and Iowa)	Auto Workers (Ind.)	32,000	Oct. 20, 1979 to Sept. 30, 1982	January, thereafter quarterly	Oct. 5: 3 percent
	International Harvester Co. (Interstate)	Auto Workers (Ind.)	32,100	Oct. 1, 1979 to Sept. 30, 1982	January, thereafter quarterly	Oct. 5: 3 percent
36	Electrical machinery, equipment and supplies:					
	General Electric Co. (Interstate)	Electrical Workers (UE, Ind.)	16,400	July 1, 1979 to June 27, 1982	June and December	June 29: 15 cents hourly; $6 weekly salaried
	General Electric Co. (Interstate)	Electrical Workers (IUE)	70,000	July 1, 1979 to June 27, 1982	June and December	June 29: 15 cents hourly; $6 weekly salaried
	General Motors Corp. (New Jersey, New York, and Ohio)	Electrical Workers (IUE)	23,450	Sept. 18, 1979 to Sept. 14, 1982	January, thereafter quarterly	Sept. 14: 24 cents
	GTE Sylvania, Inc. (Interstate) [6]	Multi AFL-CIO unions and Teamsters (Ind.)	9,000	Oct. 6, 1979 to Oct. 5, 1982	March and September	Sept. 7: 14.5 cents
	Raytheon Co. (Massachusetts)	Electrical Workers (IBEW)	9,000	Sept. 3, 1979 to Aug. 31, 1981	.....	.....
	RCA Corp. (Interstate)	Electrical Workers (IBEW)	13,000	Dec. 1, 1979 to Dec. 1, 1982	June and December	Dec. 7: 15 cents
	Westinghouse Electric Corp. (Interstate) [6]	Electrical Workers (UE, Ind.)	5,500	Sept. 4, 1979 to July 11, 1982	January and July	July 13: 15 cents
	Westinghouse Electric Corp. (Interstate) [6]	Electrical Workers (IUE)	19,000	Sept. 4, 1979 to July 11, 1982	January and July	July 13: 15 cents
	Westinghouse Electric Corp. (Interstate) [6]	Federation of Westinghouse Independent Salaried Unions (Ind.)	12,000	July 16, 1979 to July 26, 1982	January and July	July 13: $6 weekly
	Whirlpool Corp. (Evansville, Ind.) [6]	Electrical Workers (IUE)	5,300	Feb. 17, 1980 to Feb. 17, 1983	January, thereafter quarterly	Feb. 17: 15 cents
371	Transportation equipment—motor vehicle and motor vehicle equipment:					
	Budd Co. (P & M) (Interstate)	Auto Workers (Ind.)	6,150	Feb. 11, 1980 to Mar. 4, 1983	March, thereafter quarterly	Apr. 27: 21 - 40 cents
	Chrysler Corp. (P & M) (Interstate) [6]	Auto Workers (Ind.)	110,000	Oct. 25, 1979 to Sept. 14, 1982	.....	Jan.: 3 percent
	Dana Corp. (Interstate)	Auto Workers (Ind.)	7,500	Dec. 3, 1979 to Dec. 5, 1982	January, thereafter quarterly	.....
	Ford Motor Co. (Interstate)	Auto Workers (Ind.)	158,000	Oct. 4, 1979 to Sept. 14, 1982	January, thereafter quarterly	Sept. 14: 23 - 39 cents
	General Motors Corp. (Interstate) [6]	Auto Workers (Ind.)	382,000	Sept. 17, 1979 to Sept. 14, 1982	January, thereafter quarterly	Sept. 14: 25 - 41 cents
372	Transportation equipment—aircraft:					
	Beech Aircraft Corp. (Kansas and Colorado)	Machinists	6,550	Aug. 7, 1978 to Aug. 2, 1981	February, thereafter quarterly	June 8: 76 cents
	Cessna Aircraft Co. (Wichita, Kans.)	Machinists	6,000	Sept. 18, 1978 to Sept. 27, 1981	January, thereafter quarterly	.....
	Hughes Aircraft Co. (California)	Carpenters	8,000	Dec. 1, 1979 to Dec. 5, 1982	March, thereafter quarterly	Dec. 5: 18 - 30 cents
	McDonnell-Douglas Corp. (St. Louis, Mo.)	Machinists	9,300	May 8, 1978 to May 10, 1981	February	May 5: 3 percent
	Rockwell International, Rockwell, Aerospace and Electronics Group (California and Oklahoma)	Auto Workers (Ind.)	8,000	June 11, 1978 to June 30, 1981	January and April	.....
	United Aircraft Corp., Pratt Whitney Aircraft Div. (Connecticut)	Machinists	9,700	Nov. 28, 1978 to Nov. 28, 1982	.....	.....
373	Transportation equipment—shipbuilding:					
	Bethlehem Steel Corp., Shipbuilding Dept (Interstate)	Marine and Shipbuilding Workers	5,000	Aug. 14, 1978 to Aug. 13, 1981	February, thereafter quarterly	.....
	General Dynamics Corp., Electric Boat Division (Groton, Mass.) [6]	Metal Trades Council and Teamsters (Ind.)	11,700	July 1, 1979 to June 30, 1982	.....	July 1: 55 cents
	Litton Systems, Inc., Ingalls Shipbuilding Division (Pascagoula, Miss.)	Metal Trades Council and Teamsters (Ind.)	10,900	Jan. 29, 1978 to Feb. 1, 1981	January	.....
374	Transportation equipment—railway cars:					
	Pullman, Inc. Pullman Standard Division (Interstate)	Steelworkers	8,800	Apr. 4, 1978 to Apr. 4, 1981	January	.....
38	Professional scientific and controlling instruments, photographic and optical goods; watches and clocks					
	Honeywell Inc. (Minneapolis and St. Paul, Minn.)	Teamsters (Ind.)	8,000	Feb. 1, 1980 to Jan. 31, 1982	.....	Feb. 1: 11 percent
39	Miscellaneous manufacturing: [6]					
	National Association of Doll Manufacturers, Inc. & Stuffed Toy Manufacturers Association, Inc. (New York, N.Y.)	Novelty and Production Workers	7,500	July 1, 1979 to June 30, 1982	.....	July 1: $12 per week

Table 3. Continued—Expiration and wage adjustment provisions

[Contracts are listed in order of the Standard Industrial Classification Code]

1972 SIC Code	Industry and employer[1]	Union[2]	Employees covered	Contract term[3]	1981 provisions for automatic cost-of-living review[4]	1981 provisions for deferred wage increases[5]
	Nonmanufacturing					
12	Bituminous coal and lignite mining:					
	Association of Bituminous Contractors, Inc.	Mine Workers (Ind.)	14,000	Mar. 26, 1978 to Mar. 27, 1981	......	......
	Bituminous Coal Operators Association, National	Mine Workers (Ind.)	160,000	Mar. 26, 1978 to Mar. 27, 1981	......	......
40	Railroads:[6]					
	Class I railroads:					
	Operating unions	Locomotive Engineers (Ind.)	25,150	Jan. 1, 1978 to Mar. 31, 1981	January	......
		Transportation Union	91,500	Jan. 1, 1978 to Mar. 31, 1981	January	......
	Nonoperating unions:					
	Shop craft	Railway Carmen	44,000	Jan. 1, 1978 to Mar. 31, 1981	January	......
		Firemen and Oilers	13,800	Jan. 1, 1978 to Mar. 31, 1981	January	......
	Nonshop craft	Electrical Workers (IBEW)	11,400	Jan. 1, 1978 to Mar. 31, 1981	January	......
		Machinists	18,000	Jan. 1, 1978 to Mar. 31,1981	January	......
		Maintenance of Way Employes	37,000	Jan. 1, 1978 to Mar. 31, 1981	January	......
		Railway Clerks	105,000	Jan. 1, 1978 to Mar. 31, 1981	January	......
		Railroad Signalmen	8,000	Jan. 1, 1978 to Mar. 31, 1981	January	......
	Conrail and Amtrak, Maintenance and Equipment employees	Transport Workers	10,000	Jan. 1, 1978 to Mar. 31, 1981	......	......
	Conrail, clerks	Railway Clerks	20,000	Jan. 1, 1978 to Mar. 31, 1981	......	......
	Conrail, operating employees	Transportation Union	22,250	Jan. 1, 1978 to Mar. 31, 1981	......	......
42	Trucking and warehousing:					
	Local Cartage, for Hire, and Private carriers agreement (Chicago, Ill.)	Chicago Truck Drivers (Ind.)	7,700	Apr. 1, 1979 to Mar. 31, 1982	April	Apr. 1: 35 cents
	National Master Freight agreements and supplements:[6]					
	Local Cartage	Teamsters (Ind.)	200,000	Apr. 1, 1979 to Mar. 31, 1982	......	Apr. 1: 35 cents
	Over-the-road	Teamsters (Ind.)	100,000	Apr. 1, 1979 to Mar. 31, 1982	......	Apr. 1: 35 cents
	United Parcel Service (interstate)	Teamsters (Ind.)	73,000	May 1, 1979 to Apr. 30, 1982	May and November	May 1: 35 cents
44	Water transportation:					
	Dry Cargo Cos., Atlantic and Gulf coasts	Masters, Mates, and Pilots	5,000	June 16, 1978 to June 15, 1981	......	......
	Dry Cargo Cos., Tankers, Atlantic and Gulf coasts	Maritime Union	15,000	June 16, 1978 to June 16, 1981	......	......
	Pacific Maritime Association (interstate)[6]	Longshoremen and Warehousemen (Ind.)	11,500	July 1, 1978 to July 1, 1981	......	......
	Standard Freightship Agreement, Unlicensed personnel (interstate)	Seafarers	10,750	June 16, 1978 to June 15, 1981	......	......
	Standard Tanker Agreement, Unlicensed personnel (interstate)	Seafarers	10,750	June 16, 1978 to June 15, 1981	......	......
45	Airlines:[6]					
	American Airlines, flight attendants	Independent Airline Union	6,200	Sept. 1, 1978 to Aug. 31, 1981	......	......
	Eastern Airlines, ground service	Machinists	11,500	Jan. 1, 1979 to Dec. 31, 1981	......	......
	Trans World Airlines, Inc., ground service	Machinists	12,000	Nov. 1, 1978 to Oct. 31, 1981	......	July 1: 5 percent
	United Airlines, Inc., flight attendants	Air Line Pilots	9,100	Apr. 1, 1980 to Mar. 31, 1982	October	Apr. 1: 10 percent
	United Airlines, Inc., ground service	Machinists	18,600	Nov. 1, 1978 to Oct. 31, 1981	......	......
	United Airlines, Inc., pilots	Air Line Pilots	5,000	Feb. 1, 1978 to Jan. 31, 1981	......	......
48	Communications:					
	General Telephone Co. of California	Electrical Workers (IUE)	20,000	Mar. 5, 1980 to Mar. 4, 1983	......	Mar. 5: 2.75 percent
	GTE General Telephone Co. of Florida	Electrical Workers (IBEW)	7,700	Aug. 20, 1978 to Aug. 15, 1981	......	......
	Western Union Telegraph Co. (interstate)[6]	Telegraph Workers	8,150	July 28, 1979 to July 27, 1982	......	July 28: 3.162 percent
49	Electric, gas and sanitary services:					
	Pacific Gas and Electric Co. (Calif.)	Electrical Workers (IBEW)	13,850	Jan. 1, 1980 to Dec. 30, 1982	......	Jan. 1: 3 percent
53	Retail trade—general merchandise:					
	R. H. Macy and Co., Inc. (New York, N.Y.)	Retail, Wholesale and Department Store	7,000	Feb. 1, 1980 to Jan. 30, 1982	......	Feb. 1: $15 per week
	Woodward and Lothrop, Inc. (Maryland, D.C., and Virginia)	Food and Commercial Workers	6,000	July 1, 1979 to June 30, 1982	......	Feb. 1: 8 percent
54	Retail trade—food stores:					
	Chain and independent food stores (Illinois and Indiana)[6]	Food and Commercial Workers	10,000	Aug. 8, 1979 to Sept. 7, 1982	......	Feb. 1: 20 cents
	Chicago area grocery stores (Chicago, Ill.)	Food and Commercial Workers	7,000	July 1, 1979 to June 26, 1982	......	June 28: 50 cents
	Denver retail grocers (Colorado)	Food and Commercial Workers	9,300	May 26, 1979 to May 5, 1982	May	May 3: 50 cents
	Food Employers Council, Inc. Retail meat industry and independent retail meat operators (Los Angeles, Calif.)	Food and Commercial Workers	6,000	Nov. 5, 1979 to Nov. 4, 1982	May and November	Nov. 2: 50 cents and $.768 on Sundays
	Food Employers Council, Inc. General Merchandise Agreement (California)	Food and Commercial Workers	60,150	July 31, 1978 to July 25, 1981	......	......
	Food Employers Labor Relations Association of Northern California[6]	Food and Commercial Workers	17,000	Mar. 5, 1980 to Mar. 5, 1983	......	Mar. 5: 59 cents
	Food Industry Agreement (St. Louis, Mo.)[6]	Food and Commercial Workers	8,500	May 6, 1979 to May 7, 1982	November	May 4: 50–70 cents
	Food Market Agreement of Minneapolis (Minnesota)[6]	Food and Commercial Workers	7,200	Mar. 3, 1980 to Feb. 25, 1983	......	Feb. 25: 11 percent

Table 3. Continued — Expiration, reopening, and wage adjustment provisions

[Contracts are listed in order of the Standard Industrial Classification Code]

1972 SIC Code	Industry and employer[1]	Union[2]	Employees covered	Contract term[3]	1981 provisions for automatic cost-of-living review[4]	1981 provisions for deferred wage increases[5]
54	Retail trade — food stores: (continued)					
	Jewel Cos., Inc., Jewel Food Stores Division (Illinois and Indiana)	United Retail Workers Union (Ind.)	14,000	Sept. 23, 1979 to Sept. 18, 1982	......	Sept. 20: 70 cents
	Meijer, Inc. (Michigan)	Food and Commercial Workers	8,500	Nov. 5, 1978 to July 11, 1981	......	Jan. 1: 20 cents
	Pathmark and Shop Rite Supermarkets (New York and New Jersey)	Food and Commercial Workers	10,750	Apr. 10, 1978 to Apr. 5, 1981	January	......
	Philadelphia Food Stores (Pennsylvania, New Jersey and Delaware)	Food and Commercial Workers	5,000	Mar. 9, 1980 to Mar. 5, 1983	September	Mar. 1: 45 cents
	Stop and Shop Cos., Inc. (New England states)	Food and Commercial Workers	8,000	Feb. 11, 1979 to Feb. 13, 1982	......	Feb. 8: $20 per week
58	Retail trade — eating and drinking places:					
	Restaurant-Hotel Employers' Council of Southern California	Hotel and Restaurant Employees	10,000	Mar. 16, 1979 to Mar. 15, 1983	......	Mar. 1: $1 - $2.44 per day
59	Retail trade — miscellaneous retail stores:					
	Retail Drug Store Operators (Southern California)	Food and Commercial Workers	8,400	May 8, 1978 to Mar. 1, 1981	......	......
63	Insurance carriers:					
	John Hancock Mutual Life Insurance Co. (interstate)	Insurance Workers	6,000	June 29, 1978 to June 30, 1981	......	......
	Prudential Insurance Co. of America (interstate)	Insurance Workers	16,500	Sept. 29, 1979 to Sept. 23, 1981	......	......
65	Finance, insurance, and real estate:					
	Bronx Realty Advisory Board, Inc. (New York, N.Y.)	Service Employees	11,000	Sept. 15, 1979 to Sept. 14, 1982	......	Sept. 15: $11 per week
	Building Managers Association of Chicago[6]	Service Employees	12,500	Apr. 1, 1980 to Mar. 31, 1982	......	Mar. 31: 50 cents
	Realty Advisory Board of Labor Relations, Inc., Apartment Buildings (New York, N.Y.)	Service Employees	20,000	Apr. 21, 1979 to Apr. 20, 1982	March	Apr. 21: $15 per week
70	Hotels, rooming houses, camps, and other lodging places:					
	Hotel Association of New York City, Inc. (New York, N.Y.)	New York Hotel Trades Council	25,000	June 1, 1978 to May 31, 1982	......	......
	Hotel Association of Washington, D.C.	Hotel and Restaurant Employees	10,000	Sept. 16, 1978 to Sept. 15, 1981	......	......
	Hotel Industry (Hawaii)	Hotel and Restaurant Employees	10,000	June 1, 1977 to May 31, 1982	......	......
78	Motion pictures:					
	Screen Actors Guild, Commercials Contract (interstate)	Actors	39,000	Feb. 7, 1979 to Feb. 6, 1982	......	......
	Television and Radio Commercial Announcement Agreement (interstate)	Musicians	5,000	May 1, 1979 to Apr. 30, 1981	......	
80	Medical and other health services:					
	Kaiser Foundation Hospitals, Permanente Medical Group (California)	Service Employees	7,800	Nov. 11, 1979 to Oct. 31, 1981	......	
	Kaiser-Permanente Medical Program of Southern California (Los Angeles and Orange Counties, Calif.)[6]	Service Employees	9,000	Apr. 1, 1980 to Mar. 31, 1982	......	Apr. 1: 8.5 percent
91	Federal government:					
	U. S. Postal Service national agreement	Postal Workers; Letter Carriers; Rural Letter Carriers'; and Laborers	571,000	July 21, 1978 to July 20, 1981	January and July	

[1] Geographical coverage of contracts is interstate unless specified.

[2] Unions are affiliated with AFL - CIO, except where noted as independent (Ind.).

[3] Contract term refers to the date contract is to go into effect, not the date of signing. Where a contract has been amended or modified and the original termination date extended, the effective date of the changes becomes the new effective date of the agreement. For purposes of this listing, the expiration is the formal termination date established by the agreement. In general, it is the earliest date on which termination of the contract could be effective, except for special provisions for termination as in the case of disagreement arising out of wage reopening. Many agreements provide for automatic renewal at the expiration date unless notice of termination is given. The Labor Management Relations Act of 1947 requires that a party to an agreement desiring to terminate or modify it shall serve written notice upon the other party 60 days prior to the expiration date.

[4] Dates shown indicate the month in which adjustment is to be made, not the month of the Consumer Price Index on which adjustment is based.

[5] Hourly rate increase unless otherwise specified.

[6] Contract terms are not on file with the Bureau of Labor Statistics; information is based on newspaper accounts.

which allowed companies to introduce labor-saving technology to the docks in exchange for guarantees of employee income, is considered a major innovation in labor relations. However, the only significant coastwide strike since the 1940's centered on a labor-saving technology—cargo containerization. The walkout began July 1, 1971, and ended February 21, 1972, although it was temporarily halted by a Taft-Hartley injunction and by an agreement to resume work for a limited period. Workers at Eastern and Gulf Coast ports joined in the strike, making it the first nationwide longshore strike in U.S. history.

The terms of the 1978 settlement provided for an 85-cent-per-hour increase in each of the 3 years, greater skill differentials, added holidays, a sixth week of vacation at 25 years of service, and improved medical, life insurance, and retirement benefits. The association agreed to the concept of seniority in the selection of "steady men" (highly-skilled employees who work almost exclusively for a single employer), as well as a fair distribution of work and training opportunities for such workers. The 1978 agreement included, for the first time, a union security clause, requiring all fully-registered employees to become union members within 30 days.

The Longshoremen's union formulates contract demands at a biennial caucus of representatives from its locals. Major objectives in the 1981 talks have not been announced, but job security is likely to continue as a significant issue for the union.

Maritime industry

In June, 3-year agreements covering 50,000 seamen in dry cargo and tanker operations will expire. The four unions involved are AFL-CIO affiliated—the National Maritime Union, the Seafarer's International Union, the Marine Engineers' Beneficial Association, and the Masters, Mates and Pilots of the International Longshoremen's Association.

The bargaining structure in shipping is relatively complex. Most licensed officers are represented primarily by four nationwide labor organizations that have separate bargaining units on each coast—the Marine Engineers' Beneficial Association; International Organization of Masters, Mates and Pilots; American Radio Association; and Radio Officers' Union. In addition, three small coastal unions also represent licensed officers. On the East and Gulf Coasts, two rival unions—the National Maritime Union and the Atlantic, Gulf, Lakes and Inland Waters District of the Seafarers' International Union—represent deck, engine, and steward department seamen. On the Great Lakes, these two rival unions negotiate for most of the unlicensed seamen. On the West Coast, unlicensed seamen in deck, engine and steward departments are represented by the Pacific District of the Seafarers' International Union.

Several associations negotiate with the unions, depending on geographic area. On the East and Gulf Coasts, two committees conduct negotiations. The Maritime Service Committee bargains for subsidized passenger and dry cargo ship operators, and the Tanker Service Committee bargains for tanker companies. Both committees negotiate with the National Maritime Union and all of the East Coast licensed officers' organizations. Shipping operators who are not eligible for Government subsidies are represented by the American Maritime Association. This association negotiates with the Seafarers' International Union and the unions of licensed officers. The two committees and the association are not empowered to bind its members to the terms of the contract; instead, each operator member concurring in the agreement signs an individual contract with the unions. If a member disagrees with the terms, it negotiates its own pact with the union involved.

On the West Coast, the Pacific Maritime Association, which represents many steamship companies, negotiates with the Seafarers' International Union and the West Coast licensed officers' unions. The tanker companies, which do not belong to the association, bargain separately with the West Coast unions. In addition, several large companies, such as Exxon Corp. and Mobil Oil, conduct separate negotiations with independent labor associations.

Despite heavy subsidies enjoyed by some U.S. companies engaged in foreign trade, the U.S. merchant marine has suffered a marked decline since World War II and presently accounts for only a small percentage of the vessels engaged in U.S. foreign trade. Employment in the industry has suffered from competition from foreign vessels, alternative modes of transportation, automation, and containerization of cargo. Efforts to revitalize the industry, particularly a dwindling fleet, are being made under the Omnibus Maritime Bill, which would set a goal for the 1980's of transporting 50 percent of this country's exports and imports in U.S. ships. The bill is now pending in the Congress.

Unions have not yet announced 1981 demands. Important items of discussion are likely to be wages, improved vacation and health and medical benefits, and retiree protection against inflation.

Airlines

Contracts held by unions representing employees of trunk line carriers will be up for renewal throughout 1981.[17] The large number of contracts reflects the collective bargaining structure in the industry. Like the railroads, the airlines' collective bargaining relations are governed by the Railway Labor Act. Unlike the railroads, each carrier generally bargains separately with each craft. Most airline workers are organized on a craft basis, with each craft represented in a separate bargaining unit and, frequently, by a different union.

Of the various crafts or classes, only the mechanics, pilots, and flight attendants will be heavily involved in 1981 negotiations. The Air Line Pilots Association will bargain throughout the year for 21,000 pilots at Braniff, Continental, Delta, Eastern, Trans World, United, and Western. The Allied Pilots Associations's (Ind.) contract at American, covering 3,300 pilots, expires November 1.

Contrary to other airline unions, the International Association of Machinists and Aerospace Workers (Machinists), which bargains for most of the industry's unionized ground service employees, has a common contract expiration date with several of the larger carriers. Contracts covering approximately 52,000 mechanics and related employees represented by the Machinists will terminate at Braniff, Northwest, Trans World, and

United on November 1, and at Eastern on December 31.[18] The only other mechanic unit bargaining in 1981 is at Western, where the International Brotherhood of Teamsters, Chauffeurs, Warehousemen and Helpers of America (Teamsters, Ind.) will negotiate for 1,800 mechanics, whose contract expires January 1.

Unlike the pilots and mechanics, the flight attendants are represented by various labor organizations. Northwest's contract covering 2,200 members of the Teamsters union terminates on January 1. The Independent Union of Flight Attendants' contract for 5,200 employees at Pan American comes up for renewal on May 1. The 5,600-member International Federation of Flight Attendants' contract at Trans World terminates on August 1, and the Association of Flight Attendants, an affiliate of the Air Line Pilots Association, will renegotiate for 2,000 employees at Braniff in January.

Unlike the last major round of negotiations, bargaining in 1981 will take place in a more uncertain economic environment, as the industry is experiencing the competitive effects of deregulation and sagging profits, and layoffs as a result of mergers and a sluggish economy. The unions' bargaining goals are still being formulated, but it is likely that the mechanics units will concentrate on job protection, wage issues, and improvements in pension benefits and cost-of-living adjustments. Notwithstanding potential money demands, the crew size issue should be a major one for the pilots, with the impending introduction of the new B-757 and B-767 aircraft. If history repeats itself, flight attendant groups will probably propose numerous changes involving all major contract provisions. □

—— FOOTNOTES ——

[1] Major agreements are those that cover 1,000 workers or more. The Postal Service is not included in the 2.6 million workers covered by major expiring contracts.

[2] The economy entered a recession in January 1980; some economists have argued that this downturn ended in July or August.

[3] For more detailed information about escalators offsetting inflation, see Victor Sheifer, "Cost-of-living adjustment: keeping up with inflation?" *Monthly Labor Review*, June 1979, pp. 14–17.

[4] For an analysis of how 1979 contracts compared with prior contracts see Edward J. Wasilewski, "Inflation again outpaces wage and package gains in 1979," *Current Wage Developments*, July 1980, pp. 41–60.

[5] Data are through October 1980. Thus, additional COLA amounts may be added until the contracts expire in 1981.

[6] The 10 other unions participating in the negotiations are the American Train Dispatchers Association; Brotherhood of Locomotive Engineers (Ind.); International Association of Machinists and Aerospace Workers; Railroad Yardmasters of America; Sheet Metal Workers International Association; Brotherhood of Railroad Signalmen; International Brotherhood of Firemen and Oilers; International Brotherhood of Electrical Workers; Brotherhood of Railway Carmen of the United States and Canada; and International Brotherhood of Boilermakers, Iron Ship Builders, Blacksmiths, Forgers and Helpers. This increase in unions represented at the bargaining table reflects the dissolution of the Railway Employees' Department, which bargained for four of six shop craft unions in the 1978 negotiations.

[7] Amtrak, a class 1 carrier, has never been represented by the conference in negotiations.

[8] See *The New York Times*, July 15, 1978, p. 1.

[9] Collective bargaining in the railroad industry is governed by the Railway Labor Act which provides an elaborate set of dispute settlement procedures. The party wishing to reopen the contract must give the other party 30 days' notice of such intent, within which time negotiations must begin. If an agreement is not reached, either or both parties may request the assistance of the National Mediation Board, the agency that administers the act; or the board itself may proffer its services. If mediation fails to bring about a settlement, the board proffers arbitration. If arbitration is rejected, the board terminates its services, and a 30-day status quo period begins. If the dispute remains unresolved and is of a sufficient magnitude, the President may create an ad hoc emergency board to investigate and make a report within 30 days. During this period and for 30 days thereafter, strikes and changes in employee working conditions are prohibited.

[10] In 1972, Arnold Miller defeated W. A. "Tony" Boyle for president of the UMW. Miller was unable to control pro-Boyle and other factions, dropped many reforms, and alienated many of his supporters. In ill health, he stepped down in 1979 and was succeeded by then union vice president Sam Church. The union's financial problems are discussed briefly in Mary A. Andrews, "Mine Workers' new president wins dues increase, right to name VP," *Monthly Labor Review*, March 1980, pp. 48–50.

[11] The International Union of Operating Engineers and the International Brotherhood of Electrical Workers, both AFL-CIO affiliates, have actively organized western miners. The Progressive Mine Workers and the Southern Labor Union, independents, have membership in the Midwest and South. A minority of coal miners work in unorganized mines.

[12] See Harold Wool, "Coal industry resurgence attracts a variety of new workers," *Monthly Labor Review*, forthcoming.

[13] See "Developments in Industrial Relations," *Monthly Labor Review*, April 1978, pp. 55–56.

[14] See "Developments in Industrial Relations," *Monthly Labor Review*, May 1978, pp. 69–70.

[15] At its peak, the strike disrupted the processing and delivery of mail in 15 States and numerous cities. Federal troops were called in to maintain service in some areas. Since 1970, work stoppages have been minor. See Stephen C. Shannon, "Work stoppage in Government: the postal strike of 1970," *Monthly Labor Review*, July 1978, pp. 14–22.

[16] Pacific Coast dockworkers still observe "Bloody Thursday" as a holiday to commemorate July 5, 1934, when two strikers were killed and many were injured by police. At the time, the workers were represented by the International Longshoremen's Association.

[17] Trunk line air carriers include American Airlines, Braniff International, Continental Airlines, Delta Air Lines, Eastern Air Lines, Northwest Airlines, Pan American World Airways, Trans World Airlines, United Air Lines, and Western Airlines.

[18] Besides the mechanics, the Machinists bargains for stock and stores and flight kitchen employees at Eastern and Northwest; stock and stores, flight kitchen employees, and guards at Trans World; and communications, fleet service, stock and stores, flight kitchen employees, and dispatchers at United.

International comparisons of productivity and labor costs

As in the United States, manufacturing productivity growth slowed after 1973 and unit labor costs accelerated in most major industrial countries; aggregate hours rose only in the U.S.

ARTHUR NEEF AND PATRICIA CAPDEVIELLE

In the United States, the average annual rate of growth of manufacturing productivity after 1973 (1.4 percent) was less than half that from 1960 to 1973 (3.1 percent). Manufacturing productivity growth also slowed in the 10 other industrial countries studied, but the magnitude of the slowdown varied—from more than 85 percent in the United Kingdom to only about 15 percent in France and Belgium and less than 5 percent in Germany.

This article describes developments in manufacturing productivity (output per hour), hourly compensation, and unit labor costs from 1973 to 1979 for the United States, Canada, Japan, France, Germany, Italy, the United Kingdom, and four smaller European countries—Belgium, Denmark, the Netherlands, and Sweden.[1,2]

In all 11 countries, the average rate of growth of manufacturing output decelerated after 1973. In the European countries and Japan, the output slowdown was greater than that of manufacturing productivity, reflecting declines in labor input. From 1973 to 1979, overall, aggregate hours of manufacturing employees rose only in the United States, and manufacturing employment increased only in the United States, Canada, and Italy.

Manufacturing unit labor costs in the United States accelerated four-fold from less than 2 percent per year during 1960–73 to about 8 percent per year from 1973 to 1979, because of significantly larger annual gains in hourly compensation in conjunction with the productivity slowdown. For like reasons, 7 of the 10 foreign countries also experienced sharply higher rates of increase in unit labor costs after 1973. The exceptions were: Germany, where annual gains in both productivity and hourly compensation were similar in the two periods, and Japan and the Netherlands, where average annual increases in hourly compensation were smaller in 1973–79 than in the pre-1974 period. Measured in U.S. dollars, however, even these three countries had significantly higher average annual increases in unit labor costs during 1973–79.

Although the productivity measure relates output to the hours of persons employed in manufacturing, it does not measure the specific contributions of labor as a single factor of production. Rather, it reflects the joint effects of many influences, including new technology,

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capital investment, the level of output, capacity utilization, energy use, and managerial skills, as well as skills and efforts of the work force.

Productivity and output slow

From 1973 to 1979, manufacturing productivity, as measured by output per hour, increased at annual rates of 1.4 percent in the United States, .5 percent in the United Kingdom, 2 to 2.5 percent in Canada and Sweden, 4 to 6 percent in the other European countries, and 7 percent in Japan. In contrast, the average annual rates of growth of manufacturing productivity from 1960 to 1973 were about 3 percent in the United States, 4 to 4.5 percent in the United Kingdom and Canada, 5.5 to 7.5 percent in the continental European countries, and more than 10 percent in Japan. (See table 1.)

In the United States, 1973 was the year of a business cycle peak, and in the other countries economic activity peaked in that year or the first half of 1974. The recession which followed in 1974–75 was on average the steepest economic decline in the last 30 years and, for most countries, the productivity trend during the recession and recovery was markedly weaker than in previous periods.

The slowdown in productivity, as measured by the difference in growth rates between the two periods, was greatest in Sweden (minus nearly 4.5 percentage points), followed by Italy, Japan, and the United Kingdom (minus 3.5 points). However, in proportion to the average rate prior to 1974, the slowdown was by far the greatest in the United Kingdom, where the productivity growth rate for 1973–79 was less than 15 percent of the 1960–73 average rate, followed by Sweden, the United States, Canada, and Italy—about 35 to 50 percent of the 1960–73 average rate. According to either measure, the productivity slowdown was modest in France and Belgium, and growth in the two periods was almost unchanged in Germany.

During the 1974–75 recession, output per hour declined or rose significantly less than the average trend in most countries. Only in Germany and Denmark were the average productivity gains over the 2 years close to their long-term rates. After large advances during the post-recession recovery, annual productivity increases have generally been below average 1960–73 rates. The major exception was Italy, which achieved a productivity gain of 9.5 percent in 1979.

Manufacturing output dropped sharply in most countries during the recession. The largest declines occurred in the United States, Italy, and the United Kingdom, and the smallest in France. Output posted a strong recovery in 1976 in most countries, but subsequent growth has been sluggish—particularly in most of the European countries. From 1973 to 1979 overall, manufacturing output declined slightly in the United Kingdom and remained virtually unchanged in Sweden. Output increased at annual rates of around 1 to 3 percent in the other European countries, the United States, and Canada, while it increased more than 5 percent per year in Japan.

Employment and hours decline

In 6 of the 8 European countries, the 1973–79 productivity gains largely reflected significant decreases in

Table 1. Annual percent change[1] in manufacturing productivity and output, 11 countries, 1960–79

Year	United States	Canada	Japan	France	Germany	Italy	United Kingdom	Belgium	Denmark[2]	Netherlands	Sweden	Eight European countries	Ten foreign countries
	Output per hour												
1960–79 . .	2.6	3.8	9.2	5.5	5.4	6.1	2.9	6.7	6.1	6.7	5.3	5.2	6.0
1960–73 . .	3.1	4.6	40.3	5.8	5.5	7.2	4.0	7.0	7.0	7.4	6.7	5.8	6.5
1973–79 . .	1.4	2.2	6.9	4.8	5.3	3.7	.5	6.0	4.4	5.3	2.4	4.0	4.8
1973–74 . .	−5.0	1.6	4.1	3.4	6.0	5.3	−.3	5.5	3.3	8.3	3.4	3.9	4.0
1974–75 . .	5.1	−2.6	4.0	3.1	4.8	−4.2	−2.2	5.7	7.8	−1.7	−1.3	1.5	2.0
1975–76 . .	4.4	4.9	9.4	8.2	6.3	8.6	3.1	9.3	7.5	12.7	.7	6.7	7.3
1976–77 . .	3.0	5.1	8.8	4.5	5.6	1.1	−.4	5.6	2.1	4.1	−2.0	2.8	4.7
1977–78 . .	0.4	3.1	6.8	4.9	3.6	3.1	1.2	5.4	4.4	5.1	6.0	3.5	4.6
1978–79 . .	0.8	1.2	8.1	4.7	5.2	9.3	1.7	4.6	1.2	4.1	8.2	5.3	6.0
	Output												
1960–79 . .	3.8	5.1	10.4	5.4	4.2	5.8	1.8	5.0	4.8	4.6	3.8	4.3	5.7
1960–73 . .	4.7	6.4	12.8	6.7	5.2	7.0	3.0	6.7	6.1	6.0	5.5	5.5	7.0
1973–79 . .	2.0	2.2	5.3	2.6	1.9	3.2	−.7	1.4	2.0	1.6	.3	1.8	2.9
1973–74 . .	−6.7	3.8	−.4	3.2	0.3	6.7	−1.2	4.3	.9	4.4	4.7	1.9	1.4
1974–75 . .	−5.1	−6.3	−3.8	−2.1	−5.2	−9.5	−7.0	−6.4	−5.6	−6.7	−2.3	−5.2	−4.9
1975–76 . .	9.5	5.5	13.3	7.0	7.2	12.6	2.1	7.5	8.7	8.0	−1.2	6.8	8.6
1976–77 . .	7.3	1.4	9.0	3.1	3.1	2.1	1.8	−0.2	1.3	.9	−6.2	2.2	4.2
1977–78 . .	4.8	5.7	6.3	2.3	1.7	1.8	.4	1.2	2.7	1.8	.4	1.7	3.3
1978–79 . .	3.1	3.8	8.4	2.2	5.0	7.0	.1	2.4	3.4	1.8	6.6	3.8	5.2

[1] Average annual compound rate of change.

[2] Excluding manufacturing handicrafts.

labor input—the aggregate hours of manufacturing employees. Declines in hours accounted for 90 percent of the productivity rise in Sweden, for 60 to 75 percent in Belgium, Netherlands, and Germany, and for 40 to 50 percent in Denmark and France. In Italy, however, falling hours accounted for less than 15 percent of the productivity increase. The small British productivity gain reflected an overall decline in hours somewhat greater than the decrease in output. In Japan, declines in labor input accounted for 20 percent of the gain in productivity. In contrast, aggregate hours rose in the United States.

Productivity gains during 1960–73 were not as dependent on falling hours. Hours declined overall in most of the European countries, but accounted for no more than one-fourth of any country's productivity rise.

From 1973 to 1979, aggregate hours of manufacturing employees declined 3 to 4 percent per year in Germany, Belgium, and the Netherlands; 1 to 2 percent in France, Denmark, Sweden, the United Kingdom, and Japan; and .5 percent in Italy. Hours were unchanged in Canada and increased about .5 percent per year in the United States. In the latter three countries, manufacturing employment increased over the 6-year period. Total hours remained unchanged in Canada and fell in Italy because of reductions in average hours. In most other countries, the decreases in aggregate hours were attributable mostly to declines in employment, with the largest employment losses occurring in Belgium, the Netherlands, Denmark, and Germany. However, average hours also fell significantly in France, Germany, Belgium, the Netherlands, and Sweden, in part because the standard workweek was shortened or annual vacations increased. (See table 2.)

During the 1974–75 recession, total hours declined as much as 15 percent—the largest decreases occurring in the United States, Japan, Germany, Belgium, and Denmark. In the United States and Denmark, employment losses accounted for most of the decline, while in Japan and several European countries, short-time work programs were used more extensively to adjust total hours. Total hours regained 1973 levels in 1978 in the United States and in 1979 in Canada. In Japan and most European countries, employment and hours continued to

Table 2. Annual percent change[1] in manufacturing employment and hours, 11 countries, 1960–79

Year	United States	Canada	Japan	France	Germany	Italy	United Kingdom	Belgium	Denmark[2]	Netherlands	Sweden	Eight European countries	Ten foreign countries
	Aggregate hours												
1960-79	1.2	1.2	1.1	-.1	-1.2	-.3	-1.0	-1.6	-1.3	-2.0	-1.5	-.9	-.3
1960-73	1.6	1.7	2.3	.9	-.3	-.2	-1.0	-.3	-.9	-1.3	-1.1	-.3	.5
1973-79	.6	.0	-1.5	-2.1	-3.2	-.5	-1.2	-4.4	-2.3	-3.5	-2.1	-2.1	-1.8
1973-74	-1.9	2.1	-4.3	-.3	-5.4	1.4	-.9	-1.1	-1.4	-3.6	1.3	-1.9	-2.5
1974-75	-9.7	-3.9	-7.6	-5.0	-9.6	-5.5	-4.8	-11.4	-12.5	-5.1	-1.0	-6.6	-6.8
1975-76	4.9	.6	3.6	-1.1	0.8	3.8	-1.0	-1.7	1.1	-4.2	-1.8	.1	1.1
1976-77	4.2	-3.5	.1	-1.3	-2.4	1.0	2.1	-5.5	-.8	-3.0	-4.3	-.7	-.5
1977-78	4.4	2.5	-.5	-2.4	-1.8	-1.3	-.8	-4.0	-1.6	-3.1	-5.3	-1.8	-1.2
1978-79	2.2	2.6	.2	-2.4	-.2	-2.2	-1.6	-2.2	2.2	-2.2	-1.5	-1.5	-.8
	Employment												
1960-79	1.2	1.5	1.9	.5	-.2	1.2	-.6	-.5	-.1	-.7	-.2	.0	.5
1960-73	1.4	1.9	3.3	1.4	.6	1.6	-.5	.8	.8	.1	.1	.6	1.3
1973-79	.8	.6	-1.1	-1.1	-2.1	.3	-.7	-3.3	-2.0	-2.5	-.7	-1.2	-1.1
1973-74	-0.4	2.0	.2	1.3	-2.7	2.5	1.9	1.1	-3.3	-.4	2.3	.3	.4
1974-75	-8.6	-2.5	-5.1	-2.7	-6.7	-.4	-3.8	-6.1	-9.5	-3.3	.7	-3.9	-4.2
1975-76	3.7	.1	.4	-1.0	-2.4	.2	-1.3	-4.1	.6	-3.9	-.4	-1.4	-.9
1976-77	3.6	-2.2	-.2	-.4	-.8	.1	1.2	-3.9	.1	-2.7	-3.4	-.4	-.4
1977-78	4.2	2.5	-1.1	-1.8	-.4	-1.0	-.6	-4.1	-.5	-2.8	-3.0	-1.1	-1.0
1978-79	2.7	3.0	-.8	-2.0	.4	.5	-1.4	-2.2	1.0	-1.6	-.4	-.7	-.5
	Average hours												
1960-79	.1	-.3	-.8	-.6	-1.0	-1.5	-.5	-1.1	-1.2	-1.3	-1.3	-.9	-.8
1960-73	.2	-.1	-1.0	-.5	-.9	-1.8	-.5	-1.1	-1.5	-1.3	-1.3	-.9	-.8
1973-79	-.2	-.6	-.3	-1.0	-1.1	-.8	-.5	-1.1	-.3	-1.1	-1.4	-.9	-.7
1973-74	-1.5	.1	-4.5	-1.5	-2.8	-1.1	-2.8	-2.1	2.0	-3.2	-1.0	-2.2	-2.8
1974-75	-1.2	-1.4	-2.6	-2.3	-3.1	-5.1	-1.1	-5.7	-3.2	-1.8	-1.7	-2.8	-2.7
1975-76	1.2	.5	3.2	-.1	3.3	3.5	.3	2.5	.4	-.3	-1.4	1.5	2.0
1976-77	.6	-1.3	.3	-.9	-1.6	.9	1.0	-1.7	-.9	-.3	-.9	-.3	-.1
1977-78	.2	.0	.6	-.7	-1.4	-.2	-.2	2	-1.2	-.3	-2.4	-.7	-.3
1978-79	-.4	-1.2	1.1	-.4	-.8	-2.6	-.2	.1	1.2	-.6	-1.1	-.8	-.2

[1] Average annual compound rate of change.

[2] Excluding manufacturing handicrafts.

fall, as manufacturing employment was rationalized and working hours shortened. In most European countries, this process had begun before the recession, but the rate of decline was more rapid after 1973.

Hourly compensation gains

From 1973 to 1979, hourly compensation in manufacturing increased at annual rates of 9 to 11 percent in the United States, Germany, and the Netherlands; around 13 percent in Canada, Japan, Belgium, and Denmark; 15 percent in France and Sweden; 19 percent in the United Kingdom; and 21 percent in Italy. For the United States and Canada, these increases were about double the average compensation gains made in 1960–73; in the United Kingdom, more than double; and in France, Italy, and Sweden, they were approximately 50 percent higher. On the other hand, in Belgium and Denmark, 1973–79 annual rates of growth were not much higher than those for the previous period; and in Japan, Germany, and the Netherlands, they were about the same or lower. (See table 3.)

Hourly compensation increases peaked at around 30 percent in Japan, Italy, and the United Kingdom and at about 20 percent in France and the four smaller European countries in 1974 or 1975. U.S. annual compensation gains peaked at 12 percent in 1975, and in Canada and Germany, the high was 15 percent in 1974. By 1978 or 1979, compensation increases had moderated considerably in most of the countries. It was greatest in Japan where increases for 1978 and 1979 were only about 6 percent, one-fifth of the 1974 increase. Compensation gains also slowed significantly in Belgium, Germany, the Netherlands, Sweden, and the United Kingdom. (In the United Kingdom, however, the smallest annual increase occurred in 1977, and by 1979 the rate of growth was up again to 17 percent.) By comparison, hourly compensation increases diminished much less in Canada, France, Italy, and especially in the United States, and were higher in 1979 than 1978.

Unit labor costs accelerate

National currency basis. From 1973 to 1979, unit labor costs increased at average annual rates of about 8 percent in the United States, 7 percent in Belgium, 9 to 12 percent in Canada, France, Denmark, and Sweden, and 17 to 19 percent in Italy and the United Kingdom, but

Table 3. Annual percent change[1] in hourly compensation and unit labor costs in manufacturing, 11 countries, 1960–79

Year	United States	Canada	Japan	France	Germany	Italy	United Kingdom	Belgium	Denmark[2]	Netherlands	Sweden	Eight European countries	Ten foreign countries
	Hourly compensation												
1960–79 . . .	6.3	8.1	14.4	11.7	10.1	16.0	11.8	11.7	12.2	12.6	11.8	11.6	11.6
1960–73 . . .	5.0	6.2	15.1	9.8	10.2	13.6	8.6	10.9	11.5	13.1	10.4	10.4	10.6
1973–79 . . .	9.4	12.4	12.8	15.8	10.0	21.2	19.2	13.5	13.5	11.5	15.0	14.1	13.7
1973–74 . . .	10.4	15.1	31.4	20.2	15.3	24.6	23.4	22.1	20.4	19.2	16.6	18.1	21.2
1974–75 . . .	12.0	14.8	17.1	19.7	12.7	28.9	31.8	20.9	18.9	14.4	21.2	18.8	18.3
1975–76 . . .	8.3	14.3	7.2	14.5	7.3	19.8	17.2	12.0	11.4	12.4	19.9	12.8	11.3
1976–77 . . .	8.4	12.8	10.2	13.9	9.8	18.8	11.2	11.1	10.2	8.6	12.2	11.6	11.2
1977–78 . . .	8.1	7.5	6.3	12.9	8.4	14.6	15.5	7.1	10.3	7.7	12.5	11.3	9.8
1978–79 . . .	9.1	9.9	6.3	13.9	6.5	21.2	16.9	8.7	10.5	7.0	7.9	12.3	10.7
	Unit labor costs												
1960–79 . . .	3.7	4.1	4.7	5.9	4.4	9.3	8.7	4.8	5.7	5.5	6.1	6.0	5.3
1960–73 . . .	1.8	1.5	4.4	3.8	4.4	5.9	4.4	3.7	4.3	5.3	3.4	4.3	3.8
1973–79 . . .	7.9	10.0	5.5	10.5	4.5	16.9	18.6	7.1	8.8	5.8	12.2	9.8	8.5
1973–74 . . .	16.1	13.3	26.2	16.2	8.7	18.4	23.7	15.8	16.5	10.0	12.8	13.7	16.6
1974–75 . . .	6.6	17.8	12.5	16.1	7.5	34.6	34.8	14.4	10.3	16.4	22.9	17.1	15.9
1975–76 . . .	3.8	9.0	−2.0	5.8	.9	10.4	13.6	2.4	3.6	−.3	19.1	5.7	3.7
1976–77 . . .	5.3	7.3	1.3	9.0	4.0	17.5	11.6	5.2	7.9	4.3	14.5	8.5	6.2
1977–78 . . .	7.7	4.3	−.5	7.6	4.6	11.2	14.2	1.6	5.7	2.5	6.1	7.5	5.0
1978–79 . . .	8.2	8.6	−1.7	8.8	1.2	10.9	14.9	3.8	9.3	2.8	−.3	6.6	4.4
	Unit labor costs in U.S. dollars												
1960–79 . . .	3.7	3.1	7.5	6.7	9.0	7.6	7.1	7.7	7.2	9.0	7.2	8.0	7.3
1960–73 . . .	1.8	1.3	6.7	4.6	8.1	6.5	3.3	5.8	5.4	7.8	4.8	6.4	5.8
1973–79 . . .	7.9	7.1	9.4	11.3	11.1	10.1	15.7	12.2	11.3	11.7	12.5	11.6	10.6
1973–74 . . .	16.1	15.8	17.3	7.3	11.5	5.9	18.1	15.5	15.4	13.9	10.8	11.1	12.8
1974–75 . . .	6.6	13.3	10.6	30.3	13.1	34.2	26.0	21.3	17.0	23.8	31.5	20.7	17.8
1975–76 . . .	3.8	12.5	−1.9	−5.1	−1.6	−13.3	−7.7	−2.6	−1.7	−4.8	13.3	−3.5	−2.7
1976–77 . . .	5.3	−.4	12.1	5.9	12.8	10.5	7.9	13.3	8.6	12.3	11.6	10.8	10.2
1977–78 . . .	7.7	−2.8	27.9	17.5	21.1	15.6	25.5	15.8	15.2	16.4	5.0	19.0	20.0
1978–79 . . .	8.2	5.7	−6.1	15.1	10.8	13.3	27.2	11.3	14.4	10.7	5.1	13.2	7.2

[1] Average annual compound rate of change.

[2] Excluding manufacturing handicrafts.

only 4.5 percent in Germany and 5.5 percent in Japan and the Netherlands. These growth rates were 2 to 7 times higher than the average rates of increase from 1960 to 1973, except in Germany, Japan, and the Netherlands. (See table 3.)

For the United Kingdom and Italy, the higher rates of increase in unit labor costs after 1973 mostly reflected larger hourly compensation gains. This accounted for 70 to 75 percent of the change in their unit labor cost growth rates, and the productivity slowdown for only 25 to 30 percent. Also, for the United States, Canada, France, and Belgium larger gains in hourly compensation rather than the magnitude of the productivity slowdown accounted for most of the larger increases in unit labor costs. However, for Denmark and Sweden the slowdown in productivity contributed a greater proportion—50 to 60 percent.

In Germany, unit labor costs in manufacturing increased at practically the same rate both before and after 1973 because output per hour and hourly compensation both increased in line during the two periods. In the Netherlands, unit labor costs rose at nearly identical rates in the two periods because hourly compensation and productivity slowed at a like rate. In Japan, moderation in compensation gains offset most productivity slowdown.

The magnitude of the difference in the average annual rate of growth of unit labor costs in each country is

Table 4. Indexes of manufacturing output per hour, hourly compensation, unit labor costs, and related data, 1970–79

[1967=100]

Year	United States	Canada	Japan	France	Germany	Italy	United Kingdom	Belgium	Denmark [1]	Netherlands	Sweden	Eight European countries	Ten foreign countries
	Output per hour												
1970	106.0	114.7	146.6	121.2	116.1	121.7	110.1	129.5	129.3	134.0	123.5	120.2	125.7
1971	110.5	122.9	152.9	127.6	121.3	125.2	113.9	136.7	138.7	143.0	130.3	126.2	131.7
1972	115.7	128.3	168.0	135.1	128.7	135.3	121.9	152.2	150.7	154.4	138.7	135.0	141.7
1973	118.9	135.0	187.3	142.5	136.4	151.7	128.9	167.8	159.8	170.2	148.9	143.7	152.7
1974	113.0	137.2	195.0	147.3	144.7	159.7	128.6	176.9	165.1	184.3	153.9	149.3	158.7
1975	118.8	133.7	202.9	151.9	151.6	152.9	125.7	186.9	178.0	181.1	151.9	151.5	162.0
1976	124.0	140.2	221.9	164.3	161.3	166.0	129.6	204.4	191.4	204.2	152.9	161.7	173.9
1977	127.7	147.3	241.5	171.7	170.2	167.8	129.1	215.9	195.4	212.5	149.9	166.3	182.1
1978	128.2	151.9	258.0	180.2	176.3	173.0	130.7	227.6	204.0	223.4	158.9	172.2	190.4
1979	129.2	153.7	279.0	188.7	185.5	189.1	132.9	238.1	206.3	232.5	172.0	181.3	201.9
	Output												
1970	102.6	112.6	153.0	123.7	131.6	125.6	111.7	131.3	127.7	129.1	121.1	126.1	131.3
1971	104.0	119.2	159.4	131.5	133.4	126.0	110.4	136.3	132.2	134.3	123.2	129.0	135.2
1972	113.7	127.7	174.0	139.8	137.1	131.1	113.1	147.1	142.5	138.1	125.5	134.0	142.5
1973	123.2	140.2	200.3	149.4	145.5	145.3	123.5	161.2	148.2	147.2	134.0	143.7	156.1
1974	114.9	145.5	199.6	154.2	145.9	155.0	122.0	168.1	151.0	153.6	140.4	146.5	158.2
1975	109.1	136.2	191.9	151.0	138.3	140.3	113.5	157.4	142.5	143.3	137.1	138.9	150.5
1976	119.5	143.7	217.4	161.5	148.2	158.0	115.9	169.2	154.9	154.8	135.5	148.3	163.5
1977	128.2	145.7	236.9	166.5	152.8	161.4	117.9	168.8	156.9	156.2	127.1	151.6	170.2
1978	134.5	154.0	252.0	170.4	155.3	164.3	118.4	170.9	161.0	159.1	127.6	154.1	175.9
1979	138.6	159.9	273.1	174.1	163.1	175.7	118.5	175.0	166.6	161.9	136.1	159.9	185.1
	Aggregate hours												
1970	97.7	98.2	104.4	102.0	113.4	103.3	101.5	101.4	98.8	96.4	98.1	104.9	104.5
1971	94.1	97.0	104.3	103.0	109.9	100.7	97.0	99.7	95.3	93.9	94.6	102.2	102.6
1972	98.3	99.6	103.6	103.5	106.5	96.9	92.8	96.7	94.6	89.5	90.4	99.3	100.6
1973	103.6	103.8	106.9	104.9	106.7	95.8	95.8	96.1	92.7	86.5	90.0	100.0	102.2
1974	101.7	106.0	102.3	104.6	100.9	97.1	94.9	95.0	91.5	83.3	91.2	98.1	99.7
1975	91.8	101.9	94.6	99.4	91.2	91.8	90.3	84.2	80.1	79.1	90.3	91.7	92.9
1976	96.4	102.5	98.0	98.3	91.9	95.2	89.4	82.8	80.9	75.8	88.6	91.7	94.0
1977	100.4	98.9	98.1	97.0	89.7	96.2	91.3	78.2	80.3	73.5	84.8	91.1	93.5
1978	104.9	101.4	97.7	94.6	88.1	95.0	90.6	75.1	79.0	71.2	80.3	89.5	92.4
1979	107.3	104.1	97.9	92.3	87.9	92.9	89.2	73.5	80.7	69.6	79.1	88.2	91.7
	Hourly compensation												
1970	122.3	124.0	164.0	131.6	133.5	145.7	132.3	131.2	145.0	146.2	130.3	136.2	139.8
1971	129.9	133.5	189.4	147.1	150.9	168.1	151.1	150.2	157.2	167.1	146.4	154.4	158.3
1972	136.6	143.8	218.6	164.0	168.6	192.7	169.8	174.6	176.1	191.5	167.4	173.9	178.4
1973	146.5	158.0	269.2	188.0	191.5	243.9	188.3	202.4	203.4	228.4	183.1	199.0	206.7
1974	161.7	181.9	353.8	226.0	220.8	303.9	232.4	247.1	244.9	272.2	213.5	235.1	250.5
1975	181.1	208.8	414.1	270.4	248.8	391.7	306.4	298.8	291.2	311.3	258.9	279.3	296.4
1976	196.1	238.6	444.0	309.6	266.9	469.2	350.0	334.7	324.5	349.8	310.3	315.2	329.9
1977	212.7	269.1	489.4	352.6	293.2	557.6	399.3	371.9	357.5	379.8	348.3	351.7	366.9
1978	229.9	289.3	520.3	398.1	317.7	639.0	461.3	398.4	394.3	409.1	391.8	391.3	403.0
1979	250.8	317.9	553.2	453.5	338.4	774.8	539.3	432.9	435.8	437.8	422.9	439.3	446.0

shown in the following tabulation, with the relative acceleration measured according to both proportion of the pre-1974 growth rate and percentage-point difference:

	Ratio: 1973–79 to 1960–73	*Percentage-point difference*
Canada	6.7	8.5
United States	4.4	6.1
United Kingdom . .	4.2	14.2
Sweden	3.6	8.8
Italy	2.9	11.0
France	2.8	6.7
Denmark	2.0	4.5
Belgium	1.9	3.4
Japan	1.3	1.1
Netherlands	1.1	.4
Germany	1.0	.1

The acceleration in the average rate of growth of unit labor costs was greatest in the United Kingdom and Italy, when measured in terms of percentage points. However, in proportion to the average rate before 1974, the increase was most rapid in Canada. The countries with little acceleration were the same—Germany, the Netherlands, and Japan—according to both methods of measurement.

During the 1974–75 recession, unit labor cost increases peaked at annual rates of nearly 9 percent in Germany, 15 to 18 percent in the United States, Canada, France, Belgium, Denmark, and the Netherlands, about 25 percent in Japan and Sweden, and 35 percent in Italy and the United Kingdom. With the post-recession recovery and moderation in hourly compensation gains in 1976 and 1977, manufacturing unit labor costs either declined or the increases diminished significantly. In 1979, costs fell or rose only about 1 percent in Japan, Germany, and Sweden; but in all of the other countries except Belgium and the Netherlands, they were still rising or had accelerated to much higher rates—more than 8 percent—than in the pre-1974 period.

In terms of U.S. dollars. When measured in U.S. currency, with relative changes in foreign exchange rates taken into account, unit labor costs increased at annual rates of about 9.5 percent in Japan, 10 to 13 percent in the continental European countries, and 16 percent in the United Kingdom from 1973 to 1979, compared with 8 percent in the United States and 7 percent in Canada. (See table 3.)

Table 4. Continued—Indexes of manufacturing output per hour, hourly compensation, unit labor costs, and related data, 1970–79

[1967=100]

Year	United States	Canada	Japan	France	Germany	Italy	United Kingdom	Belgium	Denmark[1]	Netherlands	Sweden	Eight European countries	Ten foreign countries
	Value of foreign currency relative to the U.S. dollar												
1970	100.0	103.4	101.1	89.0	109.3	99.5	87.1	100.1	93.1	99.6	99.5	100.3	100.6
1971	100.0	106.8	104.2	89.3	114.7	100.9	88.9	102.4	94.3	103.2	101.1	103.4	103.7
1972	100.0	108.9	119.5	97.5	125.0	106.9	90.9	112.9	100.4	112.2	108.5	111.5	113.0
1973	100.0	107.9	133.7	110.9	150.5	107.3	89.1	128.0	115.9	129.6	118.6	126.8	127.3
1974	100.0	110.3	124.2	102.4	154.4	95.9	85.1	127.8	114.8	134.3	116.5	123.8	123.2
1975	100.0	106.1	122.1	114.9	162.4	95.7	80.0	135.4	121.7	142.8	124.6	127.6	125.2
1976	100.0	109.4	122.2	103.0	158.4	75.2	65.6	128.8	115.5	136.3	118.5	116.5	117.5
1977	100.0	101.5	135.2	100.1	171.7	70.7	63.4	138.7	116.3	146.8	115.5	119.0	121.8
1978	100.0	94.6	173.8	109.3	198.8	73.5	69.7	158.1	126.7	166.7	114.3	131.8	139.2
1979	100.0	92.1	166.0	115.7	217.5	75.1	77.2	169.4	132.7	179.6	120.4	139.9	142.9
	Unit labor costs in national currency												
1970	116.5	108.1	111.9	108.6	115.0	119.8	120.3	101.4	112.2	109.1	105.5	113.3	111.3
1971	117.6	108.6	123.9	115.2	124.4	134.3	132.7	109.8	113.3	116.9	112.4	122.4	120.2
1972	118.1	112.1	130.1	121.4	130.9	142.4	139.3	114.7	116.8	124.1	120.6	128.8	125.9
1973	123.2	117.0	143.7	132.0	140.4	160.8	146.1	120.7	127.3	134.2	123.0	138.5	135.3
1974	143.1	132.5	181.4	153.4	152.6	190.4	180.8	139.7	148.4	147.7	138.7	157.5	157.8
1975	152.4	156.2	204.1	178.0	164.1	256.2	243.8	159.8	163.6	171.9	170.4	184.4	183.0
1976	158.2	170.2	200.1	188.4	165.5	282.7	277.0	163.7	169.5	171.3	203.0	194.9	189.7
1977	166.6	182.7	202.7	205.3	172.2	332.3	309.2	172.2	182.9	178.7	232.4	211.4	201.5
1978	179.4	190.5	201.7	220.9	180.2	369.5	353.0	175.1	193.3	183.1	246.6	227.2	211.7
1979	194.1	206.9	198.3	240.4	182.4	409.7	405.7	181.8	211.2	188.3	245.9	242.3	220.9
	Unit labor costs in U.S. dollars												
1970	116.5	111.7	113.1	96.7	125.7	119.2	104.8	101.4	104.4	108.7	105.0	113.6	111.9
1971	117.6	116.1	129.1	102.9	142.7	135.6	117.9	112.4	106.8	120.6	113.6	126.5	124.6
1972	118.1	122.1	155.5	118.4	163.7	152.2	126.7	129.4	117.3	139.2	130.9	143.6	142.2
1973	123.2	126.2	192.1	146.4	211.3	172.5	130.2	154.4	147.6	174.0	145.8	175.6	172.3
1974	143.1	146.2	225.4	157.0	235.6	182.6	153.8	178.5	170.3	198.3	161.5	195.1	194.4
1975	152.4	165.6	249.2	204.6	266.4	245.1	196.9	216.4	199.2	245.4	212.4	235.3	229.1
1976	158.2	186.2	244.5	194.1	262.2	212.5	181.8	210.9	195.8	233.6	240.6	227.1	222.8
1977	166.6	185.5	274.1	205.5	295.8	234.9	196.2	238.9	212.7	262.4	268.5	251.6	245.5
1978	179.4	180.3	350.5	241.5	358.3	271.7	246.2	276.7	245.0	305.3	281.8	299.5	294.7
1979	194.1	190.6	329.1	278.0	396.8	307.8	313.1	308.0	280.3	338.1	296.0	339.0	315.8

[1] Excluding manufacturing handicrafts.

The overall effects of the exchange rate movements during this period were to offset Italy's annual rate of growth of unit labor costs in national currency by nearly 6 percentage points, those in Canada and the United Kingdom by nearly 3 points. On the other hand, changes in the value of their currencies added 5 to 7 percentage points to the annual growth of unit labor costs for Germany, Belgium, and the Netherlands, about 4 points for Japan, 2.5 for Denmark, and less than 1 for France and Sweden.

Exchange rate movements were irregular during the 1973–79 period, with one or more large increases or declines in the currencies of each country. (See table 4.) The more significant movements were the depreciations of the British and Italian currencies versus the dollar in 1976 (down 19 and 21 percent, respectively) and the 1978 appreciations of the currencies of Japan (up 29 percent), Germany (16 percent), Belgium (14 percent), and the Netherlands (14 percent). Even France and Sweden, which had little overall exchange rate shifts, experienced significant currency value changes in specific years. ☐

FOOTNOTES

[1] Percent changes in productivity, labor costs, and other related measures for selected periods and each year from 1973 are shown in tables 1 to 3. Annual indexes for 1970 to 1979 are shown in table 4; those from 1950 are available upon request. Data sources are summarized in the appendix.

[2] See Keith Daly and Arthur Neef, "Productivity and unit labor costs in 11 industrial countries, 1977," *Monthly Labor Review*, November 1978, pp. 11–17; and "International Comparisons of Manufacturing Productivity and Labor Costs: 1978," Summary 80–1, February 1980.

APPENDIX: Data Sources

Output per hour, hourly compensation, and unit labor costs are compiled from basic series on manufacturing output, employment, average hours, and compensation. The latter three relate to all employed including self-employed persons in the United States and Canada and all employees in the other countries. Hours refer to hours paid in the United States, hours worked in the other countries.

In general, the measures relate to total manufacturing. However, manufacturing handicrafts are excluded from all basic series for Denmark (see below) and from the employment and hours measures for Germany. Handicraft workers in Germany account for nearly 17 percent of manufacturing employment, but preliminary BLS calculations indicate that their inclusion would have little effect on the average trend over time.

The output measures are gross product originating in manufacturing in constant prices from the national accounts of each country—except those for Japan for 1950 to 1970 and the Netherlands for 1969 to 1979, which are indexes of industrial production. (For Canada and the United Kingdom, the index of industrial production is identical to the national accounts measure of manufacturing output at constant prices.) The production index for Japan excludes about 6 percent of manufacturing value added; national accounts real output measures are not yet available for years before 1970. For the Netherlands, a production index is used in order to eliminate gas extraction from the manufacturing sector; the national accounts output data for recent years include gas extraction in manufacturing, which would distort the Dutch productivity series.

Appendix table 1. Comparative rates of change in output, output per hour, and unit labor costs, 1970–1978

Period	Output		Output per hour		Unit labor costs	
	National accounts	Production index	National accounts	Production index	National accounts	Production index
1970–78[1]	6.4	3.6	7.3	4.6	7.6	10.4
1973–78[1]	4.7	1.0	6.6	2.9	7.0	10.9
1970–71	4.2	2.7	4.3	2.8	10.7	12.3
1971–72	9.1	7.4	9.9	8.1	5.1	6.7
1972–73	15.1	15.9	11.5	12.2	10.4	9.7
1973–74	–.4	–3.8	4.1	.4	26.2	30.9
1974–75	–3.8	–11.0	4.0	–3.8	12.5	21.6
1975–76	13.3	11.2	9.4	7.4	–2.0	–.1
1976–77	9.0	4.0	8.8	3.9	1.3	6.1
1977–78	6.3	6.3	6.8	6.8	–.5	–.5

[1] Average annual compound rate of change.

The compensation measures are also from national accounts—except those for Belgium and for France for 1967 to 1979, which are BLS estimates. Compensation is defined as all payments made by employers directly to their employees, before deductions of any kind, plus employer contributions to legally required insurance programs and contractual and private welfare plans for the benefit of employees. Labor costs include, in addition to compensation, employer expenditures for recruitment and training; the cost of cafeterias, medical facilities, and various other plant facilities and services; and taxes (other than social security taxes, which are part of compensation) that are levied on payrolls or employment rolls. Annual data are not available for total labor costs. Labor costs, as used in this article, approximate more closely the concept of compensation. However, compensation has been adjusted to include all significant changes in taxes that are regarded as labor costs, and the omitted items represent no more than 4 percent of total labor costs in any country. Self-employed workers are included in the U.S. and Canadian figures by assuming that their hourly compensation is equal to the average for wage and salary employees.

The employment data are official estimates published with the national accounts or other comprehensive employment series; average hours are either from official aggregate hours series or BLS estimates of hours worked. For Belgium, France, and the Netherlands, the hours worked estimates may not reflect all random hours changes, such as time lost because of industrial disputes.

For all countries, preliminary estimates for recent years are generally based on current indicators of manufacturing output, employment and hours, and hourly compensation until national accounts and other statistics used for the long-term measures become available. Furthermore, national accounts statistics for the most current years are subject to revision as more information is received.

To compute the series for 8 European countries and 10 foreign countries, the data have been combined by aggregating the output, compensation, and hours figures for each year, adjusting where necessary for compatibility of coverage and concept. The average exchange rates for 1974–79 are used to aggregate the output and compensation data. The use of average 1974–79 exchange rates, however, does not imply that these rates reflect the comparative real value of currencies for manufacturing output. Also, the use of exchange rates for a different time period would have little effect on the combined indexes.

United States. The U.S. data in this article do not reflect a benchmark revision being made in the national income and product accounts incorporating the 1972 economic census and other new information. The current schedule calls for completion of the benchmark revision by this winter. All series will be revised back to at least 1967.

Japan. In this article, new national accounts constant price measures of gross product originating in manufacturing are introduced for Japan for the period 1970 to 1978. Previously, the index of industrial production was used as the manufacturing output measure for those years. For the years before 1970, the industrial production index will continue to be used until constant price measures of gross product originating become available.

The national accounts measure of gross product originating in manufacturing shows a much smaller decline in output during the 1974–75 recession and larger gains in most other years than does the production index. Appendix table 1 shows comparative rates of change in output, output per hour, and unit labor costs based on the two output series. Gross product originating in constant prices provides a measure of changes in value added—or gross output minus inputs of materials, fuels, and purchased services—while the index of industrial production for Japan measures base year value added extrapolated using quantity indicators of gross output only. According to the Japanese Economic Planning Agency, which produces the national accounts, their measure better reflects the structural changes which have occurred in Japanese manfacturing since the 1973 oil shock.

Denmark. Manufacturing establishments classified as handicrafts are not covered by the series for Denmark because relevant data by industrial sector are not available. The output and compensation figures used to construct the Danish productivity and labor cost measures are from the Danish national accounts, while the employment and hours figures are from an establishment survey. The Danish national accounts are currently undergoing a major revision, including the classification of handicrafts by industrial sector and the development of consistent data on employment. However, revised data are now available only for the period 1966–73. These figures indicate a significantly slower rate of productivity growth and, consequently, a larger increase in unit labor costs for that period. The following are average annual rates of change for 1966–73 based on the revised data, with the presently used data in parentheses: Output per hour, 6.9 percent (8.4); hourly compensation, 13.3 percent (12.3); and unit labor costs, 6.0 percent (3.6). BLS does not know how much of the change is the result of including handicrafts, because the revisions also include a new system of industrial classification, new statistical data, and revised methods of calculation.

Labor requirements decline for public housing construction

Onsite and offsite spending in 1979 created about 28,200 jobs for each $1 billion, including about 11,700 in other industries; turnkey projects, born during the 1960's, have accelerated declines in onsite employee-hour requirements

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Each $1 billion of expenditure for public housing construction during 1979 generated an estimated equivalent of 16,500 full-time jobs in the construction industry, 13,800 onsite and 2,700 offsite, according to a Bureau of Labor Statistics survey.[1] The Bureau also estimates that for each $1 billion spent during 1979 about 11,700 jobs were generated in other industries: 6,000 in manufacturing; 4,400 in trade, transportation, and services; and 1,300 in mining and other industries. For each $1,000 (constant 1960) spent during 1979, 23 worker hours were generated in other industries: 12 in manufacturing; 8 in trade, services, and transportation; and 3 in mining and other industries.

Data from the survey, which covered public housing projects completed in 1975, indicate that labor requirements for public housing construction have decreased.[2] The number of employee hours generated in the construction industry for each 1,000 constant dollars of contract cost fell from 128.3 in 1960, to 99.4 in 1968, to 76.5 in 1975. For onsite work (activity performed at the construction site) the respective figures for the 3 years were 113.7, 87.6, and 62.7. (See table 1.)

The average annual rate of decline in onsite employee-hour requirements has accelerated in recent years largely because of a shift in the types of projects. In constant dollars, the number of onsite employee hours per $1,000 decreased at an average rate of 3.9 percent per year during 1960–75. The rate was 3.2 percent per year during 1960–68, but advanced to 4.7 percent during 1968–75. This trend reflects the inclusion of turnkey projects in the 1975 survey and the increasing use of prefabricated components, more efficient building methods, and more productive onsite workers.

The current survey represents the first time that turnkey projects have been included in the sampling universe. These projects, built and completed by private contractors, and then turned over to local housing authorities, are an important component of public housing construction in the United States today. Because turnkey projects were not started until the late 1960's, and were not a factor in public housing construction until the 1970's, the 1960 and 1968 surveys dealt with conventional projects only; that is, projects built under the direct supervision of local housing authorities. To present data representative of all public housing, both conventional and turnkey projects will be included in future surveys of public housing construction. It is estimated that turnkey projects currently account for two-thirds of public housing construction. This proportion will probably not change significantly in the near future.

Onsite labor requirements

For both turnkey and conventional public housing projects surveyed in 1975, 62.7 employee hours were generated at the construction site for each 1,000 constant dollars of expenditure. Onsite employment requirements declined at an average rate of 4.7 percent a year during 1968–75, a significant portion of which can

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be attributed to the presence of turnkey projects.

By project type. Turnkey projects require substantially fewer employee hours than do conventional ones, 27.4 employee hours per $1,000 of contract cost, while conventional projects required 41.1. For both types of projects completed in 1975, 33.2 employee hours were generated at the construction site for each $1,000 of construction expenditure. (See table 2.)

For conventional projects only, the rate of decline in onsite employee-hour requirements was considerably lower than that for all public housing construction. Between 1968 and 1975, the number of employee hours required by each $1,000 of cost declined from 87.6 to 77.6, an average annual rate of 1.7 percent. Because only a few turnkey projects were completed in 1968 (and were not included in the survey), a comparable figure for them is not available. However, when conventional projects completed in 1968 are compared with both kinds of projects for 1975, the average annual rate of decline for onsite employee hours was 4.7 percent.

By region. Public housing construction in the South required more labor than any other region. Construction wage rates generally are lower in the South where there is more unskilled labor, facilitating substitution of labor for capital. The North Central States had the lowest employee-hour requirements, 26.8, followed closely by the Northeast and Western regions.

Increases in costs of materials, equipment, and labor caused the average cost per square foot of public housing construction to rise from $15.22 in 1968, to $25.21 in 1975, representing an average increase of 7.5 percent a year. During the same period, the average cost per building unit rose from $12,300 to $21,700.

Projects in the Northeast region were the most expensive in 1975; the cost per square foot was $30.35, or 20 percent higher than the national average. The North Central and Western regions ranked second and third, respectively. Costs in the South were considerably lower partly because of lower wage rates and more unskilled labor. Costs per square foot were:

	All regions	*North-east*	*North Central*	*South*	*West*
All projects	$25.21	$30.35	$29.95	$20.98	$27.27
Conventional . . .	24.39	34.13	28.92	20.33	26.42
Turnkey	25.86	28.62	30.70	21.65	27.75

Table 1. Employee hours per $1,000 of construction cost for public housing construction, and projections for 1979, and rates of change, selected years

Year	Dollars	Total construction	Onsite	Offsite
1960	Current	128.3	113.7	14.6
1968	Current	90.3	79.6	10.7
	1960	99.4	87.6	11.8
1975	Current	40.5	33.2	7.3
	1960	76.5	62.7	13.8
1979[1]	Current	21.6	17.7	3.9
	1960	63.0	51.6	11.4
Average annual rates of change				
1960-75		-3.4	-3.9	-0.4
1960-68		-3.1	-3.2	-2.6
1960-75		-3.7	-4.7	+1.0

[1] Estimated, adjusted for productivity change of -4.7 percent a year.

During 1968-75, the average size of dwelling units rose from 811 to 859 square feet. (The figure for 1960 was 992.) Despite the increase, employee-hour requirements per dwelling unit have decreased from 983 hours in 1968 to 720 in 1975. (See table 3.)

By occupation. Onsite labor requirements by type of occupation, although not collected for the current survey, show gradual shifts over long periods. Based on data from previous surveys of public housing construction, in 1960 more than 61 percent of the onsite labor force consisted of skilled tradesworkers, and in 1968, about 64 percent. Carpenters accounted for the largest single share of employment in 1960 and 1968, with 19 and 20 percent, respectively; followed by plumbers at 8 and 9 percent; bricklayers at 8 percent for both years; electricians at 4 and 6 percent; and painters at 4 and 5 percent. Semiskilled and unskilled workers such as laborers, helpers, and tenders comprised between 30 and 31 percent of the onsite public housing construction work force in both studies. The remainder of onsite employees were in nonconstruction jobs such as supervisory, clerical, and custodial.

Contractors and subcontractors

In 1975, 37.6 percent of employee hours in public housing construction were supplied by general or prime contractors. The remainder was from subcontractors. General and prime contractors performed a larger share of work in the South and West, but subcontractors performed more work on projects in the Northeast and North Central regions. (See table 4.)

Of the structural types of buildings included in the 1975 public housing construction survey (high-rises, walk-ups, and townhouses and rowhouses), high-rise buildings of four or more stories required fewest employee hours. High-rise buildings generally require a larger percentage of materials and more intensive use of construction equipment. Also, high-rise construction is well-suited to take advantage of laborsaving prefabrication techniques.

Offsite labor requirements

In 1975, 18 percent of employee hours generated in the construction industry, by each $1,000 of expenditure for public housing construction, was worked away from the construction site. This includes employment such as in contractors' offices and warehouses.[3]

Onsite employment requirements have decreased at an average rate of 4.7 percent a year during 1968–75, while offsite employment has increased at 1.0 percent. This is partly because of the complexity and differing design standards of the various projects, resulting in an increase in support employment. Further, there is need for more clerical jobs because of increased recordkeeping, reporting, inventory, payrolls, and other requirements.

The greater use of preassembled components in areas such as kitchens, bathrooms, and closets also increases the amount of offsite labor and decreases that of onsite. This work is not affected by inclement weather, and individual mass-production techniques can be utilized in building the components, a major benefit. This trend is likely to continue as more laborsaving techniques are sought and as attempts are made to counterbalance the seasonal nature of the industry.

Some employment is generated indirectly from public housing construction. The production of needed materials and supplies creates jobs throughout the economy. Although materials data were not collected for this survey, extrapolation of trends from previous surveys were used to have developed data for 1975 and 1979. By applying material consumption data to a series of input-output matrixes, the Bureau has developed estimates for the indirect employment effects of public housing construction for each 1,000 current dollars of expenditure.[4]

Industry	*Current dollars*				*1960 dollars*			
	1960	*1968*	*1975*	*1979*	*1960*	*1968*	*1975*	*1979*
Total	109	66	34	23	109	73	63	67
Manufacturing	62	42	21	12	62	46	40	36
Trade, transportation, and services	29	16	8	8	29	18	15	22
Mining and miscellaneous	18	8	4	3	18	9	8	8

Distribution of costs

For projects completed in 1975, estimated expenditures for construction materials accounted for about 49 percent of contract costs.[5] Onsite labor accounted for nearly one-third of total costs. Equipment, overhead, and profit accounted for the remainder.[6]

The rising costs of construction materials and equipment during the 1970's are reflected in changing percent distributions of costs during the three survey years. General contractors do not have detailed cost information from their subcontractors, resulting in estimates only for 1975:

Type of cost	*1960*	*1968*	*1975*
Onsite wages	35.5	32.4	32.7
Materials	45.0	41.9	48.7
Equipment	2.5	1.5	4.4
Overhead and profit	17.0	24.2	14.2

Table 2. Onsite employee-hour requirements per $1,000 of contract cost for public housing construction, 1975

Characteristic	United States	Northeast	North Central	South	West
All projects	33.22	27.80	26.85	40.97	27.97
Conventional	41.11	32.29	31.43	50.51	31.44
Turnkey	27.35	25.33	23.74	31.58	26.13
Size of structure					
1 Story	35.55	21.43	26.15	41.01	31.85
2 Story	38.03	22.37	20.79	48.35	25.11
3 Story	19.56	...	17.55	...	27.92
4 and over	30.45	30.48	29.46	32.19	27.51
Type of building					
Walk-up	33.54	22.37	21.40	41.88	30.79
Townhouse/rowhouse	41.24	21.43	25.69	50.35	14.91
Hi-rise	30.45	30.48	29.46	32.19	27.51
Construction characteristics:					
Structural frame					
Steel	37.23	26.06	54.54	43.14	26.81
Concrete	29.43	30.06	26.94	31.75	28.66
Masonry	27.30	28.99	24.62	28.99	30.30
Wood	36.88	23.45	24.72	44.70	27.83
Exterior wall					
Masonry	33.21	30.76	25.31	40.64	29.61
Wood	39.27	24.78	...	50.25	14.91
Stucco	23.64	19.38	35.29	...	...
Concrete	...	...	...	...	...
Curtain wall	20.87	...	27.12	18.31	...
Other	33.89	21.43	54.54	40.01	...
Interior wall					
Drywall	33.04	27.80	27.53	38.70	27.97
Plaster	36.84	...	22.59	68.88	...
Floor base					
Concrete	33.98	28.49	26.84	42.12	25.96
Wood/plywood	25.04	21.43	28.91	18.71	37.48
Floor covering					
Vinyl/vinyl asbestos	35.22	27.60	28.82	42.20	32.67
Linoleum	12.53	...	12.53	...	...
Carpet	29.04	28.43	26.26	35.35	23.88
Ceiling					
Acoustical tile	32.57	29.33	23.88	46.74	16.57
Drywall	33.32	23.04	26.51	40.04	29.07
Plaster	40.32	...	...	42.95	22.31
Concrete	31.16	31.61	29.30	...	33.92
Other	28.40	...	28.40	...	...
Roof base					
Concrete	30.74	30.48	29.37	34.06	28.12
Wood/plywood	36.21	22.08	24.72	43.34	27.83
Other	12.53	...	12.53	...	...
Other characteristics:					
Basement					
Partial or full basement	32.02	32.10	25.71	42.57	29.32
No basement	33.56	23.71	27.19	40.82	27.84
Air conditioning					
Central	27.78	...	24.86	37.58	18.91
None	33.96	27.80	27.48	41.31	31.96
Type of heat					
Forced air	35.69	21.43	22.01	41.67	26.36
Hot water	27.16	27.10	28.58	18.31	...
Electric radiant	38.16	30.78	27.40	52.03	36.93
Other	26.33	27.05	...	24.63	30.30
Type of fuel					
Electricity	34.84	30.78	27.59	39.36	33.92
Gas	33.43	23.30	26.60	42.11	26.36
Oil	27.40	27.40	...	...	...
Coal	...	...	...	...	...
Elevators					
Yes	29.52	30.48	26.93	32.32	28.12
No	37.76	22.08	26.53	45.48	27.83

Table 3. Onsite hour requirements for public housing construction, by selected characteristics and region, 1960, 1968, and 1975

	Characteristic		
	Per $1,000 of contract cost	Per 1,000 square feet	Per dwelling unit
United States			
1960	113.7	1,214	1,205
1968	79.6	1,212	983
1975	33.2	838	720
Northeast			
1960	95.9	1,046	1,073
1968	66.7	1,107	920
1975	27.8	844	676
North Central			
1960	106.0	1,299	1,205
1968	86.3	1,452	1,036
1975	26.8	804	601
South			
1960	142.1	1,331	1,336
1968	90.5	1,216	1,033
1975	41.0	859	813
West			
1960	98.4	1,270	1,176
1968	62.8	949	741
1975	28.0	[illegible]	647

During 1968–75, the percentage of costs required by onsite wages and salaries remained about the same, but material and equipment expenditures increased. Labor's share of costs has decreased since 1960, indicating that productivity and technology changes have kept pace with wage increases during the survey period.

The dramatic decrease in overhead and profit during the period reflects, in part, that 1975 was a recession year for the industry. In the recession of 1974–75, contractors may have bid on less profitable jobs, or may have been willing to accept lower profits to stay in business and to keep core employees on payroll.

However, because the 1975 data are estimated by surveyed general contractors (actual costs can only be obtained directly from subcontractors), a definitive explanation of these changes cannot be made with the available data. ☐

Table 4. Percent distribution of employee-hour requirements for public housing construction, by type of operation and region, 1975

Type of operation	United States	Northeast	North Central	South	West
Total	100.0	100.0	100.0	100.0	100.0
General and prime contractors	37.6	27.9	34.1	42.4	40.3
Electrical	8.0	9.8	9.9	6.7	7.2
Plumbing	7.9	7.4	9.6	7.4	7.5
Carpentry (including kitchen cabinets)	6.9	6.4	3.8	8.6	4.4
Masonry	6.0	8.9	5.1	5.2	5.4
Wallboard	5.8	6.5	6.7	5.1	7.4
Gradings, footings, excavation, and foundation	4.8	6.3	3.6	5.0	3.2
Concrete and stucco work	4.6	10.5	2.7	3.1	4.6
Heating, ventilating, and air-conditioning (except electric heat)	3.9	2.5	4.7	3.6	7.5
Painting and wall papering	3.7	3.8	3.3	4.0	2.8
Plastering and lathing	1.2	0.1	4.2	0.7	0.2
Linoleum, vinyl tile, vinyl-asbestos tile, carpeting	1.0	1.0	0.6	1.2	0.9
Ceramic tile	0.9	0.5	0.4	1.3	0.2
Elevators	0.9	1.4	1.7	0.4	0.6
Structural steel erection	0.8	1.1	2.3	0.2	0.1
Landscaping	0.8	0.6	0.4	0.7	3.0
Roofing, gutter work, siding	0.7	0.8	0.6	0.7	0.9
Insulation	0.5	0.1	0.3	0.8	0.6
Other	3.8	4.5	6.0	2.8	3.3

NOTE: Items may not add to totals due to rounding.

FOOTNOTES

[1] The 1979 employment estimates for public housing construction were developed from previous survey data adjusted for price and productivity changes. The deflator used to adjust for price changes is the Bureau of the Census single-family price index, excluding value of lot. The index, on a 1972 base, equaled 131.6 in 1975, and 203.3 in 1979.

The estimate used to adjust the survey data for productivity change is the inverse of the change in onsite employee hours per $1,000 after adjustments for price variations, between 1968 and 1975. The average annual rate of change was 4.7 percent.

Estimates of the number of full-time jobs generated in the construction industry per billion dollars of expenditures were derived using 1,800 employee hours per year-long job for onsite construction, and 2,000 employee hours per offsite construction job.

Because of part-time workers and the seasonal nature of the construction industry, more workers would actually be employed than indicated by the full-time job estimates.

[2] This survey is one of a series of studies of construction labor requirements prepared by the Bureau of Labor Statistics. The data from this series are used to estimate the impact of Federal funding upon employment in the construction industry. The data may also be used to make budgetary decisions, aid in developing countercyclical employment and expenditure policies, assess training needs, anticipate occupational shortages and bottlenecks in skilled trades, and provide indicators of productivity change in construction.

The 1975 survey is the third public housing construction survey. See Labor and Material Requirements for Public Housing Construction (Bulletin 1402, Bureau of Labor Statistics, May 1964); Labor and Material Requirements for Public Housing Construction, 1968 (Bulletin 1821, Bureau of Labor Statistics, 1974); Joseph T. Finn, "Labor requirements for public housing," *Monthly Labor Review*, April 1972, pp. 40–42. It is one of a group of abbreviated studies which exclude detailed information on material usage and onsite occupational requirements. The 1975 public housing construction survey is the fourth abbreviated study of construction labor requirements. See John G. Olsen, "Decline noted in hours required to erect Federal office buildings," *Monthly Labor Review*, October 1976, pp. 18–22; Barbara J. Bingham, "U.S. civil works construction shows decrease in required labor," *Monthly Labor Review*, October 1978, pp. 24–29; Barbara J. Bingham, "Labor requirements for college housing construction," *Monthly Labor Review*, May 1979, pp. 28–34. In other BLS construction labor requirements studies, material and equipment expenditure data are used to develop indirect employment estimates for the industries which mine, manufacture, and transport the construction materials required. The abbreviated studies are designed to allow more frequent measurement of the labor requirements of different types of construction, as well as to reduce survey costs. Detailed data on materials, equipment, and occupational distribution will be included in the next survey of public housing construction. For reference, summaries of cost components and occupational requirements from the previous surveys are included in this article.

The information in this article is based on a probability sample of 67 public housing projects completed in 1975. Of these, 35 were turnkey projects and 32 were conventional. The sample frame was stratified two ways. The primary division was by the four broad regions of the Bureau of the Census. Within regions, projects were directly grouped by development type (conventional or turnkey), as well as implicity by size of contract. The measure of size used was the estimated development cost (ETDC) provided by the Department of Housing and Urban Development, (HUD). The number of units in the universe was 296. Based on estimates of standard errors computed on previous construction survey results, a Neyman allocation was used to determine the number of projects in each region. Within regions, the square roots of the ETDC's were used to determine the number of projects for each development type. Within the eight strata thus obtained, projects were ordered by magnitude of ETDC, and the sample was drawn using probability proportionate to size. A sample of 65 projects was being selected plus a 10 percent oversample for non-response.

A case study of several rehabilitation and leased projects was included in the survey. Data on the leased projects, however, were insufficient for publication. Data for the rehabilitated projects are being reviewed for possible future publication. The sample projects were randomly selected from a universe of 296 projects supplied by area offices of HUD. The projects are grouped by geographic region, and data are presented on a regional as well as national basis. The four geographic regions are: Northeast—Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, and Vermont; North Central—Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, and Wisconsin; South—Alabama, Arkansas, Delaware, District of Columbia, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, and West Virginia; and West—Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming.

Although the national and regional data provided by the survey are believed to be accurate, the detailed data would have a wider margin of sampling error and may be subject to other limitations. Except for nonresponding sample units and estimated data, there are no known sources of nonsampling error. Sampling variances are being prepared by the Bureau.

[3] Employee-hour and employee-year estimates for offsite construction were derived from the ratio of "nonconstruction" workers to total workers among general building contractors and special trade contractors (Standard Industrial Classifications 15 and 17) as shown in *Employment and Earnings, United States*, 1909–78 (BLS Bulletin 1312–11). The data were adjusted to remove the portion of clerical and administrative hours already included in onsite hours.

[4] Estimates for 1975 and 1979 were based upon data from the 1968 survey which included detailed data on equipment and material usage.

[5] Cost distribution for 1975 is based on conventional and turnkey projects; 1960 and 1968 figures are based on conventional projects only. The costs for 1975 are estimates made by the general contractors, and should not be construed as representing actual costs as collected in complete labor and material requirements surveys. Actual construction cost components can only be obtained from subcontractors.

[6] "Overhead" includes salaries for offsite workers, supplemental benefits, insurance, construction financing charges, and other miscellaneous expenses.

Caution: sociocentrics at work

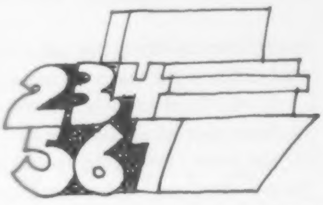
Though the conformist and entrepreneurial value systems have long characterized the American work force, particularly at the managerial levels, recent years have witnessed rejection of the materialism and commercialism of these value systems. Concern with the quality of life and disdain for traditional status symbols characterize the values of many newcomers to the work force. They tend toward strong affiliation needs—getting along with others seems to be more important than getting ahead in the organization. They wish to be respected by those whom they respect. Though their informality and sometimes unkempt appearance may be disconcerting to traditional managers, they are capable of productive effort under appropriate supervision and provided they are not involved with what they see as harmful products such as napalm, bombs, or pesticides. Being a manager of their own jobs is an appealing concept to sociocentrics, particularly when they can relate to supervision on a first-name basis and are free to experience solidarity with other members of the work force.

An existential personality type is also encountered with increasing frequency in work forces. He or she tends to ignore protocol, shun status symbols, and resent bureaucratic constraints and the use of authority. This person can accept people whose values differ from his or her own as long as they don't try to impose those values. This person is a goal-oriented individual whose behavior seems to say, "OK, I understand the job to be done; now leave me alone and let me do it my way." Being his or her own manager is the only acceptable condition of employment, and if deprived of this opportunity, the person is likely to leave the organization or to become preoccupied with personal goals on company time.

In summary, "every employee a manager" is a universally applicable concept, but one that depends on appropriate job conditions for its fullest implementation. Every person has the potential for managing some jobs, but not all jobs. However, every person has the potential for managing certain components of any job or combinations of several jobs. The realization of this potential depends on matching the person's talents and aspirations with the appropriate job, particularly if the employee has an influential role in the matching process. The "job" in this case refers not only to the work itself, but also to style of supervision, procedural constraints, peer relationships, and other climate factors in the workplace.

—M. SCOTT MYERS
Managing With Unions
(Reading, Mass., Addison-Wesley
Publishing Co., 1978), pp. 37–38.

The Anatomy of Price Change



Inflation slows in third quarter, although food prices soar

CRAIG HOWELL, WILLIAM THOMAS, AND EDDIE LAMB

The pace of inflation slowed to a single-digit rate from June to September, primarily because of a sharp drop in mortgage interest costs. The Consumer Price Index for All Urban Consumers (CPI-U) rose at a seasonally adjusted annual rate of 7.0 percent during the third quarter, the slowest rate since the final quarter of 1977. The CPI had risen at an 11.6-percent rate in the second quarter of 1980 and at an 18.1-percent rate during the opening months of the year. The mortgage interest cost index, which had advanced at an annual rate of more than 50 percent during each of the three preceding quarters, decreased at a rate of 30.3 percent. (See table 1.)

Excluding mortgage interest costs, however, the rate of inflation at the retail level accelerated from 7.5 percent in the second quarter to more than 12 percent in the third. The third quarter rate was still somewhat slower than the first quarter rate of nearly 15 percent. Most of the acceleration in the third quarter was caused by sharply higher food prices. When both food and mortgage interest costs are excluded, the CPI moved up at an annual rate of 9.7 percent, slightly more than in the previous quarter (9.0 percent), as retail prices for most other major categories of consumer spending rose more than they did from March to June. However, the rate of increase in energy prices—which had slowed dramatically from a 64.8-percent rate in the first quarter to an 8.1-percent rate in the second—slowed again to a rate of about 3 percent.

At the primary market level, the Producer Price Index (PPI) for Finished Goods advanced at a seasonally adjusted annual rate of 13.0 percent, far faster than the 6.0-percent rate of increase registered in the previous quarter but considerably less than the 19.3-percent rate recorded in the first 3 months of the year. Food prices climbed even more sharply than in the CPIfollowing declines during the first half of 1980. Price increases also accelerated, although more moderately, for consumer goods other than food and energy. In contrast, energy prices dropped somewhat from June to September, after rising at a rate of 17 percent in the second quarter and at a rate in excess of 100 percent in the first. Prices for intermediate materials rose much more than in the preceding 3 months, and crude material prices soared after falling during the first half of the year.

Food and related products

The CPI for food advanced at an 18.9-percent annual rate from June to September, after rising more moderately in both preceding quarters. At the primary market level, the PPI for finished consumer foods surged at a 36.9-percent rate, after falling during the first half of the year. (See table 2.) Much of the increase in food prices during the third quarter reflected the effects of unusually hot summer weather. A severe drought hampered production and affected marketing at the farm level, particularly for grains, hay, oilseeds, livestock, and live poultry. Consequently, the PPI for crude foodstuffs advanced steeply in July and August, before stabilizing in September. Retail food prices were also influenced by earlier increases for energy and for other distribution costs. The index for food away from home rose at an 8.2-percent rate, about the same as in the second quarter.

Retail and processor prices for meats and poultry soared from June to September, buoyed by skyrocketing prices for hogs, cattle, and live poultry. The CPI for pork rose at a 75.0-percent annual rate, reflecting increased prices for hogs. Hog marketings declined in the third quarter, a result of fewer pigs born in the early months of 1980. In addition, intense heat limited weight gains and caused some delay in marketings. There were also fears that the future hog supplies would be reduced by a decline in fertility rates caused by the heat. Processed poultry prices increased at an annual rate of 82.7 percent in the CPI. Live poultry prices soared because of higher feed costs and sharply curtailed marketings after the intense heat killed millions of chickens.

Retail prices for beef and veal rose at a 22.4-percent annual rate, partly in response to good demand as a result of higher prices for its competitors, pork and poultry. At the farm level, cattle prices increased sharply, reflecting smaller offerings of grain-fed cattle. Cattle farmers continued to rebuild herds after periods of heavy slaughter. Meanwhile, marketings of grass-fed

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cattle increased in the summer when pastures dried up and cattle were taken to market earlier than usual.

At the farm level, grain prices climbed at an unusually steep rate after declining substantially in the first half of the year. Prices for most grains were higher as reduced harvests were anticipated as a result of the drought. Good export demand also contributed to the price strength of grains. Many farmers deliberately held back grain marketings in hopes of more favorable prices later. Prices soared for corn, oats, and barley; wheat prices also moved up, but not as rapidly as other grains. There was a record harvest of winter wheat, which was not affected by the drought; spring wheat was adversely affected, but it normally accounts for less than 25 percent of total domestic wheat production.

Table 1. Changes in selected components of the Consumer and the Producer Price Indexes, 1979–80

Index	Compound annual rate, seasonally adjusted except as noted, for 3 months ended —				
	1979		1980		
	Sept.	Dec.	Mar.	June	Sept.
Consumer Price Index for All Urban Consumers (CPI-U) [1]					
All items	13.8	13.7	18.1	11.6	7.0
Food and beverages	6.5	11.9	4.3	5.8	18.3
Housing	15.9	17.4	19.5	20.6	.3
Apparel and upkeep	7.7	5.1	15.3	.5	9.6
Transportation	20.6	14.3	35.2	2.5	10.4
Medical care	10.7	12.0	15.9	7.3	9.2
Entertainment	7.7	5.3	15.0	8.4	10.8
Other goods and services	12.2	5.1	10.6	8.9	12.5
Food	6.5	12.1	3.8	5.6	18.9
Commodities less food	16.4	12.7	22.1	4.7	10.6
Services	14.3	15.8	20.9	21.6	–.6
Energy	49.9	19.2	64.8	8.1	2.9
All items less energy	10.6	13.5	12.9	12.3	7.8
All items less food and energy	10.9	13.9	15.7	13.5	5.1
Mortgage interest costs	29.0	52.8	53.8	55.0	–30.3
All items less mortgage interest costs	12.3	11.8	14.8	7.5	12.1
All items less mortgage interest costs and foods	13.2	11.5	17.1	9.0	9.7
Producer Price Index (PPI) by stage of processing [1]					
Finished goods	16.1	13.3	10.3	6.0	13.0
Finished energy goods	106.2	45.7	109.4	17.0	–3.4
Consumer foods	15.3	8.6	–1.2	–7.8	36.9
Finished goods less food	16.4	15.0	26.5	10.3	6.7
Finished goods less food and energy	7.6	11.0	16.1	9.0	8.8
Finished consumer goods less food	23.4	17.9	34.8	10.1	5.6
Finished consumer goods less food and energy	9.1	11.5	18.1	7.7	8.8
Capital equipment	5.9	10.0	13.4	10.9	8.8
Intermediate materials, supplies, and components	19.7	16.0	22.8	4.8	9.9
Intermediate energy goods	71.1	37.1	62.0	6.5	15.6
Intermediate foods and feeds	24.8	1.2	–1.5	13.7	70.4
Intermediate materials less foods and feeds	19.4	17.0	24.0	4.4	7.2
Intermediate materials less food and energy	13.4	13.9	18.3	4.1	6.0
Crude materials for further processing	20.0	14.9	–1.1	–7.5	67.7
Crude energy materials [2]	50.7	32.5	30.8	20.3	22.9
Crude foodstuffs and feedstuffs	16.4	5.7	–16.7	–10.5	96.4
Crude nonfood materials	25.1	27.8	21.9	–3.9	39.1
Crude nonfood materials less energy	–7.1	20.1	7.4	–38.0	78.9

[1] See "Definitions" and "Notes" preceding tables 22–30 Current Labor Statistics in this *Review*.

[2] Not seasonally adjusted.

NOTE: Monthly data for Producer Price Indexes have been revised through May 1980 to reflect the availability of late reports and corrections by respondents. For this reason, some of the figures shown above and elsewhere in this report differ from those previously published.

Prices for oilseeds and hay also advanced from June to September. Soybean prices skyrocketed as adverse weather reduced prospects for the domestic crop; expectations of smaller crops in South America also helped to drive soybean prices higher. Prices for manufactured feeds rose in response to increased costs for ingredients, particularly grains and oilseeds.

Prices for cereal and bakery products rose, largely because of higher costs of grains and energy. Fats and oils were higher, a result of higher costs for ingredients. Prices for soybean oil, a key ingredient in many canned foods, rose sharply because of increased costs for soybeans and rising energy costs associated with the crushing process.

Prices for fresh fruits and vegetables moved up sharply in both retail and farm markets. Among fresh vegetables, the largest increases occurred for both white and sweet potatoes because of reduced acreage and the effects of hot, dry weather. The rapid price increases for fresh fruits followed moderate increases earlier in the year. Citrus fruits accounted for most of the surge.

Prices for sugar and sweets moved up at both the retail and processor levels, reflecting earlier cost increases for raw sugar, fructose, and energy. Raw sugar rose sharply in August, as crop disease and adverse weather in many growing areas reduced production throughout the world. Prices were higher for packaged cane sugar, beet sugar, and corn syrup. On the other hand, prices for chocolate products declined in response to falling prices of cocoa beans, a result of excellent supplies.

Roasted coffee prices fell for the third consecutive quarter at both the retail and processor levels, reflecting lower prices for green coffee. Green coffee prices dropped as a result of unseasonably mild weather in Brazil, the world's leading producer, which often experiences damaging frost conditions during the third quarter. Downward pressure was also exerted by a continuing decline in coffee consumption in the United States. Tea prices moved up because of drought conditions in some producing countries.

Services, excluding energy

Prices of consumer services other than energy declined at an annual rate of 1.8 percent in the third quarter, in contrast to increases at rates of 21.0 and 20.0 percent in the first and second quarters of 1980. (See table 3.) The sharp decline in contracted mortgage interest costs (a component of the household services index) was primarily responsible for the downturn. Charges for transportation, medical care, and entertainment services continued to move up.

Table 2. Changes in retail and producer prices for consumer foods, 1979–80

Commodity	Index	Relative importance December 1979	Compound annual rate, seasonally adjusted except as noted, for 3 months ended —				
			1979		1980		
			Sept.	Dec.	Mar.	June	Sept.
Consumer foods[1]	CPI	100.0	6.5	12.1	3.8	5.6	18.9
	PPI	100.0	15.3	8.6	−1.2	−7.8	36.9
Beef and veal[2]	CPI	10.3	−17.7	13.2	10.9	−7.6	22.4
	PPI	14.6	32.0	7.9	−4.3	−22.9	44.8
Pork	CPI	4.7	−23.5	14.8	−12.4	−23.3	75.0
	PPI	6.7	1.4	4.4	−21.1	−35.7	203.2
Poultry	CPI	2.2	−21.6	27.5	−3.9	−15.2	82.7
	PPI	3.3	−5.0	100.6	−49.0	−25.5	295.9
Cereal and bakery products	CPI	8.6	15.1	11.1	12.6	12.8	7.4
	PPI	12.7	22.8	3.3	16.8	10.1	5.5
Dairy products	CPI	9.3	12.2	7.4	8.4	14.5	6.5
	PPI	15.1	15.2	−.2	9.1	18.2	2.8
Fresh fruits and vegetables	CPI	5.0	31.8	−.2	−28.2	38.1	76.2
	PPI	3.8	−7.3	15.0	−21.2	34.5	118.3
Processed fruits and vegetables	CPI	4.6	10.1	−1.7	9.0	11.7	8.7
	PPI	6.7	5.1	−8.6	7.5	7.5	6.6
Eggs	CPI	1.3	−35.7	12.8	−21.8	22.7	14.3
	PPI	2.1	−38.8	−10.3	−.5	−18.6	49.0
Sugar and sweets[3]	CPI	2.4	6.8	3.7	47.2	41.6	24.3
	PPI	4.2	12.1	35.6	61.2	128.5	22.2
Coffee, roasted	CPI	1.0	126.2	14.6	−2.8	−4.7	−5.7
	PPI	4.4	96.9	21.0	−17.8	−7.1	−16.1
Fats and oil products[4]	CPI	2.0	9.0	4.2	13.2	−1.5	5.6
	PPI	1.9	14.3	9.8	1.0	−7.6	11.3

[1] Includes items not listed. The CPI includes prices of food away from home, which account for about 31 percent of the food index. The PPI for finished consumer foods does not reflect restaurant prices.

[2] Not seasonally adjusted in the CPI.

[3] "Sugar and confectionery" in the PPI. Not seasonally adjusted in the PPI.

[4] "Vegetable oil end products" in the PPI.

The index for household services other than rent and energy decreased at a 13.2-percent rate, after rising at rates of 29.2 percent in the second quarter and 29.9 percent in the first. This reversal was caused by a steep drop (a 30.3-percent rate) in mortgage interest financing costs, as a 37.7-percent rate of decline in mortgage interest rates was only partially offset by a 14.9-percent rate of increase in house prices.[1] The index for property insurance rose at an 8.2-percent rate, a slower pace than that registered in either of the two preceding quarters. The index for property taxes rose at a 7.7-percent rate, following a second-quarter decline, and a first-quarter advance at a 4.8-percent rate. Price increases for the home maintenance and repairs index were the smallest since the third quarter of 1977. This index advanced at a 6.1-percent rate in the third quarter of 1980, after advancing at a rate of 6.7 percent in the second quarter, and 20.0 percent in the first. The housekeeping services index rose at a rate of 6.4 percent after rising at a rate of nearly 9 percent in both the first and second quarters.

The index for transportation services moved up at a rate of 13.3 percent, a somewhat slower rate than in either of the two previous quarters. The slowdown was due to a 12.6-percent rate of decrease in automobile finance charges, which had climbed at a 46.0-percent rate during the first half of 1980. On the other hand, charges for public transportation rose much faster (at a

Table 3. Changes in consumer services less energy prices, 1979–80

Item	Relative importance December 1979	Compound annual rate, seasonally adjusted except as noted, for 3 months ended —				
		1979		1980		
		Sept.	Dec.	Mar.	June	Sept.
Services less energy	100.0	14.2	17.1	21.0	20.0	−1.8
Rent, residential[1]	14.0	10.2	9.0	8.3	10.0	8.6
Household, less rent and energy	48.7	17.5	25.5	29.9	29.2	−13.2
Home financing, taxes, and insurance	23.1	25.3	38.1	43.9	44.5	−23.4
Mortgage interest rates		12.2	24.2	42.8	39.2	−37.7
Home maintenance and repairs	7.4	9.7	11.8	20.0	6.7	6.1
Housekeeping services[1]	5.4	9.0	7.6	8.8	8.6	6.4
Transportation services	15.1	12.7	12.7	16.3	18.5	13.3
Auto maintenance and repairs	3.9	9.8	9.5	11.0	11.9	10.6
Other private transportation services	8.3	10.5	8.2	18.7	21.3	2.4
Public transportation[1]	2.8	25.2	39.5	17.3	18.6	56.7
Medical care services[1]	10.7	11.2	12.6	16.9	8.4	9.3
Entertainment services[1]	4.1	5.0	1.9	12.9	9.2	9.7
Personal care services[1]	2.4	9.0	7.2	11.3	7.4	6.5
Apparel services[1]	1.8	11.0	12.7	18.3	14.3	6.5
Personal and educational services	3.2	17.7	5.2	9.8	7.9	26.9

[1] Not seasonally adjusted.

56.7-percent rate) than earlier in the year, reflecting large increases in fares for airlines, intracity mass transit, intercity buses, and taxis.

Charges for medical care services were up at a 9.3-percent rate, more than in the second quarter, but substantially less than in the first. The professional services category (physicians' and dental services) rose at a rate of 9.0 percent, the slowest quarterly advance over the past 12 months. However, the hospital services index climbed at an 18.5-percent rate, far more than in the previous 3 months.

Among other services, the CPI for apparel services increased at a 6.5-percent rate, the smallest increase since the third quarter of 1976. This moderation reflected a slowdown in charges for laundry and drycleaning services. The pronounced third-quarter acceleration in the index for personal and educational services was primarily due to increases in college tuition. These charges, which generally increase once a year, were 10.2 percent higher in September 1980 than they were a year earlier.

Energy

Prices for most energy goods and services continued a moderating trend which had begun in the second quarter. Consumer prices for energy items moved up at a rate of 2.9 percent, while producer prices for finished energy goods declined at a 3.4-percent rate. (See table 4.) In contrast, retail energy prices had climbed 47.2 percent between March 1979 and March 1980. The improved energy price situation reflected a large surplus of crude petroleum on world markets. Consumption of oil by the industrialized nations declined because of a general drop in business activity, as well as reductions in consumer demand induced by the earlier sharp price hikes.

One major reason for the surplus was that Saudi Arabia decided to continue exporting greater-than-normal amounts of crude oil. This decision made it more difficult for other Organization of Petroleum Exporting Countries (OPEC) members to raise prices on their own. As a result, there were no major price increases by OPEC between July and September. However, prices continued to vary widely among OPEC members, even after the latest meeting of OPEC oil ministers in September.[2]

The reduced demand for petroleum products in this country was reflected in the unusually low rate of refinery capacity utilization (about 74 percent in the third quarter, compared with about 90 percent at the same time in 1978). At the same time, primary stocks of both crude and refined petroleum were substantially above seasonal norms.

As a consequence of sluggish demand, retail gasoline prices moved down for the second consecutive quarter, and prices received by refiners turned down after decelerating substantially in the previous quarter. Prices for

Table 4. Changes in retail and producer prices for energy-related items, 1979–80

Item	Index	Relative importance December 1979	Compound annual rate, seasonally adjusted except as noted, for 3 months ended —				
			1979		1980		
			Sept.	Dec.	Mar.	June	Sept.
Finished items							
Energy items, (gas, electricity, fuel oil, coal, gasoline, motor oil)	CPI	100.0	49.9	19.2	64.8	8.1	2.9
Finished energy goods	PPI	100.0	106.2	45.7	109.4	17.0	–3.4
Gasoline, motor oil, coolants, etc.	CPI	55.3	62.2	28.3	105.2	–5.7	–5.4
Gasoline [1]	CPI	54.5	63.1	29.1	105.7	–6.2	–5.3
	PPI	64.1	89.4	58.7	138.1	14.0	–8.2
Household fuels [2]	CPI	44.7	31.7	7.0	31.5	28.9	10.1
Fuel oil [1, 2]	CPI	10.3	99.7	22.2	68.4	3.7	1.5
	PPI	24.0	141.5	22.0	78.1	18.0	2.8
Gas (piped) [2]	CPI	13.4	22.5	20.4	14.3	29.3	15.6
Electricity	CPI	19.5	9.7	2.3	20.3	38.4	8.1
Intermediate materials							
Intermediate energy goods	PPI	100.0	71.1	37.1	62.0	6.5	15.6
Diesel fuel [1]	PPI	10.3	157.0	26.1	88.2	10.1	7.9
Commerical jet fuel [1, 2]	PPI	8.4	157.5	60.6	98.6	24.2	13.2
Residual fuel [1]	PPI	14.6	111.2	23.2	75.0	–41.0	68.3
Liquefied petroleum gas [2]	PPI	7.1	204.4	95.7	63.2	9.4	–9.4
Electric power [3]	PPI	35.7	14.8	24.7	19.8	16.0	22.6
Crude materials							
Crude energy materials [2]	PPI	100.0	50.7	32.5	30.8	20.3	22.9
Natural gas [1, 2]	PPI	43.9	45.5	27.4	25.9	25.6	30.5
Crude petroleum [2]	PPI	38.1	96.7	54.8	52.1	21.6	16.9
Coal	PPI	17.8	2.1	6.8	7.3	–2.7	6.3

[1] Prices for these items are lagged 1 month in the PPI.
[2] Not seasonally adjusted.
[3] Includes commercial and industrial power, but not residential.

home heating oil edged upward at both the consumer and the producer level. Within the PPI for intermediate energy goods, price increases continued to slow for diesel fuel and jet fuel.

Prices for commercial and industrial electric power advanced more sharply than during the first 6 months of the year. One of the principal reasons for this acceleration was the heavy demand associated with increased use of air conditioning units in much of the country during the unusually hot summer. However, residential electricity rates did not rise nearly as rapidly as in the previous quarter. Similarly, consumer prices for piped gas increased less than in the prior 3-month period.

The PPI for crude energy materials advanced at a 22.9-percent annual rate, slightly more than in the previous quarter, but not as fast as the 37.1-percent rise in the 12 months ended in March. Prices of natural gas at the wellhead increased at a 36.5-percent annual rate, following three quarters of advances at annual rates of about 25 percent. This acceleration reflected the expanded output of new gas fields which are not under price controls, as well as higher prices for gas imported from Canada. The index for crude petroleum (which only includes domestic production) moved up somewhat less than in the previous quarter, as higher prices for upper and lower tier crude oil were partly offset by small declines in prices of uncontrolled oil in weak markets.

Finished goods, excluding food and energy

Consumer goods. In the CPI, prices for commodities except food and energy moved up at a seasonally adjusted annual rate of 12 percent, following advances at rates of 9.7 and 7.3 percent in the first and second quarters. (See table 5.) Price increases also accelerated somewhat at the producer level, as the PPI for consumer goods other than foods and energy rose at an 8.8-percent rate, after increasing at a 7.7-percent rate in the previous 3 months, and climbing at an 18.1-percent rate in the first quarter.

Domestic passenger car manufacturers raised their

Table 5. Changes in retail and producer prices for consumer goods other than foods and energy, 1979–80

Commodity	Index	Relative importance December 1979	Compound annual rate, seasonally adjusted except as noted, for 3 months ended — 1979 Sept.	1979 Dec.	1980 Mar.	1980 June	1980 Sept.
Commodities less food and energy[1]	CPI	100.0	8.3	10.4	9.7	7.3	12.0
	PPI	100.0	9.1	11.5	18.1	7.7	8.8
Apparel, excluding footwear[2]	CPI	10.9	7.3	3.0	16.3	−2.4	10.2
	PPI	13.8	4.8	2.5	13.1	9.4	7.9
Footwear	CPI	1.9	7.7	9.2	7.4	3.5	9.2
	PPI	3.0	12.1	4.3	3.7	0	7.6
Textile housefurnishings[2]	CPI	1.5	.5	7.8	18.3	7.3	9.9
	PPI	2.1	8.7	8.1	5.6	5.9	30.1
Soap and detergent[2, 3]	CPI	.9	9.7	11.8	21.2	4.9	15.8
	PPI	1.7	22.4	8.4	16.3	−1.1	20.2
Cleansing and toilet tissue, paper towels and napkins[2, 3, 4]	CPI	.7	−1.0	14.9	11.8	19.0	14.3
	PPI	2.7	21.7	8.6	31.1	12.4	15.3
Tires[5]	CPI	1.3	7.8	18.3	16.9	10.8	11.5
	PPI	1.9	24.6	17.3	21.8	8.9	−.3
Furniture[2]	CPI	3.5	4.4	9.3	17.0	6.0	7.0
	PPI	4.3	8.0	11.7	10.5	6.0	10.3
Appliances, including radio and TV[3]	CPI	4.4	1.8	3.9	3.8	4.1	5.2
	PPI	6.3	2.5	5.0	7.6	10.0	−2.3
New cars	CPI	9.6	7.1	0	12.3	10.5	15.3
	PPI	15.4	1.8	7.5	9.0	10.9	−.2
Sporting goods and equipment[3]	CPI	1.8	7.5	3.3	19.1	4.9	8.7
	PPI	1.3	19.7	4.5	14.9	11.2	21.1
Tobacco products[2, 3]	CPI	3.1	10.0	2.5	13.8	10.5	2.2
	PPI	3.9	14.7	8.7	20.3	13.8	4.1
Gold jewelry[3, 6]	CPI	1.2	16.4	28.6	60.7	10.8	13.6
	PPI	2.9	62.2	147.8	146.1	13.6	42.1
Home purchase[3, 7]	CPI	30.1	17.1	18.8	7.0	14.9	14.9
Used cars[7]	CPI	7.5	−4.9	10.5	−2.5	−16.8	40.1

[1] Commodities less food and energy account for 34.5 percent of the CPI-U and 51.7 percent of the PPI for finished consumer goods.

[2] Not seasonally adjusted in the PPI.

[3] Not seasonally adjusted in the CPI.

[4] "Sanitary papers and health products" in the PPI.

[5] "Tires and tubes" in the PPI.

[6] "Jewelry and luggage" in the CPI.

[7] Not included in the PPI.

prices at the beginning of the quarter to pass through earlier increases in the costs of metals and other inputs. Prices of imported cars also continued to rise as a result of generally good demand and changes in foreign exchange rates. Used car prices increased at a rate of about 40 percent from June to September, reversing a declining trend that was dominant for much of the first half of the year.

In the PPI, substantial advances for passenger cars in July and August were balanced by a steep drop in September. The September decrease reflected "liquidation allowances" granted by domestic producers to their dealers for each 1980 car left on their lots when 1981 cars first went on sale.[3] If this had not occurred, producer prices for passenger cars would have risen at a rate of 19.6 percent in the third quarter, and the PPI for consumer goods other than foods and energy would have advanced at an 11.8-percent rate. The new car CPI rose at a rate of 15.3 percent from June to September.

Home purchase prices rose at an annual rate of 14.9 percent in the third quarter, the same as in the previous 3 months. This index has risen at a double-digit rate in every calendar quarter but two since the end of 1977, partly reflecting intensive demand for homes as a hedge against inflation. Shifts in demographic factors have also served to bolster demand for homes.

Jewelry prices resumed their strong upward climb during the third quarter, after slowing abruptly in the spring. This reacceleration reflected an upturn in gold and silver prices, which had soared early in the year and then had fallen sharply as part of a widespread commodity price decline.

Capital equipment. The Producer Price Index for capital equipment moved up at an 8.8-percent annual rate from June to September on a seasonally adjusted basis, less than in any calendar quarter over the past year. However, the slowdown was due to the introduction of liquidation allowances for cars and trucks into the September index. Without this factor, the capital equipment index would have advanced at a rate of 13.2 percent, more than in the second quarter and about as fast as in the first 3 months of the year.

Motor truck prices climbed rapidly in both July and August; price increases were concentrated in the heavier trucks, which continued to sell well in spite of the general economic sluggishness. Demand for light trucks and vans remained weak, in part because relatively poor gas mileage for many domestic models discouraged prospective buyers. The actual third quarter rate of increase in truck prices was 10.9 percent; but if it were not for the liquidation allowances incorporated into the September index, truck prices would have jumped at a rate of 28.5 percent.

Among other kinds of capital equipment, price increases accelerated for railroad equipment, fixed-wing utility aircraft, and transformers and power regulators. On the other hand, prices rose less than in the second quarter for machine tools, mining machinery, and oilfield machinery. For the second consecutive quarter, prices for both office machinery and commercial furniture moved up at a rate of less than 5 percent.

Intermediate goods, excluding foods and energy

The PPI for intermediate materials less foods and energy moved up at a 6.0-percent seasonally adjusted annual rate in the third quarter, slightly more than in the second quarter, but substantially less than in any calendar quarter during the 2 years prior to that. However, if the impact of volatile price fluctuations in precious metals (particularly for silver) were removed, the rate of increase for this index would have been slightly less than in the second quarter. This continued moderate trend reflected weak industrial demand.

The nondurable manufacturing materials index slowed considerably, rising at a 4.5-percent annual rate following much more rapid advances in each calendar quarter since late 1978. The slump in business activity, combined with stabilized prices for crude petroleum on world markets, led to lower prices for organic industrial chemicals and plastic resins and materials. Similarly, prices for synthetic rubber were virtually unchanged as low production levels of motor vehicles reduced demand for tires. Paperboard prices turned down in response to the reduced output of paperboard boxes, and the rate of increase slowed markedly for paper and woodpulp.

On the other hand, leather prices turned upward substantially after declining during the first half of the year, reflecting a similar pattern in cattle hide prices. The index for inedible fats and oils also turned upward sharply, as a result of the reduced weight of slaughtered livestock. The inorganic chemicals index rose rapidly for the third consecutive quarter, largely because of sharply higher prices for caustic soda. Production of caustic soda was reduced as a result of a cutback in output of its coproduct, chlorine; this occurred because of weak demand for plastics, which often contain chlorine compounds. Among textile materials, prices for synthetic fibers advanced at a double-digit rate for the third consecutive quarter, as producers reduced output to match a decline in demand. Gray fabric prices turned up sharply after moving down from March to June; the third-quarter increases were attributed to higher costs for cotton and synthetics.

The index for durable manufacturing materials rose at a 3.8-percent annual rate, reversing the decline of the previous quarter. Much of this upturn was caused by nonferrous metals; prices for silver, copper, lead, and tin rebounded after falling from March to June, and gold prices climbed more than in the second quarter. A strike by copper workers in this country caused a reduction in supplies, and heavy purchases by the Soviet Union raised lead prices. Prices for jewelers' materials continued to rise rapidly, reflecting the upsurge in prices for gold and silver. In contrast, the finished steel mill products index declined at a 9.2-percent annual rate as steel firms introduced discounts in July for steel sheets, strips, and bars in reaction to poor demand for these items, which are used in making automobiles and appliances. Overall domestic shipments of finished steel products were about one-third less during the summer than they were a year before. Weak demand also resulted in a drop in hardwood lumber prices for the third consecutive quarter.

The construction materials index moved up at a 5.7-percent annual rate, somewhat more than in the previous quarter, but less than in any calendar quarter during the preceding 3 years. As a result of the sharp decline in mortgage interest rates between April and July, the rate of new private residential construction began to recover in June after a steep drop that had begun in late 1979. However, interest rates turned upward in late summer, curtailing the availability of mortgage credit and driving many potential homebuyers out of the market. Closely mirroring the fluctuations in the level of housing sales, softwood lumber and plywood prices advanced early in the quarter, but turned downward in September. Millwork prices rose steadily following a second quarter decline, reflecting higher labor costs. Prices for most other construction materials exhibited weakness, reflecting the earlier sharp drop in housing starts and the easing of cost pressures on energy-intensive materials. The indexes for gypsum products and refractories registered declines, and prices rose considerably less than in the first half for concrete products, plumbing fixtures, and fabricated structural metal products.

Among other intermediate goods, the index for electronic components continued upward, rising at a 13.5-percent annual rate. About one-third of this increase was caused by higher prices for capacitors, a consequence of higher costs of the metal tantalum. Prices also rose substantially for motor vehicle parts, nonfarm tractor parts, and machine tool parts. In contrast, wooden pallet prices continued to decline, reflecting a low volume of manufacturing shipments.

Crude nonfood materials, excluding energy

The index for crude nonfood materials less energy moved up sharply at a 78.9-percent annual rate, following a decrease at a rate of 38.0 percent in the second quarter. The dramatic upturn was broad-based, as prices for scrap metals, raw cotton, hides and skins, and natural rubber all climbed rapidly after falling earlier in the year.

Iron and steel scrap prices, which had declined at a rate of 46.8 percent during the first half of the year, soared in the third quarter. Strong export demand and tight supplies, a result of abnormally low prices which forced some dealers out of the market, were the major factors in this abrupt price resurgence. Increased demand from secondary smelters and higher prices for primary copper lifted prices for copper base scrap, which had declined in both previous quarters. Improved demand from Japan raised prices for aluminum base scrap, following a severe slump in the second quarter.

After falling in the previous quarter, prices of raw cotton climbed rapidly, as hot, dry weather led to expectations of a much smaller domestic cotton crop than in most recent years. The U.S. Department of Agriculture estimated that the 1980 cotton crop would be 20 percent smaller than last season. Export demand for cotton also improved. Hides and skins prices climbed at a rate of almost 80 percent, in contrast to a 58.5-percent rate of decrease during the first half; heavier demand from the Far East and from domestic tanners, combined with poor supplies, pushed prices higher. Crude natural rubber prices advanced following a second-quarter drop because of the impact of the border disputes between Thailand and Cambodia. Much of the natural rubber imported into this country normally comes from Thailand. On the other hand, wastepaper prices fell for the second consecutive quarter because of continued poor demand from domestic paperboard mills and the building materials industry. □

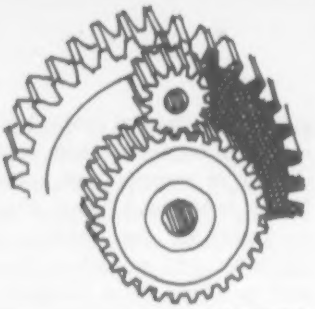
FOOTNOTES

[1] Mortgage interest rates in the CPI are represented by conventional, FHA, and VA rates. Although FHA and VA ceiling rates were raised from 11.5 to 12 percent late in the third quarter, conventional rates declined sharply in all 3 months. Conventional rates are represented in the CPI by actual mortgage loan transactions and not by current commitment rates.

[2] As a result of the September 1980 OPEC conference, Saudi Arabia lifted its basic price from $28 per barrel to $30 for the fourth quarter; this was still the lowest official contract price within OPEC. The highest officially allowed price within OPEC remained at $37 per barrel. The war between Iraq and Iran, which broke out in September, did not have any significant impact on crude oil prices in the third quarter.

[3] This marked the first time that the Bureau of Labor Statistics succeeded in reflecting these annual liquidation allowances in the PPI, as part of a stepped-up commitment to obtain realistic transaction prices whenever possible. The CPI has, in effect, always reflected the impact of such discounts each September.

Productivity Reports



Sixth consecutive productivity drop recorded during the second quarter

LAWRENCE J. FULCO

Exceptionally large declines in output and proportionately smaller decreases in hours during the second quarter of 1980 were reflected in falling productivity in all sectors of the economy for which the Bureau of Labor Statistics prepares quarterly productivity measures. Productivity in the private business sector declined 2.7 percent—the sixth consecutive quarterly drop in output per hour of all persons.

This is the second longest period of continuously falling productivity for the sector. By the second quarter of 1980, productivity had decreased about 2.5 percent cumulatively over six quarters. A steeper and longer decline, lasting seven quarters, occurred during the 1973–74 downturn. As of the third quarter of 1974, private business productivity had fallen 4.3 percent, also after six quarterly drops.

Output declined at a 12.0-percent annual rate in second quarter 1980, the first such drop in the private business sector in a year. However, it was the largest quarterly decrease in three decades.

In the nonfarm business sector, productivity fell at a 3.7-percent annual rate. This decline was larger than the drop in the private business sector, owing to productivity gains in the farm sector during the second quarter.

Nonfinancial corporations marked six quarters of continuously falling productivity with a 1.9-percent drop in the second quarter. These corporations, which account for about two-thirds of private business hours, also showed a 0.1-percent decline in the first quarter.

Output per hour declined 4.7 percent among manufacturing industries, but the drop in nondurables was much greater than that in durables. This was the third consecutive quarter of productivity decrease in manufacturing.

Chart 1 traces the growth of productivity, hourly compensation, and unit labor costs in major sectors of the economy since 1967. The following tabulation shows the second-quarter annualized rates of change in productivity, output, and hours paid for by major sector; more complete information may be found in tables 31–34 of the Current Labor Statistics section of this issue:

Sector	*Productivity*	*Output*	*Hours*
Private business	−2.7	−12.0	−9.6
Nonfarm business	−3.7	−12.3	−8.9
Nonfinancial corporations	−1.9	−11.5	−9.8
Manufacturing	−4.7	−21.8	−18.0
Durable	−3.2	−25.5	−23.0
Nondurable	−7.5	−16.4	−9.6

Compensation, labor costs, and profits

Hourly compensation in the private business sector grew faster in the second quarter than at any time since the third quarter of 1974. The 12.0-percent annual rate of increase in compensation payments, combined with the decline in productivity, resulted in a 15.1-percent rise in unit labor costs (compensation per unit of output). These costs grew faster in the second quarter of 1980 than at any other time since the third quarter of 1974.

In the nonfarm business sector, hourly compensation rose at a 10.8-percent annual rate in the second quarter, contributing to a 15.0-percent increase in unit labor costs.

Hourly compensation in nonfinancial corporations grew at an annual rate of 11.1 percent in the second quarter, and unit labor costs rose 13.2 percent. Unit profits in the nonfinancial sector declined 34.7 percent (annualized) in the second quarter—the sixth in a series of quarterly decreases which have cumulatively reduced unit profits by about 22 percent.

Among manufacturing industries, hourly compensation gains were somewhat larger in durables. However, unit labor costs grew faster among nondurable goods producers, partly reflecting the steeper decline in their productivity.

Although hourly compensation increased rapidly in the second quarter, the faster rise of the Consumer Price Index for All Urban Consumers (CPI-U) caused a reduction in real compensation in the private business and nonfarm business sectors. The 13.7-percent annualized advance in the CPI-U is the third highest quarterly price increase in the series.[1] When compensation payments were adjusted for changes in the CPI-U, real hourly compensation in the private business sector declined

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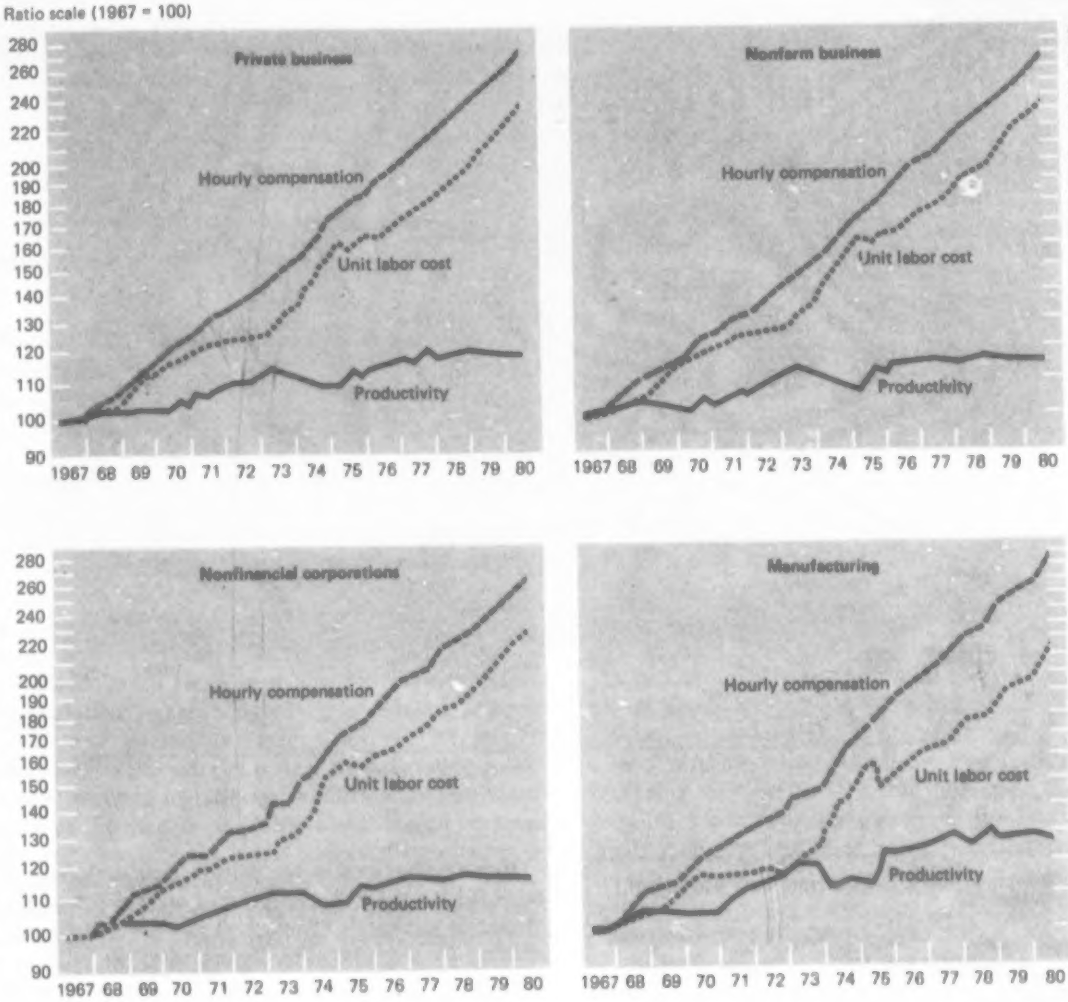
Chart 1. Changes in productivity and related measures in four major sectors of the economy, 1967-80



at a 1.5-percent annual rate during the second quarter.

Real hourly compensation has not risen in the private business sector since the first quarter of 1978. After more than two years of decline, the measure has fallen to its third-quarter 1975 level. Chart 2 shows that while hourly compensation has increased rather smoothly since 1967, trends in real compensation tend to reflect variations in the rate of growth of the CPI-U.

Employment and hours

Employment in the private business sector fell 5.5 percent in the second quarter—down 1.1 million jobs to 79.5 million—ending a pattern of growth which had been unbroken since mid-1975. This was the only quarterly employment decline since 1975. Average weekly hours dropped from 37.0 in the first quarter to 36.6 in the second, the greatest quarterly reduction since 1957. Nonfarm business employment declined 5.2 percent.

Employment in manufacturing, 20.7 million in the second quarter, was down 13.2 percent from the previous period. Average weekly hours in the sector declined 5.6 percent to 39.6. Employment fell at an annual rate of 17.6 percent in durables and 5.9 percent in nondurables.

Chart 2. Changes in hourly compensation and real hourly compensation in the private business sector, and changes in the Consumer Price Index, 1967-80

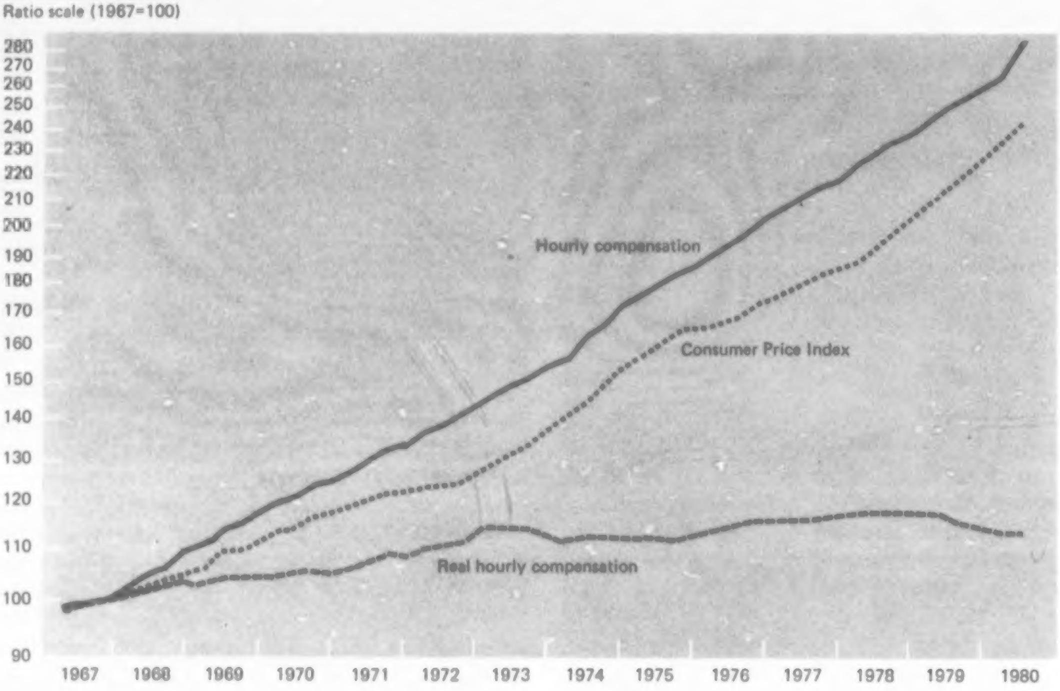


Table 1. Trends in hours in the private business sector, second quarter 1980

Worker category	Percent change in hours	Category share of hours	Contribution to trend
Total private business	-9.53	1.00	-9.53
Manufacturing	-17.31	0.283	-4.89
Durable	-21.89	0.174	-3.81
Nondurable	-9.54	0.109	-1.04
Transportation, communication, and public utilities	5.18	0.069	-0.36
Transportation	-9.82	0.040	-0.39
Communications	-1.57	0.018	-0.03
Public utilities	6.10	0.011	0.07
Finance, insurance, and real estate	2.76	0.061	0.17
Services	0.73	0.123	0.09
Mining	0.29	0.015	0.00
Construction	-11.51	0.057	-0.65
Wholesale trade	-4.21	0.069	0.29
Retail trade	-5.97	0.155	-0.93
Farm employees	-30.56	0.015	-0.45
Farm unpaid family workers	-45.09	0.004	-0.19
Farm proprietors	-15.27	0.024	-0.37
Nonfarm proprietors	-14.53	0.099	-1.44
Nonfarm unpaid family workers	26.94	0.006	0.13
Government enterprises	-3.50	0.021	-0.07
Sum of interaction terms[1]	......	......	-0.34

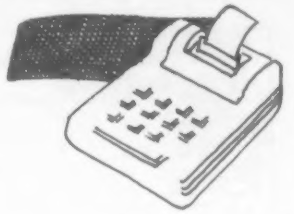
[1] A measure of how much of the overall trend results from the joint effect of the individual worker category movements.

Hours reductions in the private business sector were recorded for the great majority of worker categories included in the totals. Table 1 shows the distribution of changes in second-quarter hours, and the relative importance of the individual categories. The steepest drop in hours occurred among farm unpaid family workers, but because such workers account for only about 0.4 percent of all hours, the impact was quite small.

Manufacturing, on the other hand, represents about 28.3 percent of total hours, and its 17.31-percent decline in hours over the quarter accounted for 4.89 percentage points of the overall 9.53-percent decrease for private business. Other important components of the reduction were changes in hours among nonfarm proprietors, and employees in retail trade, construction, and on farms. ☐

——— *FOOTNOTE* ———

[1] During the first quarter of 1951, prices rose at a 17.2-percent annual rate (seasonally adjusted), and a 16.9-percent advance occurred in first quarter 1980.



Family Budgets

Autumn 1979 retired couple budget dominated by rise in transportation

Reflecting large increases in transportation, the three hypothetical budgets for an urban retired couple in autumn 1979 totaled $6,023 at the lower level, $8,562 at the intermediate level, and $12,669 at the higher level. (See table 1.) From autumn 1978 to autumn 1979, tintermediate, 9.1 percent, and the higher, 9.3 percent. (See table 2.)

Total consumption costs rose by the same amount as the total budget: 9.2, 9.1, and 9.3 percent, respectively, for the lower, intermediate, and higher budgets. The largest increase was in transportation, which increased approximately 17 percent for the lower and intermediate budgets, and 18 percent for the higher budget. Transportation in the higher budget contains a larger proportion of automobile owners, and therefore, was affected most by increases in private transportation costs.

Large increases in fuels and utilities had the greatest impact on housing costs in the lower budget, because those items constitute a larger budget share of housing at that level. Homeowner costs are based on the assumption that retired couples own their homes and have no mortgage and interest payments. Shelter costs are based on rented and owned dwellings.

The budgets represent the costs that were specified in the mid-1960's to portray three relative levels of living. They are designed for a precisely defined retired couple—a husband age 65 or over, and his wife. The couple is assumed to be self-supporting, residing in an urban area, in good health, and able to care for themselves. The budget levels provide different qualities and quantities of goods and services. The lower budget was not designed as a subsistence or poverty level, but simply as a level somewhat lower than the intermediate budget. Beginning with the autumn 1973 updating of the budgets, the total budget is defined as the sum of "total family consumption" and "other items." Income taxes are not included. The autumn 1979 cost estimates for medical care contain a preliminary estimate for "out-of-pocket" costs for Medicare.

Table 1. Summary of annual budgets for a retired urban couple, at 3 levels of living, autumn 1979

Component	Lower budget	Intermediate budget	Higher budget
Total budget	$6,023	$8,562	$12,669
Total family consumption	5,763	8,047	11,719
Food	1,882	2,507	3,149
Housing	1,996	2,862	4,481
Transportation	420	820	1,528
Clothing	225	378	581
Personal care	169	247	362
Medical care	837	842	848
Other family consumption	234	390	770
Other items	259	515	950

NOTE: Because of rounding, sums of individual items may not equal totals.

Table 2. Percentage changes in budgets for a retired urban couple, at 3 levels of living, autumn 1978 to autumn 1979

Component	Lower budget	Intermediate budget	Higher budget
Total budget	9.2	9.1	9.3
Total family consumption	9.2	9.1	9.3
Food	9.1	9.0	9.2
Housing	9.0	8.4	8.3
Transportation	16.7	17.0	17.6
Clothing	2.3	2.4	2.3
Personal care	8.3	7.9	8.1
Medical care	9.4	9.5	9.6
Other family consumption	6.4	6.6	6.6
Other items	9.3	9.1	8.6

The budget costs are updated annually and reflect autumn price levels. Users should note that the procedures used in updating the budgets in 1979 differ from those used in 1978. Because of the revision of the Consumer Price Index program in January 1978, individual area price indexes from autumn 1978 to autumn 1979 were available for only 25 of the 44 family budget areas. The urban U.S. average includes estimates for those areas, however, using price data for the appropriate region and population size classes that are available from the CPI. Nonmetropolitan areas have always been shown as a separate class, and their costs have been similarly updated. (See table 3.)

Complete data for 24 metropolitan areas; four nonmetropolitan areas; Anchorage, Alaska; total metropolitan average; and the U.S. urban average can be obtained from the Bureau of Labor Statistics or any of its regional offices.

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Table 3. Indexes of comparative costs based on an intermediate budget for a retired couple,[1] autumn 1979

[U.S. urban average cost=100]

Area	Total budget[2]	Family consumption										
		Total consumption	Food		Housing			Transportation[6]	Clothing	Personal care	Medical care	Other family consumption[7]
			Total	Food at home	Total[3]	Renter costs[4]	Homeowner costs[5]					
Urban United States	100	100	100	100	100	100	100	100	100	100	100	100
Metropolitan areas[8]	103	103	101	101	107	107	106	101	102	98	101	107
Nonmetropolitan areas[9]	90	90	96	97	80	78	83	97	94	108	98	78
Northeast:												
Boston, Mass.	118	118	107	108	142	130	173	102	112	91	97	117
Buffalo, N.Y.	108	108	104	105	112	104	119	119	123	90	94	104
New York-Northeastern N.J.	115	115	111	109	138	122	167	71	93	102	100	111
Philadelphia, Pa.-N.J.	104	104	112	109	107	103	115	87	73	85	99	109
Pittsburgh, Pa.	102	102	105	105	99	90	102	111	98	90	98	104
Nonmetropolitan areas[9]	100	100	103	104	100	102	121	108	102	104	98	77
North Central:												
Chicago, Ill.-Northwestern Ind.	99	99	101	102	97	106	87	92	97	90	101	113
Cincinnati, Ohio-Ky.-Ind.	98	98	102	103	91	82	92	102	116	85	100	107
Cleveland, Ohio	104	104	100	99	106	106	108	108	107	119	96	113
Detroit, Mich.	102	102	98	99	103	107	103	108	99	96	100	108
Kansas City, Mo.-Kans.	98	98	97	97	90	81	86	110	108	113	103	108
Milwaukee, Wis.	103	103	97	96	106	106	108	110	117	99	99	108
Minneapolis-St. Paul, Minn.	102	102	101	101	102	112	93	107	104	102	95	115
St. Louis, Mo.-Ill.	100	100	105	106	94	83	87	114	98	85	97	105
Nonmetropolitan areas[9]	92	92	96	98	84	88	89	94	107	115	97	79
South:												
Atlanta, Ga.	92	92	97	95	78	76	59	106	108	96	99	106
Baltimore, Md.	99	99	96	95	98	102	77	108	97	97	99	103
Dallas, Tex.	95	95	93	91	89	96	78	110	92	99	103	102
Houston, Tex.	98	98	98	95	92	82	88	105	104	104	107	98
Washington, D.C.-Md.-Va.	108	108	103	104	113	114	109	111	94	119	105	116
Nonmetropolitan areas[9]	86	86	94	95	73	61	71	95	80	102	99	77
West:												
Denver, Colo.	99	99	97	97	93	84	80	111	130	91	98	104
Los Angeles-Long Beach, Calif.	99	99	97	95	92	124	64	120	94	94	109	98
San Diego, Calif.	97	97	95	91	92	114	74	112	96	93	107	103
San Francisco-Oakland, Calif.	105	105	101	102	101	128	72	124	106	119	109	105
Seattle-Everett, Wash.	109	109	100	99	117	138	103	113	111	112	103	112
Honolulu, Hawaii	116	116	130	132	110	150	77	124	102	110	102	117
Nonmetropolitan areas[9]	93	93	96	97	84	98	80	96	111	116	100	80
Anchorage, Alaska	136	136	127	128	152	194	141	127	129	180	123	94

[1] The family consists of a retired husband and wife, age 65 years or over.

[2] Total budget costs do not include personal income taxes.

[3] Housing includes shelter, housefurnishings, and household operations. The higher budget also includes an allowance for lodging away from home city.

[4] Renter costs include average contract rent plus the cost of required amounts of heating, fuel, gas, electricity;, water, specified equipment, and insurance on household contents.

[5] Homeowner costs include property taxes, insurance on house and contents, water, refuse disposal, heating fuel, gas, electricity, specified equipment, and home repair and maintenance.

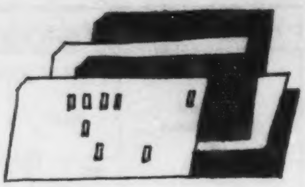
[6] The average costs of automobile owners and nonowners in the lower budget were weighted by the following proportions of families: Boston, Chicago, New York, and Philadelphia, 100 percent for nonowners of automobiles; all other metropolitan areas, 45 percent for owners, 55 percent for nonowners; nonmetropolitan areas, 55 percent for owners, 45 percent for nonowners. The intermediate budget proportions are: New York, 25 percent for owners, 75 percent for nonowners; Boston, Chicago, Philadelphia, 40 percent for owners, 60 percent for nonowners; all other metropolitan areas, 60 percent for owners, 40 percent for nonowners; nonmetropolitan areas, 68 percent for owners, 32 percent for nonowners. The higher budget proportions are: Boston, Chicago, New York, and Philadelphia, 75 percent for owners, 25 percent for nonowners; all other areas, 100 percent for owners.

[7] Includes average costs for reading, recreation, tobacco products, alcoholic beverages, and miscellaneous expenditures.

[8] As defined in 1960–61. For a detailed description of current and previous geographical boundaries, see the 1967 edition of *Standard Metropolitan Statistical Areas,* prepared by the Office of Management and Budget.

[9] Places with population of 2,500 to 50,000. Data for some places previously shown are no longer available.

Research Summaries



Women's use of time converging with men's

FRANK P. STAFFORD

Does the work history of a married woman primarily reflect her own voluntary choices between market work and other time uses, or is her work history largely the consequence of culturally prescribed differences in the household division of labor reinforced by low wages and tax considerations?

The probability of married women working has increased, but official statistics may be overstating the extent they work, particularly in terms of hours per week. This can be seen in table 1, where time diary estimates indicate a 22.7-percent decline between 1965 and 1975 in market hours of married women who worked at least 10 hours per week. The drop in hours per working married woman is sufficient to offset the increased participation rates so that, overall, married women have *decreased* their hours of employment by an estimated 2.2 percent. If work provides on-the-job training, one would still expect the earnings of married men and women to converge in the future because married men have decreased their hours of employment at a faster rate than married women, by 10.8 percent between 1965 and 1975. This includes declines associated with falling participation rates, as well as falling hours per week of those working.[1]

Unmarried women increased their labor market hours via an increased labor force participation rate and a modest increase in hours. Coupled with the growth in the number of unmarried women (partly the consequence of increased divorce rates), this means that, overall, women's hours of market work continue to approach those of men.

Research has shown that some women are more likely to stay in the labor market and others to remain at home.[2] Even when preschool children are in the household, married women, particularly those with a college education, are likely to work a good deal of the time. This does not appear to threaten the quality of child care or child-related housework: college-educated, working mothers tend to have fewer children and to meet their responsibilities by reducing their sleep and passive leisure, such as TV viewing. Working women can expect some help with child care and housework from their husbands, though the time involved is small relative to their own time. Full sharing of these responsibilities is rare.

Not only has market participation of men and women tended toward equality, but their leisure lifestyles and other nonmarket activities have also become more equal, as can be seen in table 2. Working women have decreased their time to housework, while working men have increased their housework time slightly. Among

Table 1. Estimates of weekly hours at work by sex and marital status, 1965–76

Sex and marital status	Time diary estimates for those working[1]					
	Normal work			Travel to work		
	1965	1975	Percent change	1965	1975	Percent change
Married men	44.7	41.3	−7.6	5.0	4.5	−10.0
Unmarried men	46.0	35.2	−23.5	3.9	4.4	+12.8
All men	44.9	39.9	−11.1	4.8	4.2	−12.5
Married women	34.3	26.5	−22.7	3.2	2.3	−28.1
Unmarried women	34.9	35.6	+2.0	3.6	3.7	+2.8
All women	34.6	30.8	−11.0	3.4	2.9	−14.7
	Current Population Survey estimates					
	Hours worked last week			Participation rates		
	1965	1975	Percent change	1965	1976	Percent change
Married men[2]	[3]44.2	[3]42.9	−2.9	[3]95.5	[4]92.2	−3.5
Married women[2]	[3]34.5	[3]34.0	−1.4	[3]38.7	[4]49.0	26.6
Men, 20 to 64 years	43.9	42.6	−3.0	[3]94.6	[5]92.2	−2.5
Women, 20 to 64 years	35.7	35.0	−2.0	[3]51.7	58.5	13.2

[1] From the national time-use surveys conducted by the Survey Research Center of the University of Michigan. Hours of normal work were defined to include regular work for pay outside the home or brought home, overtime, waiting, or interruption during worktime (for example, machine breakdown), and coffee breaks. Data are weighted using day of the week as a stratification variable, and are available only for those reporting at least 10 hours per week in the labor market.

[2] Married, spouse present.

[3] November.

[4] May.

[5] April.

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Table 2. Time use of men and women by minutes per day at work and at home, 1965 and 1975[1]

Sex and marital status	Labor market time[2]								Work at home								Total work time	
	Total[3]		Main job		Second job		Travel to work		Housework		Household repairs, upkeep, gardening		Child care		Shopping, financial			
	1965	1975	1965	1975	1965	1975	1965	1975	1965	1975	1965	1975	1965	1975	1965	1975	1965	1975
Average	409	367	350	316	7	3	37	33	76	64	8	13	19	19	47	40	559	503
Married men	451	428	383	365	9	7	43	40	23	25	13	18	17	15	44	37	548	523
Unmarried men	454	353	394	309	8	2	33	34	37	38	2	10	5	5	36	29	534	435
Married women	337	276	294	242	2	0	28	21	181	143	4	10	29	31	51	55	602	515
Unmarried women	350	353	300	305	5	0	31	32	121	89	2	7	19	27	56	41	548	517

Sex and marital status	Personal care		Education		Organizations		Social events		Active leisure		Passive leisure				Total nonwork time		Sample size[4]	
											TV viewing		Other activities					
	1965	1975	1965	1975	1965	1975	1965	1975	1965	1975	1965	1975	1965	1975	1965	1975	1965	1975
Average	647	662	11	20	16	15	39	34	24	34	84	117	60	55	881	937	864	557
Married men	639	642	10	18	16	15	35	29	26	31	103	132	62	51	891	918	448	248
Unmarried men	636	667	20	34	15	12	76	48	27	59	73	118	57	66	904	1,004	73	86
Married women	652	685	4	7	9	16	30	35	23	24	59	105	62	53	839	925	190	119
Unmarried women	671	684	17	20	23	10	46	36	16	24	66	94	54	55	893	923	152	104

[1] From the national time-use surveys conducted by the Survey Research Center of the University of Michigan.

[2] Labor market participation was defined by 10 or more hours of work per week.

[3] Including time at lunch.

[4] Subgroup sample sizes may not add to totals due to missing data.

working adults, total market and nonmarket work of married women and men has become quite similar. In contrast, during 1965, the total worktime of married women who were employed was substantially greater than that of married men (602 minutes per day compared to 548). Total leisure time of married women has increased and they have begun to approach married men in time spent TV viewing (105 minutes per day compared to 132).

From these data and other labor market studies, it can be concluded that women's and men's time uses are converging. Though the market worktime estimates for women are lower than the official statistics, the latter have understated the decline in men's work hours, and time-use data for 1965–75 indicate a larger decline in men's hours of market work than recorded in the Current Population Survey. Employment figures for highly educated women with preschool children suggest that there is now a greater awareness of the "full shadow value" of worktime early in the life cycle. The full shadow value includes the current wage, and the discounted value of on-the-job training acquired through labor force participation. As a result, the sacrifice of sleep and TV viewing to pursue both child care and labor market goals may be worth it, even though it implies short-run stress.

Response to preschool children

The pattern of high levels of labor market activity by college-educated women with preschool children is not observed historically. Based on analysis of 1960 census data, Arleen Liebowitz concluded that market time is usually greater the higher the level of a woman's schooling, except when preschool children are present, and then hours of highly educated and less educated women are similar.[3] Our results imply a change during the last 10 to 15 years in the market response to preschool children by college-educated women relative to other women; namely, despite a high level of per child care time, market hours are now reduced less per child by college-educated women than by high-school educated women. Our research also indicated that the amount of help by the husband, in either the form of child care or housework, is still minor.[4]

In our social security system, married women who work receive as an incremental benefit only the benefits which exceed what they could claim as a dependent. Because a woman usually earns less than her husband, the marginal discounted benefit gain from labor market activity is very small, relative to the present value of tax contributions.[5] Under the Federal income tax system, married women who work are taxed at the marginal rate applicable to the husband's earnings. In Sweden, by comparison, married individuals are taxed under the same schedule as single persons. The zero marginal tax rate on the first labor market earnings creates a larger substitution effect toward market work, while the progressive tax structure, by lowering the husband's after-tax earnings, results in a smaller income effect toward the wife's leisure.

In Sweden, many working women hold part-time jobs, perhaps because tax progression sets in rapidly there, and the after-tax payoff to longer hours declines. These tax effects toward a shorter workweek need not greatly depress part-time wages. An increased supply of part-time workers may keep wage rates high, and supply would then create its own demand.[6] If there are enough part-time job seekers, the full price of their services to firms, which includes the wage and search costs, will be partially decreased via reduced search costs. Firms will then have the incentive to restructure their work schedules to make better use of these workers, and as a result the market equilibrium wage-hours will be less hours dependent.[7]

While the current U.S. income tax policy can be argued as "unfair" to families who derive a large share of their economic well-being through market activity, a Swedish-style tax law can be regarded, by comparison, as "unfair" to the division of labor households.[8] Therefore, as a conceptual matter, the unfairness of the current policy could be remedied by taxing imputed income on nonmarket activity, rather than adopting a Swedish-style tax law. As a practical matter, taxing imputed income would be difficult due to valuation and because it is difficult to demand cash from a household activity which generates in-kind flows, if total family market income is low. As a possible solution, lowering taxes on market income is an easier way to achieve equity, but certainly this would provide redistributive gains to multiple-earner families and would further increase their number. On "fairness" grounds, the case for the Swedish-style system is stronger if the tax law is more progressive, and progressive taxes can be viewed as a policy which adversely affects multiple-earner families. Also, the political popularity of ceilings on the rate of taxation of labor market income is partly the *consequence* of the growth of multiple-earner families. ☐

FOOTNOTES

One caveat is that the 1975–76 study coincides with a recession. It could be that some of the 1965–75/76 changes in table 1 reflect business cycle effects. Suppose the difference between actual hours at work and contracted hours at work is greater during recessions, but that respondents tend to report normal or contractual hours when hours are measured by direct questioning, rather than time diaries.

[2] James Heckman and Robert Willis, "A Beta Logistic Model for the Analysis of Sequential Labor Force Participation by Married Women," *Journal of Political Economy*, February 1977, pp. 27–58, and C. R. Hill and Frank P. Stafford, "Lifetime Fertility, Child Care, and Labor Supply," mimeo, September 1979.

[3] Arleen Liebowitz, "Education and Home Production," *American Economic Review*, May 1974, pp. 243–50.

[4] C. Russell Hill and Frank P. Stafford, "Parental Care of Children: Time Diary Estimates of Quantity Predictability and Variety," *Journal of Human Resources*, spring 1980, pp. 219–39.

[5] Nancy M. Gordon, "Institutional Responses: The Social Security System," and "Institutional Responses: The Federal Income Tax System," in Ralph E. Smith, ed., *The Subtle Revolution: Women Who Work* (Washington, D.C., The Urban Institute, 1979), pp. 223–55.

[6] Proposed by my colleague, Paul Courant.

[7] See Harvey Rosen, "Taxes in a Labor Supply Model with Joint Wage-Hours Determination," *Econometrica*, May 1976, pp. 485–507, for a discussion of the market equilibrium wage-hours locus.

[8] By Swedish style, I mean the adoption of individual earner status for married individuals, but not necessarily the adoption of the extent of progressivity. In Sweden, the 82-percent marginal tax rate is reached at an annual income level equivalent to about $20,000. By division of labor, I mean specialization by one spouse to market activity and specialization by the other spouse to nonmarket activity.

Occupational earnings in electric and gas utilities

Average straight-time hourly earnings in privately operated electric and gas utility systems ranged from $10.81 for watch engineers to $5.02 for janitors, according to a February 1978 survey conducted by the Bureau of Labor Statistics. This represents a 45 to 55 percent increase in earnings since a similar survey in November 1972. The increase compares with a 47-percent rise in average hourly earnings of all workers in the private nonfarm sector, as measured by the Bureau's hourly earnings index.

Fifty-six physical (plant) worker occupations, virtually all staffed by men, were studied in 1978. The most populous job class, journeyman line workers, averaged $8.58 per hour. Twenty-four office clerical classifications, predominantly held by women, and 19 professional and technical categories studied had average hourly earnings ranging from $10.96 for class A systems analysts, working independently or under general supervision, to $3.93 for messengers. Class B accounting clerks, numerically the largest white-collar job class, averaged $5.08 per hour.

Of the nearly 500,000 nonsupervisory workers covered by the survey, the Great Lakes and Middle Atlantic regions accounted for about 20 percent each; the Southwest, 14 percent; the Southeast, 13 percent; and the remaining regions, 10 percent or fewer. All utility systems included in the study had 100 workers or more. Of the survey's nonsupervisory workers, more than nine-tenths were in utility systems that employed at least 500 workers.

Average hourly earnings were generally highest in the Pacific States and lowest in the Southwest region. For the physical and professional/technical groups, pay levels in the highest-paying region exceeded those for the lowest paying region by about 25 percent; for office clerical workers, the corresponding pay spread was approximately 33 percent. Differences in pay levels among regions were usually greater for lower paid occupations than for relatively higher paid jobs—a trend common to BLS wage surveys.

Employees were paid mainly on a time-rated basis, typically incorporating ranges of rates for specified occupations. Almost four-fifths of the physical workers, and more than one-third of the office clerical workers, were employed by utility systems with labor-management agreements (union contracts). The major union for both groups was the International Brotherhood of Electrical Workers (AFL-CIO).

Paid holidays and vacations were provided to nearly all employees, along with eligibility for cost-sharing health, medical, and retirement plans. An employer frequently provided 9 to 12 paid holidays per year. Vacations with pay ranged from 2 to 5 weeks annually, depending on length of service.

A comprehensive report, *Industry Wage Survey: Electric and Gas Utilities, February 1978,* (BLS Bulletin 2040), is available from the Bureau or any of its regional offices. ☐

Wages and tips in hotels and motels

Tips contributed substantially to the earnings of employees in a number of hotel and motel occupations, particularly of those paid comparatively low wages, such as customer lodging attendants, and waiters and waitresses, according to a May 1978 Bureau of Labor Statistics survey of 24 areas.[1] Table waiters and waitresses employed in full-course restaurants, for example, typically received lower wages than their assistants. However, their total hourly earnings were considerably higher when tips are included. (See table 1.)

Tipped occupations. Tips constituted a significantly high proportion of total hourly earnings for waiters and waitresses, customer lodging attendants, and bartenders who directly serve the public, than for employees with little or no direct contact with customers, such as service bartenders, and waiters' and waitresses' assistants. In 4 of the 5 categories of waiters and waitresses having personal contact with customers, tips accounted for at least 50 percent of the workers' total earnings in a majority of the 23 areas for which comparisons could be made.

In contrast, tips for service bartenders, and waiters' and waitresses' assistants in full-course restaurants where tips are often shared, usually averaged less than 25 percent of total hourly earnings. Customer lodging attendants received between 40 and 60 percent of their earnings from tips in 16 of the 23 areas compared.

Among occupations where tips are important wages for both public and service bartenders averaged at least $3 an hour in most areas; for customer lodging attendants, and waiters' and waitresses' assistants, between $1.75 and $3; and for waiters and waitresses, less than $2 an hour. The Fair Labor Standards Act permits tips up to 50 percent of the minimum wage and the reasonable cost of board and lodging to be credited against the Federal minimum wage.[2]

Table 1. Average hourly earnings and employer-paid wages for workers in selected occupations in hotels and motels, 24 areas, May 1978

Region and metropolitan area	Waiters and waitresses, full-course restaurants		Waiters' and waitresses' assistants, full-course restaurants	
	Earnings [1]	Wages [2]	Earnings [1]	Wages [2]
Northeast				
Boston	$5.12	$1.72	$3.69	$2.67
Buffalo	4.48	1.84	3.14	2.04
New York	4.59	2.14	3.47	2.67
Philadelphia	4.44	1.61	2.91	2.23
Pittsburgh	3.06	1.56	2.83	2.28
South				
Atlanta	4.60	1.52	2.79	2.69
Dallas-Fort Worth	3.27	1.44	2.68	2.67
Houston	4.96	1.43	2.81	2.66
Memphis	3.80	1.53	2.87	2.71
Miami	4.12	1.62	3.16	2.09
New Orleans	4.41	1.54	2.74	2.22
Washington	5.15	1.82	3.39	2.96
North Central				
Chicago	2.89	1.91	2.53	2.32
Cincinnati	3.28	1.49	2.75	2.24
Cleveland	3.46	1.45	2.86	2.52
Detroit	3.89	2.47	2.97	2.83
Kansas City	5.33	1.81	3.31	2.61
Minneapolis-St. Paul	3.85	2.06	3.08	3.01
St. Louis	4.72	1.54	2.91	1.97
West				
Denver-Boulder	4.75	1.54	3.24	2.53
Las Vegas	(3)	3.27	(3)	3.52
Los Angeles-Long Beach	5.49	2.50	3.12	2.52
Portland	5.43	2.68	3.18	2.64
San Francisco-Oakland	8.23	3.15	5.74	3.16

[1] Refers to employer-paid wages plus estimated average hourly customer tips.

[2] Refers to employer-paid straight-time wages, excluding premium pay for overtime and for work on weekends, holidays, and late shifts; also excluded are tips and the value of free rooms, meals, and uniforms, and nonproduction payments, such as Christmas and yearend bonuses.

[3] Information on tips was not available.

Nontipped occupations. For nontipped occupations, stationary engineers were among the highest paid, ranging hourly from $9.66 in Las Vegas to $4.67 in Miami. General maintenance mechanics and second cooks averaged between $4 and $6 an hour in most of the 24 areas.

In May 1978, occupational pay levels for nonoffice, nonsupervisory workers in the hotel and motel industry were usually highest in Las Vegas, followed closely by New York and San Francisco. Lowest averages among the occupational categories generally were found in Buffalo, Miami, and St. Louis.

Most hotels and motels provided paid holidays, typically 6 to 8 days annually, and paid vacations after specified periods of service. Life, hospitalization, surgical, and basic medical insurance were available to at least 70 percent of workers in most of the 24 areas. Retirement pension plans (other than Federal social security) applied to at least half of the workers in 14 areas.

A comprehensive report, *Industry Wage Survey: Hotels and Motels, May 1978,* BLS Bulletin 2055 is for sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. ☐

FOOTNOTES

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[1] The survey covered commercial establishments, known to the public as hotels, motel-hotels, motels, and tourist courts, which primarily provide lodging or lodging and meals, for the general public. It covered establishments that operate at least nine months a year, and employ at least 20 workers. In May 1978, the 1,850 surveyed establishments employed about 188,200 nonoffice, nonsupervisory workers. Information on "wages" relates to employer-paid straight-time wages, excluding premium pay for overtime and for work on weekends, holidays, and late shifts. Also excluded are tips, and the value of free rooms, meals, and uniforms, and nonproduction payments such as Christmas and yearend bonuses. "Earnings," on the other hand, refer to employer-paid wages plus estimates of customer tips.

[2] At the time of this study, the applicable minimum wage was $2.65 per hour. The current minimum wage is $3.10 per hour.

Building wage gains accelerate in 1978–79

Following 2 years of smaller increases, hourly wage rates of union building trades members in large cities rose by an average of 6.9 percent between July 3, 1978 and July 2, 1979. These findings are based on the Bureau of Labor Statistics annual studies of cities with populations of 100,000 or more.[1] The increase raised the Bureau's index of union building trades wage rates to 239.9 (1967 = 100). Average annual wage increases for union building trades fluctuated widely during the 1970's, which witnessed a period of wage and price controls early in the decade, as well as varying levels of both union and nonunion construction activity. (See table 1.)

Among the 25 journeyman trades studied, machinists reported the largest average increase, 11.5 percent, and elevator constructors, the smallest, 4.8 percent. Carpenters, the largest occupational group, averaged a 6.8-percent rise, while the rate for building laborers, the predominant job among the nine helper and laborer classifications measured, advanced 7.3 percent.

Table 1. Hourly wage rate increases for union building trades by year, 1969–79

[In percent]

Year	All building trades	Journeyman trades	Helpers and laborers
July to July:			
1969–70	11.6	11.4	12.5
1970–71	11.8	11.6	12.7
1971–72	6.4	6.6	5.4
1972–73	5.0	4.8	5.7
1973–74	7.8	7.6	9.1
1974–75	8.6	8.7	8.0
1975–76	6.5	6.5	6.6
1976–77	5.9	5.8	6.4
1977–78	5.7	5.7	5.8
1978–79	6.9	6.9	6.9

The highest regional increases during the 1978–79 period were reported in the Mountain States, 7.9 percent, and the Great Lakes, 7.8 percent. The latter region had the largest number of union building trades members. Outside of the Pacific States, 7.3 percent, increases in the remaining six regions were in the 6.0 to 6.2 percent range.

On July 2, 1979, hourly wage rates for all journeyman trades averaged $11.81, and for helpers and laborers, $9.15. The middle half of the wage rate array, excluding the upper and lower fourths, ranged from $10.99 to $12.68 per hour for journeymen, and from $8.52 to $10.11 per hour for helpers and laborers.

Regionally, average wage rates for journeymen were highest in the Pacific States, $12.73, and lowest in the Southeast, $10.20. Averages for helpers and laborers were also lowest in the Southeast, $6.89, and were highest in the Great Lakes States, $9.94.

Although less important than location, city population size also seemed to be related to average wage rates.[2] Journeymen in cities of at least 1 million inhabitants, for example, averaged 3 percent more per hour, or $12.28, than the $11.97 average of their counterparts in cities of 500,000 to 1 million; 6 percent more than the $11.62 average in cities of 250,000 to 500,000; and 8 percent more than the $11.36 average in cities of 100,000 to 250,000. There was, however, considerable variation among cities and individual trades in the same region and size group.

Employee benefits raised the journeymen's average to $14.59 and that of helpers and laborers to $11.26.[3] The proportion of employer contributions for these selected benefits to the basic wage-plus-benefit package has increased steadily during the 1970's, from about 10 percent in 1969 to nearly 20 percent in 1979.

On request, the Bureau or any of its regional offices will provide listings of union wage rates and employer payments for selected benefit funds, for each of the 66 cities studied, and for the Nation as a whole. A bulletin providing national, regional, and city averages, and wage trend data for each year since 1907 is in preparation. ☐

FOOTNOTES

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[1] The survey was designed to reflect union wage rates in the 153 cities having 100,000 inhabitants or more, according to the 1970 Census of Population. Data were obtained from local union officials in 66 sample cities, by mail questionnaire, telephone, or personal interview by BLS field representatives.

Union wage rates are the basic (minimum) wage rates (excluding holiday, vacation, or other benefit payments made or regularly credited to the employee) agreed upon through collective bargaining between employers and unions. Averages do not include rates for apprentices or premium rates for overtime, or for work on weekends, holidays, or late shifts. Thus, they do not represent total hourly earnings of organized building trades workers.

[2] For a detailed discussion of the relative importance of city size and location in determining union building trade wage rates, see

Mark Sieling, "Union wage rates in building trades," *Monthly Labor Review*, July 1976.

[3] Data were collected on employer contributions to insurance (life, hospitalization, medical, surgical, and other similar types of health and welfare programs); pension funds; vacation payments; supplemental unemployment insurance; savings funds; and paid holidays, as provided for in labor-management contracts. In actual practice some employer payments are calculated on the bases of a negotiated rate, total hours worked, or gross payroll. Some contracts also provide for additional payments to other funds as for education and promotion; information on payments to these funds was not included in the survey averages.

Wage structure in steel mills narrows during 70's

The occupational pay structure in basic steel mills narrowed substantially during the 1970's, according to Bureau of Labor Statistics wage surveys, primarily because of uniform cents per hour wage increases for steelworkers, mostly those covered by labor-management contracts and paid under a common job evaluation system.

Between the last survey in February 1978, and May 1980, when the new master agreement became effective,[1] basic hourly wage rates for union workers rose 25 to 30 percent, depending on job class. The 27-month increase under both the old and new contracts included general wage advances of 55 cents per hour and cost-of-living adjustments totaling $1.47 per hour. Table 1 illustrates the narrowing such increases have had on the basic wage scales for selected occupations during the past 8 years. Scales for tandem-mill rollers, for example, were 44 percent above those of laborers in May 1980, compared with 80 percent in the September 1972 survey.

Table 1. Basic hourly wage scales and pay relatives for workers in selected occupations in steel mills with common job evaluation and pay systems[1]

Occupation	Typical job class	Basic wage scales[2]			Pay relatives[3]		
		Sept. 1972	Feb. 1978	May 1980	Sept. 1972	Feb. 1978	May 1980
Laborers	1	$3.520	$6.705	$8.725	100	100	100
Chargers (bar mills)	6	3.896	7.149	9.233	111	107	106
Locomotive engineers	11	4.366	7.704	9.868	124	115	113
Millwrights	16	4.836	8.259	10.503	137	123	120
First helpers (open hearth)	27	5.870	9.480	11.900	167	141	136
Tandem-mill rollers	32	6.340	10.035	12.535	180	154	144

[1] Includes establishments under common job evaluation and pay system, that is, with the same minimum hourly rates ($6.705 an hour) and the same increment (11.1 cents) between job classes.

[2] Includes cost-of-living adjustments.

[3] Basic wage scales of laborers = 100.

Narrower earnings also exist among individual workers in the industry, even though most are under incentive pay plans. The dispersion of earnings that commonly results from such plans was dampened substantially in recent years because most wage advances were not incorporated into the rates used for incentive calculations. For example, the incentive calculation rates for a job-class 9 locomotive craneman were nearly three-fourths of the basic hourly rate in 1972, compared to one-half in 1980. The overall industry compression can be measured by the relative index of wage dispersion, which declined from 24 in 1972 to 18 in 1978, one of the lowest figures for manufacturing industries studied by the Bureau.[2]

The primary reason for the concentration of earnings is the degree of uniformity built into the nationwide job evaluation system, applying to a large majority of the workers.[3] Slightly more than two-thirds of production workers were employed in establishments using a common job evaluation system, which has the same minimum rate and increment between job classes or labor grades. Under this system, all occupational classifications are assigned point values on the basis of factors such as experience, skill, responsibility, effort, and working conditions. These point values in turn, are related to one of the 34 established job classes.

At the least nine-tenths of production workers were in mills that provided various types of health and insurance benefits, pension plans, supplemental unemployment benefits, 11 paid holidays, regular paid vacations (up to 5 weeks after 25 years), and extended benefits every 5 years, that can bring total vacation pay to 14 weeks for "senior" personnel.

Slightly over one-fourth of the work force was employed on second shifts, and just over one-fifth, on third shifts. Pay differential for such shifts are 30 cents for evening and 45 cents for nightwork.

A summary of these findings was issued earlier and copies are available upon request from the Bureau of Labor Statistics or any of its regional offices. A comprehensive bulletin, *Industry Wage Survey: Basic Iron and Steel, 1978–79*, BLS Bulletin 2064, is also available. ☐

FOOTNOTES

[1] See May 1980 *Monthly Labor Review* for summary of provisions in the new basic steel agreements.

[2] The dispersion index is computed by dividing the difference between the first and third quartiles in the earnings array by the median.

[3] See "Incentive pay patterns in the steel industry," *Monthly Labor Review*, August 1974, pp. 75–77.

Significant Decisions In Labor Cases

Supreme Court opens new term

On the opening day of its 1980–81 term, the Supreme Court agreed to review a lower court decision upholding the government standard limiting worker exposure to cotton dust.[1] Challenged by the textile industry as unreasonable and too costly, the Occupational Safety and Health Administration standard was ruled valid by the District of Columbia Circuit Court of Appeals, which found it technologically and economically feasible. The court reasoned that the cost of implementing an OSHA standard is feasible as long as the industry is not confronted with massive economic dislocation. This conflicts with interpretations of the Fifth, Sixth, and Seventh Circuits that some cost/benefit approach must be used to justify standards.[2]

The cotton dust case presents the first opportunity for the High Court to clarify the constraints on OSHA's regulatory authority[3] since striking down the agency's attempt to reduce worker exposure to benzene last term.[4] In the benzene case, the Court made clear that all OSHA standards must be "reasonably necessary" to remedy a "significant risk" to workers' health or safety. In ruling that the benzene standard failed to meet this criterion, the Court's split opinion revealed that "substantial proof" is required to identify a "significant risk" and suggested that the economic relationship between costs and benefits also should play some role in determining when a standard is reasonably necessary. Thus, a decision on the cotton dust standard should help clarify OSHA's burden of proof in setting workplace health and safety regulations and should settle other questions concerning the agency's options for implementing standards.

On opening day, the Court also agreed to decide whether a worker's right to file suit under the Fair Labor Standards Act remains intact following contractual grievance proceedings on the same claim.[5] In 1974, the Court ruled that initial resort to contractual grievance procedures to settle a workplace discrimination claim does not forfeit a worker's right to seek redress of the same claim under Title VII of the 1964 Civil Rights Act.[6]

In other opening-day action, the High Court summarily dismissed the appeals of lower court rulings that approved the voluntary use of racial quotas by a public employer and that upheld the constitutionality of a Federal requirement that State unemployment compensation laws cover all employees of State and local governments. The Court refused to review 72 other labor and labor-related cases on appeal from various lower courts. Unless four of the nine justices vote to review a case, review is denied, leaving the lower court ruling in effect.[7]

Quota questions

A public employer's use of voluntary racial quotas in hiring and promotion to remedy the effects of specifically identified discrimination was approved by the California Supreme Court in *Sacramento County Civil Service Commission*.[8] The California court pointed to portions of the Supreme Court's *Bakke* and *Weber* decisions[9] in reasoning that the temporary quotas, adopted after administrative proceedings had identified the effects of the county's discriminatory employment practices, do not violate Title VII of the 1964 Civil Rights Act or the equal protection guarantees of either State or Federal Constitutions. The California decision occurred before the Supreme Court ruled last term that Congress could remedy prior discrimination by imposing racial and ethnic quotas in allocating Federal money.[10] By dismissing the appeal of the California ruling, the Court permitted what amounts to an extension of the remedial authority used by Congress in *Fullilove* to public employers in California.

The constitutionality of preference schemes might be further clarified by another case from California the High Court has already agreed to review.[11] The California Department of Corrections adopted an affirmative action program that called for goals in the employment of women and minorities. The corrections department contended that such a program was necessary to ease tensions between employees and inmates. But white employees alleged that the department actually reserved job slots for women and minorities and that prior discrimination had not been established, violating the criteria for voluntary affirmative action programs established by the Supreme Court. The California Supreme Court refused to review a ruling by the California Court of Appeals that the corrections department's plan fell

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"Significant Decisions in Labor Cases" is written by Gregory J. Mounts of the *Monthly Labor Review* staff.

within the boundaries set by the High Court's *Bakke* decision.

A Supreme Court Ruling in the California case could answer questions about what evidence of prior discrimination is necessary to sanction a voluntary affirmative action program, whether the safe and efficient operation of correctional facilities justifies certain percentages of women and minorities in the work force, and if such employment goals are permissible what reference group should be used to establish the target proportions.

The Court could soon act on appeals in two other cases that would also clarify the authority of public employers to utilize minority preference schemes. Both the Sixth Circuit and the Washington Supreme Court have approved the use of racial preference schemes by municipal employers which had first identified the effects of prior discrimination.[12]

States' rights, union duties

The Federal Unemployment Tax Act sets *voluntary* conditions for the application of State unemployment compensation laws. However, for private employers to obtain Federal tax credits in proportion to their payment to the State compensation program, the State law *must* conform to Federal requirements. One such requirement since 1976 extended coverage to all State and local government employees. Refusing to comply, New Hampshire challenged the consitutionality of the requirement, claiming that it involved the same impairment of State sovereignty disallowed by the Supreme Court in *National League of Cities.*[13] The First Circuit ruled that the voluntary nature of the Federal requirement for unemployment compensation coverage bore no similarity to the mandatory minimum wage issue raised in *National League of Cities* and therefore it did not violate the Constitution.[14] The Supreme Court dismissed New Hampshire's appeal of the First Circuit's ruling and denied review to an appeal of a similar decision by the District of Columbia appeals court in a case brought by the County of Los Angeles.[15]

The Supreme Court also refused to review a January 1980 ruling by the Eighth Circuit that a union breached its duty of fair representation when it processed the grievances of unsuccessful job bidders and failed to represent the less senior workers actually promoted.[16] The employer had promoted the less senior workers under contract language that permitted "skill and ability" to outweigh seniority in such decisions. After arbitration, the promotions were awarded to the more senior workers, and the union refused to process the grievances of those demoted. The appeals court ruled that, even though the union's policy of processing grievances on the basis of seniority was conducted in good faith, it illegally discriminated against employees promoted on the basis of merit. The court reasoned that such a practice may significantly alter the negotiated contract by challenging only those promotion decisions that are based on merit. The decision limits union discretion in using classifications such as seniority to select which grievances to process. □

FOOTNOTES

[1] *American Textile Manufacturers Institute, Inc. v. Marshall,* 48 U.S.L.W. 2311 (D.C. Cir., Oct. 24, 1979), review granted 49 U.S.L.W. 3208 (U.S., Oct. 7, 1980).

[2] *American Iron and Steel Institute v. OSHA,* 581 F.2d 493 (5th Cir., 1978); *RMI Co. v. Sec. of Labor,* 594 F.2d 566 (6th Cir., 1979); and *Turner Co. v. Sec. of Labor,* 561 F.2d 82 (7th Cir., 1977).

[3] The Court had agreed last term to rule on an industry challenge to OSHA's coke oven emissions standard. *American Iron and Steel Institute v. OSHA,* 577 F.2d 825 (3d Cir., 1978), review granted, 48 U.S.L.W. 3855 (U.S., July 2, 1980), but on Sept. 16, 1980 the industry withdrew its appeal of the Third Circuit's ruling upholding the regulation (49 U.S.L.W. 3145). Industry spokespersons cited the fact that substantial compliance had been achieved with the emission standard during the years of litigation and that the Court's 1980 ruling on OSHA's benzene standard (see footnote 4) achieved their goal of a more balanced regulatory environment.

[4] *Industrial Union Dept., AFL–CIO v. American Petroleum Institute,* 48 U.S.L.W. 5022 (U.S., July 2, 1980), see *Monthly Labor Review,* September 1980, pp. 53–54.

[5] *Barrentine v. Arkansas-Best Freight System, Inc.* 615 F.2d 1194 (8th Cir., Feb. 20, 1980), review granted 49 U.S.L.W. 3209 (U.S., Oct. 7, 1980).

[6] *Alexander v. Gardner-Denver Co.* 415 U.S. 36 (1974), see *Monthly Labor Review,* March 1975, pp. 46–48, and Apr. 1975, pp. 69–70.

[7] Denial of review does not technically affirm lower court holdings because the Supreme Court is free to alter them by ruling in other cases raising the same issues.

[8] *District Atty. Sacramento County v. Sacramento County Civil Serv. Comm.,* 48 U.S.L.W. 2538 (Cal. Sup. Ct., Jan. 25, 1980), cert. dismissed, 49 U.S.L.W. 3213 (U.S., Oct. 7, 1980).

[9] *Regents of the University of California v. Bakke,* 438 U.S. 265 (1978); see *Monthly Labor Review,* July 1978, p. 46; *and Steelworkers v. Weber,* 443 U.S. 193 (1979), see *Monthly Labor Review,* August 1979, pp. 56–57.

[10] *Fullilove v. Klutznick,* 48 U.S.L.W. 4979 (U.S., July 2, 1980), see *Monthly Labor Review,* Sept. 1980, pp. 54–56.

[11] *Minnick v. California Department of Corrections,* 48 U.S.L.W. 2128 (Cal. Ct. App., 1979), review granted, 48 U.S.L.W. 3855 (U.S., July 2, 1980).

[12] *Detroit Police Officers' Assoc. v. Young,* 608 F.2d 671 (6th Cir., 1979); and *Maehren v. City of Seattle,* 20 FEP 854 (Wash. Sup. Ct., 1979).

[13] *National League of Cities v. Usery,* 426 U.S. 833 (1976).

[14] *State of New Hampshire, Dept. of Employment Security v. Marshall,* 616 F.2d 240 (1st Cir., Feb. 20, 1980), appeal dismissed 49 U.S.L.W. 3214 (U.S., Oct. 7, 1980).

[15] *Los Angeles County v. Marshall* (D.C. Cir., Mar. 19, 1980), review denied, 49 U.S.L.W. 3240 (U.S., Oct. 7, 1980).

[16] *Steelworkers, Local 13889 v. Smith,* 48 U.S.L.W. 2505 (8th Cir., 1980), review denied, 49 U.S.L.W. 3230 (U.S., Oct. 7, 1980).

Major Agreements Expiring Next Month

This list of collective bargaining agreements expiring in January is based on contracts on file in the Bureau's Office of Wages and Industrial Relations. The list includes agreements covering 1,000 workers or more.

Employer and location	Industry	Union[1]	Number of workers
Aldens, Inc. (Chicago, Ill.)	Retail trade	Teamsters (Ind.)	1,900
American Home Foods, Inc., Chef Boy-ar-dee Division (Milton, Pa.)	Food products	Food and Commercial Workers	1,300
American National Insurance Co. (Galveston, Tex.)	Insurance	Insurance Workers	3,850
Bryant Packing Co. (West Point, Mass.)	Food products	Food and Commercial Workers	1,200
Building Trades Employers Association Cement League and Building Contractors Association (New York, N.Y.)	Construction	Plasterers and Cement Masons	1,600
Corning Glass Works (Corning, N.Y.)	Stone, clay, and glass products	Flint Glass Workers	4,000
Del Monte Corp., Midwest Division (Illinois)	Food products	Retail, Wholesale and Department Store	1,450
Dow Jones and Co., Inc. (Interstate)	Printing and publishing	Independent Association of Publishers Employees, Inc. (Ind.)	1,100
Honeywell, Inc. (Minneapolis and St. Paul, Minn.)	Instruments	Teamsters (Ind.)	8,000
Kroger Co., Houston Division (Texas)	Retail trade	Food and Commercial Workers	2,400
Movers Association of Greater Chicago, Individual Employer (Illinois)	Trucking	Teamsters (Ind.)	1,000
Philadelphia Food Store Employer Labor Council (Pennsylvania)	Retail trade	Food and Commercial Workers	6,500
Shell Oil Co., Shell Chemical Co. (Houston, Tex.)	Petroleum	Oil, Chemical and Atomic Workers	2,250
Supermarkets, 6 companies (Georgia and Tennessee)[2]	Retail trade	Food and Commercial Workers	1,600
	Government activity	Employee organization[1]	
Michigan: Detroit Public Schools Custodial-Maintenance-Transportation Employees	Education	American Federation of State, County and Municipal Employees	2,400

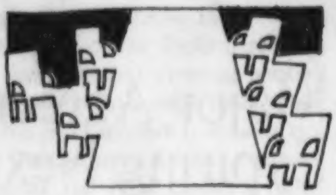
[1] Affiliated with AFL-CIO except where noted as independent (Ind.).

[2] Industry area (group of companies signing same contract).

Erratum

In George Iden's August 1980 article, "The labor force experience of black youth: a review," a typographical error resulted in the omission of a minus sign from two of the coefficients in the first column of table 3, page 13.

Developments in Industrial Relations



Stevens, Clothing Workers sign first agreement

J. P. Stevens & Co. and the Amalgamated Clothing and Textile Workers signed their first collective bargaining agreement, thereby easing one of the longest and most bitter confrontations in the history of labor-management relations in the United States. The agreement covers only 3,500 workers at 10 plants, but Stevens agreed to accept similar terms at any of its other plants that the union is able to organize within 18 months. However, during this period, the union agreed to give up its court-granted right to use company facilities for organizing purposes. J. P. Stevens, the second largest textile company in the industry, has a total of 70 plants and 44,000 workers.

AFL-CIO President Lane Kirkland called the victory "a tremendous forward step for the textile and apparel workers of the South." Clothing and Textile Workers' President Murray H. Finley, referring to the company claims that the union made the most significant concessions to attain the settlement, said his union "looks forward to more [such] victories by Stevens."

Whitney Stevens, chairman and chief executive officer of the company, said the settlement means that the union will no longer single out J. P. Stevens as its primary target. He claimed that the agreement would not spur unionization because, "people in the South basically don't care for unions," and acknowledged that the company plans to continue to resist organizing efforts in its nonunion plants.

Seven of the 10 plants involved in the settlement are located in Roanoke Rapids, N.C., and employ 3,000 of the covered workers. In 1974, the National Labor Relations Board had certified the results of a representation election the union had won earlier that year at the seven plants. Subsequent years did not produce a settlement, only union charges that Stevens had engaged in unfair labor practices, including refusal to bargain—charges that were ruled valid by the board and the courts. The union only recently gained representation rights at the other three plants through board elections or orders. These plants are in Allendale, S.C., High Point, N.C., and Boylston, Ala.

The 30-month contract for the Roanoke Rapids workers provided for an 8.5-percent pay increase effective immediately and 10.0 percent retroactive to July 1979. These increases matched those that the company gave workers in all other plants, but had withheld from the Roanoke Rapids workers "as a contract bargaining measure," according to company officials. The union said the 1980 increase brought the average straight-time pay rate at the 10 plants to more than $5 an hour. The contracts are subject to reopening during their term on wages and benefits.

All of the contracts provided for the following terms considered favorable to the union: checkoff of union dues from payroll; various changes in health and safety practices; binding arbitration of disputes that arise between contract settlements; "regulation" of work loads; a seniority system to govern layoffs and promotions; and company assurances that it would not retaliate against employees who engage in union activities.

Provisions viewed as favorable to Stevens called for an end to the union's designation of Stevens as its primary organizing target; termination of the consumer boycott against Stevens products that the union had initiated in 1976; and an 18-month suspension of the union's campaign to pressure and embarrass directors of other companies serving on Stevens' board of directors and Stevens' officers serving on other boards. Reportedly, the settlement was hastened by the union's plan to attempt to gain two seats on the board of Metropolitan Life Insurance Co., Stevens' major lender. This led Metropolitan to express concern to Stevens over the adverse publicity and the estimated $7 million cost associated with a contested election.

Boeing and Machinists reach accord

The first settlement in the round of bargaining in the aerospace industry occurred when the Boeing Co. and the Machinists union agreed to a 3-year contract for 50,000 employees in Seattle, Wash., Wichita, Kans., Portland, Oreg., and other locations.

The union valued the wage and benefit package at $3.85 an hour, or a 39-percent increase over the term, in-

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"Developments in Industrial Relations" is prepared by George Ruben and other members of the staff of the Division of Trends in Employee Compensation, Bureau of Labor Statistics, and is largely based on information from secondary sources.

cluding wage escalator adjustments based on an estimated 10-percent annual rise in the Consumer Price Index.

Wages will increase by 7 percent immediately, and 3-percent increases are scheduled on the first and second anniversaries. In addition, workers in the top 11 pay grades received an "inequity adjustment" of 1 to 35 cents an hour. The wage escalator clause was not changed; it provides 1-cent-an-hour quarterly adjustments for each 0.3-point movement in the Consumer Price Index for Urban Wage Earners and Clerical Workers (1967 = 100).

Pensions for future retirees were increased to $16 a month for each year of credited service after December 31, 1980, and the existing $14 rate will now apply to all past years. Under the prior contract, the rate was $12 for each year of service through January 1978 and $14 for each year thereafter.

Retirees' pensions also were increased by $1 a month for each year of service or 1 percent of their total monthly entitlement, whichever is more. Employees are now permitted to retire at unreduced benefit rates at age 60, instead of age 62, and benefits for early retirement (at age 58) will be computed at 94 percent of the normal rate, instead of the previous 86 percent.

Health and welfare improvements included the establishment of an alcoholic rehabilitation program and a hearing aid plan, extension of the dental plan to provide orthodontic coverage for dependents under age 19, and an increase in the amount payable for major medical expenses.

Later, the Machinists union settled with Lockheed Corp. on similar terms for 31,000 workers in Burbank and Sunnyvale, Calif., and Marietta, Ga. Also, the United Auto Workers negotiated a similar contract with McDonnell Douglas Corp. for 15,000 workers in Long Beach, Calif., Tulsa, Okla., and Melbourne, Ark.

Meanwhile, the Machinists and Auto Workers unions, which coordinate their bargaining efforts in the aerospace and other industries, began merger talks that could result in the Nation's largest union, with more than 2.3 million members. The two unions have been suffering declines in membership because of economic conditions and are in the midst of efforts to cut operating costs.

American Motors, Auto Workers settle

Continuing the practice of recent years, American Motors Corp. and the United Auto Workers negotiated a 3-year contract that provided for some cost concessions from the pattern the union negotiated with General Motors Corp. and Ford Motor Co. in 1979. (See *Monthly Labor Review*, November 1979 pp. 58–59, for the GM and Ford terms and *Monthly Labor Review*, March 1980, p. 56, for the terms at Chrysler Corp., which also deviated from GM and Ford.) Following the lead of Chrysler Corp., American Motors agreed to nominate an official of the union to its board of directors, pending approval from the Federal Government. However, the company reportedly is concerned that having a union representative on its board might violate the rule that a board member's responsibility is to represent the interests of stockholders.

Raymond Majerus, the union's secretary-treasurer and director if its American Motors department, said that pension improvements will lag the GM pattern during the first two contract years, but in the final year will attain parity with the GM contract. (The GM, Ford, and Chrysler agreements expire in September 1982 and the American Motors agreement expire a year later.)

According to Majerus, 14 cents of the 24 cents cost-of-living allowance at American Motors was diverted to help the company meet the cost of benefits improvements. (GM withheld 14 cents by reducing each of the quarterly cost-of-living increases by 1 or 2 cents an hour.) American Motors and the union also agreed to revise the escalator formula to 1 cent for each 0.26 point movement in the consumer price index. This formula is effective beginning with the quarterly adjustment in June 1983 and is retroactive to December 1981. (At GM, the formula is to be effective with the quarterly adjustment in December 1981.) "Set" wage increases at American Motors were the same as those at GM—3 percent at the beginning of each contract year and an additional 24-cent increase in the first year.

The final concession at American Motors was in the number of paid personal holidays, which was raised to a total of 23, from 15, to be taken during three calendar years. (At GM, the total was raised from 15 to 26.)

The American Motors accord was preceded by a 2-day strike by the 8,800 hourly employees the United Auto Workers union represents in Kenosha and Milwaukee, Wisc.

Clothing workers accept short-term contract

In a departure from their practice in recent years, the Amalgamated Clothing and Textile Workers and the Clothing Manufacturers of America negotiated a contract that extends for only 18 months. The previous 40-month contract expired on September 30, the day of the new settlement. The parties agreed that the depressed state of the men's and boys' tailored clothing industry and concern over the rate of inflation were the major factors in the shorter duration. The 18-month term was a compromise between the union's demand for either a 1-year contract or a 3-year agreement with an uncapped cost-of-living clause, and management's proposal for a 3-year contract with a capped escalator.

The accord, which covered 80,000 workers, provided for wage increases of 30 cents an hour on October 1, 1980, and 20 cents on March 1 and October 1 of 1981. Also, on October 1, 1981, employees may receive an escalator increase—not to exceed 10 cents—calculated at 6 cents for each percentage point rise in the Consumer Price Index above 9.1 percent for the year ending June 1981. The previous contract provided for increases of $1.10 an hour over the 40 months and also resulted in a 10-cent escalator increase in 1979.

There were numerous changes in insurance coverage. Employer financing of health and welfare and pension benefits remained at 15 percent of payroll, but .4 of a percentage point more of the money will be allocated for pensions.

There was no immediate change in the vacation schedules—all employees with at least 1 year of service receive 3 weeks of paid vacation each year. However, the parties agreed that the contract to be negotiated in 1982 will give 20-year employees 4 weeks of annual vacation.

Federal white-collar workers get pay increase

The 1.4 million white-collar employees covered by the General Schedule pay system received a 9.1-percent salary increase in October, after earlier indications that the increase would be smaller. (About 25,000 employees in the two lowest pay grades received 10.1- or 10.4-percent increases.) In January, President Jimmy Carter had projected a 6.2-percent increase; this was changed to 7.8 percent in July. The President said the figure was increased to 9.1 percent because "Federal employees face the same kinds of problems with inflation as other citizens and should not have to bear an unfair burden."

The President's pay agent—the Director of the Office of Personnel Management, the Director of the Office of Management and Budget, and the Secretary of Labor—announced that an increase ranging from 10.12 percent for employees in the lowest pay grade to 20.91 for those in grade 15 would be required to attain comparability with equivalent occupations in the private economy. The average increase would have been 13.46 percent. However, the President used his authority under the Federal Pay Comparability Act of 1970 to propose the 9.1-percent increase, which matched the March 1979 to March 1980 rise in private sector salaries covered in the Bureau of Labor Statistics' annual survey of professional, administrative, technical, and clerical pay. Either the House of Representatives or the Senate could have rejected the proposal and the President would have then been obligated to implement an increase in accord with the comparability principle—presumably, the increase recommended by his pay agent—but the Congress did not act.

Some employees in the upper length-of-service pay steps of grade 15 either did not receive the increase or received only part of it because, by law, they cannot exceed the $50,112.50-a-year salary of presidential appointees at the lowest level of the Executive Schedule. This also precluded any increase for employees in GS grades 16, 17, and 18, and for those in the Senior Executive Service, established under the Civil Service Reform Act of 1978.

Under the Executive Salary Cost-of-Living Adjustment Act of 1975, members of the Congress, Executive Schedule personnel, and Federal judges would have automatically received the 9.1-percent increase—which would have resulted in a matching increase for the government employees at the $50,112.50 limit. However, the Congress had voted earlier to forgo this year's increase.

The 9.1-percent increase also applied to members of the Foreign Service and members of the medical and dental staffs of the Veterans' Administration under existing laws linking their salary levels to those of General Schedule employees. A similar linkage usually applies to the 2 million members of the Armed Forces, but the Congress legislated a more costly compensation package intended to make military service more attractive. The package, effective in October, included an 11.7-percent pay increase; a $20,000-ceiling on re-enlistment bonuses (formerly $15,000); a 15-percent increase in sea pay and a 25-percent increase in flight pay; increases in subsistence and housing allowances; increased travel expenses; and increased living expenses in high-cost areas and for temporary assignments.

Pay for the Government's 465,000 blue-collar workers is adjusted annually at various times throughout the year, based on comparisons with prevailing local pay rates for the same occupation in the private economy. However, special legislation and a presidential order limited the blue-collar employees increases to 7 percent during the fiscal year that ended September 30, 1980. A similar 9.1-percent limit applies during the current fiscal year.

Postal Workers' president loses re-election bid

Morris Biller won a 2-year term as president of the Postal Workers, defeating incumbent president Emmet Andrews and two other officers of the union in a mail referendum. Biller, who was head of the union's local in New York City, received 45,049 votes and Andrews, 26,025. William Burrus of Cleveland, running on the Biller slate, was elected executive vice president. Secretary-treasurer Chester W. Parrish retained his post in the voting, which involved 93 positions in the union.

Andrews became president of the union in 1977 after the death of Francis S. Filbey, and was elected to his first full term in 1978.

Steelworkers' local retracts offer of pay reduction

Local 2869 of the Steelworkers retracted its offer to accept a $1-an-hour reduction in future cost-of-living increases from Kaiser Steel Corp., leading to renewed speculation about the future of the company's mill in Fontana, Calif., which lost $39 million in 1979. Earlier, the company had announced plans to keep the mill open, calling the local's move to aid the company an important factor in the decision. Kaiser officials attributed the withdrawal of the offer to the international leaders of the Steelworkers.

The decision was an "effort to avoid any future conflict in regard to the alleged legalities in the matter of this local union's recent vote . . . and to maintain the union's integrity," according to the union. The concession would have been accomplished by withholding the first 10 cents of each of the next 10 quarterly cost-of-living adjustments.

Kaiser officials attributed the mill's difficulties to competition from Japanese steelmakers, to operating problems, and to the depressed state of the steel market. They welcomed the union's pledge to "seek out, discuss and implement all feasible ways to . . . make Kaiser Steel Corp. more competitive." In recent months, Kaiser has laid off 2,000 of its 6,000 hourly workers and cut production to 2.8 million tons a year, from 3.5 million tons.

California wine workers end strike

A threat to the 1980 vintage in the California wine industry ended when members of the Winery, Distillery and Allied Workers Union approved a 3-year contract with the Winery Employers Association and ended their first strike in 35 years. The walkout was first limited to two of the largest wineries but then spread to all 23 wineries. The employers said they continued production during the stoppage by using supervisory employees.

The settlement came only about a week before the peak of the grape picking and crushing period. It provided for yearly wage increases of 13, 8, and 7 percent, bringing average pay to about $11 an hour, from about $8.39. (This includes an estimated 18 cents increase under the escalator clause, which was continued.)

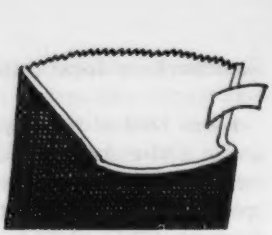
The wineries are located in the Napa and Central valleys of California and produce 80 percent of the State's wine. The State, in turn, accounts for 80 percent of the Nation's wine.

Industry withdraws coke emission exposure suit

The long legal fight over the Occupational Safety and Health Administration's limits on worker exposure to coke oven emissions ended when the steel industry withdrew the appeal it had filed with the Supreme Court. Sheldon Wesson, speaking for the American Iron and Steel Institute, said the case had become almost moot because companies have already instituted most of the protective measures called for by the standard during the series of appeals that followed OSHA's announcement of the standard in 1977. According to OSHA, the standard is needed to reduce an excessive rate of cancer for 21,000 coke oven workers. The industry had contended that the standard could not be met in many instances.

In another occupational safety and health case, General Motors Corp. announced that it will undertake a year-long study to determine why employees and retirees from its Flint (Mich.) trim plant suffer a high rate of lung cancer. The company said it decided on the study after the Sloan Kettering Cancer Center confirmed earlier findings of the United Auto Workers that the rate of lung cancer deaths for the employees and retirees exceeded the national average.

Earlier, General Motors had announced that it was underwriting the largest industrial health screening in history, aimed at finding the causes of rectal and colon cancer in men and women who build scale models of cars from wood, clay, and other materials. (See *Monthly Labor Review*, April 1980, p. 63.) ☐



Book Reviews

Labor relations: room for research

The Labor Relations Process. By William H. Holley, Jr. and Kenneth M. Jennings. Hinsdale, Ill., The Dryden Press, A division of Holt, Rinehart and Winston, 1980. 656 pp. $19.95.

This volume, by William H. Holley, Jr. and Kenneth M. Jennings, is designed as a text for college courses in industrial relations. The authors state that the book combines "theoretical and practical insights" into the labor relations process; that it was "written with both the beginning student and the professional scholar" in mind; that each of its sections "has been subjected to critical academic and practitioner review"; and that the extensive references at the end of each chapter are intended "as useful stimuli and starting points for continuing research on the subject."

Somehow the performance is not quite up to the promise. It may be that the authors had too many objectives in view, and that their large accumulation of information, which is impressive, could not be sufficiently digested and fitted into the framework of their analysis. The analytical framework itself is unexceptionable. It is based on the first chapter of John Dunlop's *Industrial Relations Systems* (1958), in which the essence of the industrial relations process is found in the establishment and administration of work rules relating to pay, benefits, and other conditions of employment. These rules are shaped under various conditions and constraints by the "actors" in the system—workers and their formal or informal organizations; managers and their organizations; and the representatives of appropriate government administrative or rule-making agencies.

The present book is divided into four parts. The initial chapter of part 1 consists largely of an adaptation of the Dunlop model of the industrial relations process, but with scant attention to the constraints imposed upon the actors in the system by conditions in the relevant product and labor markets. There is also a discussion of why workers join unions. In between consideration of "alienation" *(Marx)* and "job scarcity" *(Perlman)* as possible reasons for union membership is the statement—perhaps undergraduates need to be told this—that "Some research has shown that employees might join unions if they (a) are dissatisfied with physical characteristics of the workplace, low wages, or lack of benefits and (b) believe that a union will help them achieve the job-related conditions important to them."

The remainder of part 1 (chapters 2–5) deals with the development of the labor movement in the United States; major legal decisions and legislative enactments affecting labor relations; how unions are organized (largely restricted to the certification procedures of the National Labor Relations Board, with some attention to employer antiunion tactics); and to the structure of the trade union movement, including a brief discussion of union membership.

There are quite a few points relating to these chapters that cannot be raised in a brief review, however, one broad question suggests itself, but not with respect to this book alone. It is this: why should not more research attention be devoted to employer associations with bargaining functions and indeed to the policies, procedures, and tactics of major employers who bargain independently? So far as I know, the most recent full-scale study of employer bargaining associations was published almost 60 years ago (Clarence E. Bonnett, *Employers' Associations in the United States,* 1922). Bonnett at that time pointed to the lack of information on the bargaining and related activities of employer organizations. The trade union movement might well complain of the disproportionate attention given to its side of the bargaining relationship.

Part 2 (chapters 6–9) is concerned with the negotiation of collective bargaining agreements; methods of

Books reviewed in this issue

Robert U. Ayres, *Uncertain Futures: Challenges for Decision-Makers.* Reviewed by Klaus Weiermair.

William H. Holley, Jr. and Kenneth M. Jennings, *The Labor Relations Process.* Reviewed by H. M. Douty.

Helen J. McLane, *Selecting, Developing, and Retaining Women Executives: A Corporate Strategy for the Eighties.* Reviewed by Diane N. Westcott.

Marjorie Hansen Shaevitz and Morton H. Shaevitz, *Making It Together as a Two-Career Couple.* Reviewed by George R. Pospolita.

resolving impasses, including mediation, interest arbitration, and work stoppages; and with contract administration, with emphasis upon grievance procedures and the development of grievance arbitration. This is followed in part 3 (chapters 10–13) by a discussion of major issues that tend to arise in the collective bargaining process, including managerial prerogatives, union security, employee discipline, job security, and worker compensation.

These chapters are uneven, the strongest being those dealing essentially with a single subject (for example, grievance arbitration, employee discipline). A general weakness is the absence at many points of much in the way of analysis, coupled with a tendency to throw all kinds of odds and ends of information into the narrative. This is shown, perhaps to an exaggerated extent, in the chapter on economic issues. For example, industry wage differentials sometimes enter into collective bargaining, but the discussion in chapter 13 throws no light on the matter. The section on job evaluation as it relates to collective bargaining is confusing. There is no coherent analysis of the factors that influence decisions on general wage changes. With respect to cost-of-living escalator clauses, it is stated in the same paragraph that the most common formula for adjustment "is cents per hour for each point increase in the CPI" and also that the "most common arrangement is to have wages adjusted for each 0.3-percent change in the CPI." Neither of these statements is correct.

Part 4 (chapters 14–17) covers a variety of situations that are designated as emerging labor relations processes. One chapter deals with State and local government, with special emphasis upon collective bargaining at educational institutions; another with the development of collective bargaining in the Federal sector. This is followed by a brief account of industrial relations systems in other parts of the world, with some consideration of problems of transnational collective bargaining with multinational corporations. The final chapter considers collective bargaining in professional sports (baseball in some detail); health care (particularly for nurses); and agriculture. At the end of the volume, summaries of a number of cases dealing with various aspects of the industrial relations process decided by the National Labor Relations Board and private arbitrators, with the decisions not indicated, are set forth for class discussion.

Clearly this volume contains a great deal of information. It cannot be used uncritically as a text. Its usefulness will depend heavily upon the extent to which the instructor brings skill and knowledge to bear upon its subject matter.

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Opening the managerial ranks to women

Selecting, Developing, and Retaining Women Executives: A Corporate Strategy for the Eighties. By Helen J. McLane. New York, Litton Educational Publishing, Inc., 1980. 248 pp., bibliography. $14.95, Van Nostrand Reinhold Co., New York.

The labor force participation of women has grown substantially over the last decade and, today, more than half of all women are working or looking for work. Currently, women make up 42 percent of the labor force and, not surprisingly, most are crowded into a narrow range of lower paying, less desirable occupations. More than half of all women are engaged in either clerical or service work. Even when women have professional careers, they are often slotted into nonsupervisory and technical roles, rather than managerial positions which lead to the apex of the corporate pyramid. Yet, the aspirations of women to be managers and leaders is rising. Past practices have allowed few women in management, but present laws and government policies, most notably, affirmative action and equal opportunity, are requiring that changes be made in the hiring and advancement of women.

The introduction of women into mid- and upper-level managerial ranks is by no means a simple task. There are psychological and sociological barriers confronting women which make this endeavor difficult. In this book, Helen J. McLane focuses on management's task of successfully integrating women into the corporate hierarchy.

Probably the biggest mistake made in selecting a woman for a key managerial position is the failure to consider whether her personal characteristics are appropriate to the organization. In other words, the interviewer must determine if the potential woman executive is qualified not only in terms of her education and experience but that her personality, attitude, and life style do not conflict with the company's projected self-image. This evaluation is not something that occurs exclusively when considering a woman candidate; however, in their eagerness to hire women, many companies tend to overlook the need to match personalities.

It is not surprising to learn that the attitude of the woman executive's male peers often creates the biggest barrier and source of discouragement for women moving into the managerial ranks. The author points out a number of steps an organization can take to help assure the successful integration of a woman into management. First, the job should be a substantive position and not a post created for her. Second, the organization should judge her performance by clearly defined and readily measurable standards, the same standards by which others are judged. Last, the company should commit itself to providing the support that a woman will need if she is to succeed. The message is clear; little overall progress will be made in advancing women without consistent and committed leadership from top management. Developing a climate for change of policies and practices in order to accept women as managers usually means revising some organizational procedures and many attitudes and relationships. And while the company must avoid being overprotective of women, female managers must be allowed to take risks and they must be allowed the opportunity to fail.

What do managerial and professional women want? McLane states it succinctly when she notes that women "basically want the same things as men: responsibility, challenge, opportunity for advancement, and appropriate compensation." Women want to be treated as individuals and not as stereotypical women. They seek evaluation on merit, not on sex.

In summation, the book offers advice on every matter concerning the recruitment, selection, hiring, development, positioning, and retention of women executives. In fact, its major inadequacy is in effectively separating one chapter from the next. The book would have benefited from an overall tightening of its content and a reduction in the use of personal interest stories which, after a while, tend to belabor the point rather than enhance it. The only other area for concern, in an otherwise fine presentation of management's goals, was the careless inclusion of a statement in which she reports that "three-fourths of all woman workers remain in five female occupations: secretary-stenographer, household worker, bookkeeper, elementary teacher, and waitress." While women are indeed concentrated in these occupations, they account for only 20 percent of the jobs held by women. In fact, an additional 20 percent of all women are engaged in managerial and professional occupations, but as McLane so aptly points out, they are concentrated in the technical-professional path that is likely to go to the lower middle-management level of the organization and not the more general managerial path leading all the way to top management.

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Will there be enough?

Uncertain Futures: Challenges for Decision-Makers. By Robert U. Ayres. New York, John Wiley & Sons, 1979. 429 pp. $16.95.

Built on Robert U. Ayres previous publications on interrelationships between resources and environment and on alternatives to the combustion engine, this book attempts to present a more global picture of national and international future resources and their economic, technological, and political implications. The author's objective is to provide the reader with a balanced assessment of likely futures in terms of both technological feasibility and social likelihood. The book does not place much accent on technical questions related to specific types and models of long-term forecasting, nor on detailed underlying theories of long-term technological and economic development. Rather, the author attempts to link qualitative and quantitative reasoning, different strands of thought, alpha and omega (conservative and revolutionary) methods, along with social and technological emphasis to yield a comprehensive overall picture of possible futures, mainly those pertaining to the United States.

After a brief, cursory, (and perhaps coarse) introductory chapter, which deals with issues of forecasting methodology written for the novice in this field, the author discusses various measures of man and projection, future natural resources, ecological development, and comparative advantage.

The central idea of unraveling our possible future via various measures of man is an innovative approach. Given the expertise required in a number of disciplines, it is understandable that some areas of the book are better documented and presented than others. This becomes evident in the chapters on measures of man which discuss competing social values, demographic and international developments, which, apart from a few references to prior work in sociology and political science, employ a fair amount of stereotypes and mere classifications of social and personal value systems and ideologies, as opposed to more thorough discussions of factors facilitating, limiting, or constraining future economic and technological developments.

The depth of the discussion and documentation of supporting evidence change considerably in the chapters which deal with microeconomic forecasts in key sectors, the general environment of technological change, diffusion of technological change, and the future resource environment.

The first of these chapters provides an overview of likely patterns of future consumption in food, energy, materials, and services based both on conventional extrapolations and, more importantly, on likely technological and developmental changes underlying these growth processes. The provision of international comparative data throughout offers a good contextual frame against which to analyze and compare U.S. consumption patterns.

The chapters on technology are helpful in showing both the underlying rationale and dynamics of technological change, and the nature of substitution processes for a number of materials and technologies.

In the chapter on the future resource environment, the author discusses factors which may or may not limit future growth in terms of physical resources, including an account of the interrelationships between energy consumption and climate.

The last chapter illustrates the consequences of nuclear proliferation, another energy crisis, or a dramatic worsening of world food supplies.

This book will prove to be an indispensable and thought-provoking source to those readers who are more interested in the illustration of possible future environments than in who is right or wrong about the future.

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Making the marriage work too

Making It Together as a Two-Career Couple. By Marjorie Hansen Shaevitz and Morton H. Shaevitz. Boston, Mass., Houghton Mifflin Co., 1980. 282 pp. $8.95.

As social and economic changes swept across the United States in the 1960's and 1970's, Americans found themselves altering their institutions and their lives in an effort to keep up with, if not always ahead of, the effects of their shifting personal and financial fortunes. Certainly, the American family, as an institution, has not remained invulnerable to change, and one of the largest changes overtaking it has been the emergence of women from the home and into the workplace. According to the Bureau of Labor Statistics, by 1979 there were 18.7 million married-couple families with two wage earners or more; this book was written with those families in mind.

The authors, Marjorie Hansen Shaevitz and Morton H. Shaevitz, are codirectors of the Institute for Family and Work Relationships in La Jolla, Calif., and have been working with two-career couples for the last 8 years. They contend that until recently, couples who have faced career changes, reassignments, income disruption, and other facts of modern worklife, received little or no support from a community that was still primarily one wage-earner oriented. To help such couples, the authors offer advice on how to cope with the problems that can arise from a two-career relationship as well as how to deal with the minor day-to-day struggles of home maintenance in a busy household.

Half the book is devoted to advice about practical matters such as: choosing proper child care; finances; personal health care; and parental responsibilities as they relate to a working couple. A sample of subchapter headings finds information about Managing Your Time, Child Care Outside Your Home, and Costs in Earning Second Income. Unfortunately, most of the financial advice does not bear directly on the finances of two-career couples and has already been given in other popularly available "money books."

The second half of the book deals with serious career issues. The authors are firm believers in shared career decisionmaking and the sections dealing with work as it affects the two-career couple are realistic and fair. Lists of job-rating factors with instructions on how to weigh various items such as geographical area, personal goals, and economic costs are included to help readers in their decisionmaking. Even more helpful are the case histories of couples dealing with their own work-related dilemmas. Couples who have been counseled by the authors relate their two-career problems and solutions in their own words, which helps readers, who may themselves be facing the prospect of saying "No" to a transfer or some other stressful job-related situation, realize that they are not alone.

The authors emphasize that this book is for working couples, not about them. And although it may not suit every couple's needs, it does give the working couple a handy reference guide for almost every question larger than "Who takes out the garbage?"

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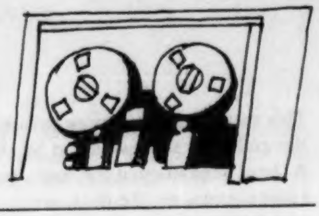

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NOTES ON CURRENT LABOR STATISTICS

This section of the *Review* presents the principal statistical series collected and calculated by the Bureau of Labor Statistics. A brief introduction to each group of tables provides definitions, notes on the data, sources, and other material usually found in footnotes.

Readers who need additional information are invited to consult the BLS regional offices listed on the inside front cover of this issue of the *Review*. Some general notes applicable to several series are given below.

Seasonal adjustment. Certain monthly and quarterly data are adjusted to eliminate the effect of such factors as climatic conditions, industry production schedules, opening and closing of schools, holiday buying periods, and vacation practices, which might otherwise mask short-term movements of the statistical series. Tables containing these data are identified as "seasonally adjusted." Seasonal effects are estimated on the basis of past experience. When new seasonal factors are computed each year, revisions may affect seasonally adjusted data for several preceding years. For a technical discussion of the method used to make seasonal adjustments, see *X-11 Variant of the Census Method II Seasonal Adjustment Program*, Technical Paper No. 15 (Bureau of the Census, 1967).

Seasonally adjusted labor force data in tables 2–7 were last revised in the February 1980 issue of the *Review* to reflect the preceding year's experience. Beginning in January 1980, the BLS introduced two major modifications in the seasonal adjustment methodology for labor force data. First, the data are being seasonally adjusted with a new procedure called X-11/ARIMA, which was developed at Statistics Canada as an extension of the standard X-11 method. A detailed description of the procedure appears in *The X-11 ARIMA Seasonal Adjustment Method* by Estela Bee Dagum (Statistics Canada Catalogue No. 12-564E, September 1979). The second change is that seasonal factors are now being calculated for use during the first 6 months of the year, rather than for the entire year, and then are calculated at mid-year for the July-December period. Revisions of historical data continue to be made only at the end of each calendar year.

Annual revision of the seasonally adjusted payroll data in tables 11, 13, 16, and 18 begins with the August 1980 issue using the X-11 ARIMA seasonal adjustment methodology. New seasonal factors for productivity data in tables 33 and 34 are usually introduced in the September issue. Seasonally adjusted indexes and percent changes from month to month and from quarter to quarter are published for numerous Consumer and Producer Price Index series. However, seasonally adjusted indexes are not published for the U.S. average All Items CPI. Only seasonally adjusted percent changes are available for this series.

Adjustments for price changes. Some data are adjusted to eliminate the effect of changes in price. These adjustments are made by dividing current dollar values by the Consumer Price Index or the appropriate component of the index, then multiplying by 100. For example, given a current hourly wage rate of $3 and a current price index number of 150, where 1967 = 100, the hourly rate expressed in 1967 dollars is $2 ($3/150 × 100 = $2). The resulting values are described as "real," "constant," or "1967" dollars.

Availability of information. Data that supplement the tables in this section are published by the Bureau of Labor Statistics in a variety of sources. Press releases provide the latest statistical information published by the Bureau; the major recurring releases are published according to the schedule given below. The *Handbook of Labor Statistics 1978*, Bulletin 2000, provides more detailed data and greater historical coverage for most of the statistical series presented in the *Monthly Labor Review*. More information from the household and establishment surveys is provided in *Employment and Earnings*, a monthly publication of the Bureau, and in two comprehensive data books issued annually—*Employment and Earnings, United States* and *Employment and Earnings, States and Areas*. More detailed information on wages and other aspects of collective bargaining appears in the monthly periodical, *Current Wage Developments*. More detailed price information is published each month in the periodicals, the *CPI Detailed Report* and *Producer Prices and Price Indexes*.

Symbols

p = preliminary. To improve the timeliness of some series, preliminary figures are issued based on representative but incomplete returns.

r = revised. Generally this revision reflects the availability of later data but may also reflect other adjustments.

n.e.c. = not elsewhere classified.

Schedule of release dates for major BLS statistical series

Title and frequency (monthly except where indicated)	Release date	Period covered	Release date	Period covered	MLR table number
Employment situation	December 5	November	January 9	December	1–11
Producer Price Index	December 5	November	January 9	December	26–30
Consumer Price Index	December 23	November	January 23	December	22–25
Real earnings	December 23	November	January 23	December	14–20
Work stoppages	December 30	November	January 29	December	37
Labor turnover in manufacturing	December 31	November	January 30	December	12–13
Major collective bargaining settlements (quarterly)	...	...	January 29	1980	35–36

EMPLOYMENT DATA FROM THE HOUSEHOLD SURVEY

EMPLOYMENT DATA in this section are obtained from the Current Population Survey, a program of personal interviews conducted monthly by the Bureau of the Census for the Bureau of Labor Statistics. The sample consists of about 65,000 households beginning in January 1980, selected to represent the U.S. population 16 years of age and older. Households are interviewed on a rotating basis, so that three-fourths of the sample is the same for any 2 consecutive months.

Definitions

Employed persons are (1) those who worked for pay any time during the week which includes the 12th day of the month or who worked unpaid for 15 hours or more in a family-operated enterprise and (2) those who were temporarily absent from their regular jobs because of illness, vacation, industrial dispute, or similar reasons. A person working at more than one job is counted only in the job at which he or she worked the greatest number of hours.

Unemployed persons are those who did not work during the survey week, but were available for work except for temporary illness and had looked for jobs within the preceding 4 weeks. Persons who did not look for work because they were on layoff or waiting to start new jobs within the next 30 days are also counted among the unemployed. The **unemployment rate** represents the number unemployed as a percent of the civilian labor force.

The **civilian labor force** consists of all employed or unemployed persons in the civilian noninstitutional population; the **total labor force** includes military personnel. Persons **not in the labor force** are those not classified as employed or unemployed; this group includes persons retired, those engaged in their own housework, those not working while attending school, those unable to work because of longterm illness, those discouraged from seeking work because of personal or job market factors, and those who are voluntarily idle. The **noninstitutional population** comprises all persons 16 years of age and older who are not inmates of penal or mental institutions, sanitariums, or homes for the aged, infirm, or needy.

Full-time workers are those employed at least 35 hours a week; **part-time workers** are those who work fewer hours. Workers on part-time schedules for economic reasons (such as slack work, terminating or starting a job during the week, material shortages, or inability to find full-time work) are among those counted as being on full-time status, under the assumption that they would be working full time if conditions permitted. The survey classifies unemployed persons in full-time or part-time status by their reported preferences for full-time or part-time work.

Notes on the data

From time to time, and especially after a decennial census, adjustments are made in the Current Population Survey figures to correct for estimating errors during the preceding years. These adjustments affect the comparability of historical data presented in table 1. A description of these adjustments and their effect on the various data series appear in the Explanatory Notes of *Employment and Earnings.*

Data in tables 2–7 are seasonally adjusted, based on the seasonal experience through December 1979.

1. Employment status of the noninstitutional population, 16 years and over, selected years, 1950–79

[Numbers in thousands]

Year	Total non-institutional population	Total labor force		Civilian labor force						Not in labor force
		Number	Percent of population	Total	Employed			Unemployed		
					Total	Agriculture	Nonagricultural industries	Number	Percent of labor force	
1950	106,645	63,858	59.9	62,208	58,918	7,160	51,758	3,288	5.3	42,787
1955	112,732	68,072	60.4	65,023	62,170	6,450	55,722	2,852	4.4	44,660
1960	119,759	72,142	60.2	69,628	65,778	5,458	60,318	3,852	5.5	47,617
1964	127,224	75,830	59.6	73,091	69,305	4,523	64,782	3,786	5.2	51,394
1965	129,236	77,178	59.7	74,455	71,088	4,361	66,726	3,366	4.5	52,058
1966	131,180	78,893	60.1	75,770	72,895	3,979	68,915	2,875	3.8	52,288
1967	133,319	80,793	60.6	77,347	74,372	3,844	70,527	2,975	3.8	52,527
1968	135,562	82,272	60.7	78,737	75,920	3,817	72,103	2,817	3.6	53,291
1969	137,841	84,240	61.1	80,734	77,902	3,606	74,296	2,832	3.5	53,602
1970	140,182	85,903	61.3	82,715	78,627	3,462	75,165	4,088	4.9	54,280
1971	142,596	86,929	61.0	84,113	79,120	3,387	75,732	4,993	5.9	55,666
1972	145,775	88,991	61.0	86,542	81,702	3,472	78,230	4,840	5.6	56,785
1973	148,263	91,040	61.4	88,714	84,409	3,452	80,957	4,304	4.9	57,222
1974	150,827	93,240	61.8	91,011	85,935	3,492	82,443	5,076	5.6	57,587
1975	153,449	94,793	61.8	92,613	84,783	3,380	81,403	7,830	8.5	58,655
1976	156,048	96,917	62.1	94,773	87,485	3,297	84,188	7,288	7.7	59,130
1977	158,559	99,534	62.8	97,401	90,546	3,244	87,302	6,855	7.0	59,025
1978	161,058	102,537	63.7	100,420	94,373	3,342	91,031	6,047	6.0	58,521
1979	163,620	104,996	64.2	102,908	96,945	3,297	93,648	5,963	5.8	58,623

2. Employment status by sex, age, and race, seasonally adjusted

[Numbers in thousands]

Employment status	Annual average		1979			1980									
	1978	1979	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.
TOTAL															
Total noninstitutional population[1]	161,058	163,620	164,468	164,682	164,898	165,101	165,298	165,506	165,693	165,886	166,105	166,391	166,578	166,789	167,005
Total labor force	102,537	104,996	105,688	105,744	106,088	106,310	106,346	106,184	106,511	107,230	106,634	107,302	107,139	107,156	107,301
Civilian noninstitutional population[1]	158,941	161,532	162,375	162,590	162,809	163,020	163,211	163,416	163,601	163,799	164,013	164,293	164,464	164,667	164,884
Civilian labor force	100,420	102,908	103,595	103,652	103,999	104,229	104,260	104,094	104,419	105,142	104,542	105,203	105,025	105,034	105,180
Employed	94,373	96,945	97,474	97,608	97,912	97,804	97,953	97,656	97,154	96,988	96,537	96,996	97,006	97,207	97,176
Agriculture	3,342	3,297	3,294	3,385	3,359	3,270	3,326	3,358	3,242	3,379	3,191	3,257	3,180	3,442	3,324
Nonagricultural industries	91,031	93,648	94,180	94,223	94,553	94,534	94,626	94,298	93,912	93,609	93,346	93,739	93,826	93,765	93,851
Unemployed	6,047	5,963	6,121	6,044	6,087	6,425	6,307	6,438	7,265	8,154	8,006	8,207	8,019	7,827	8,005
Unemployment rate	6.0	5.8	5.9	5.8	5.9	6.2	6.0	6.2	7.0	7.8	7.7	7.8	7.6	7.5	7.6
Not in labor force	58,521	58,623	58,780	58,937	58,810	58,791	58,951	59,322	59,182	58,657	59,471	59,091	59,439	59,633	59,704
Men, 20 years and over															
Civilian noninstitutional population[1]	67,006	68,293	68,697	68,804	68,940	69,047	69,140	69,238	69,329	69,428	69,532	69,664	69,756	69,864	69,987
Civilian labor force	53,464	54,486	54,760	54,709	54,781	54,855	55,038	54,996	55,114	55,467	55,220	55,398	55,474	55,547	55,504
Employed	51,212	52,264	52,443	52,374	52,478	52,279	52,531	52,300	51,868	51,796	51,510	51,668	51,792	51,803	51,963
Agriculture	2,361	2,350	2,371	2,438	2,427	2,387	2,435	2,394	2,320	2,384	2,270	2,292	2,286	2,398	2,355
Nonagricultural industries	48,852	49,913	50,072	49,936	50,051	49,892	50,096	49,906	49,548	49,412	49,240	49,376	49,506	49,405	49,607
Unemployed	2,252	2,223	2,317	2,335	2,303	2,577	2,507	2,696	3,246	3,671	3,710	3,730	3,682	3,744	3,541
Unemployment rate	4.2	4.1	4.2	4.3	4.2	4.7	4.6	4.9	5.9	6.6	6.7	6.7	6.6	6.7	6.4
Not in labor force	13,541	13,807	13,937	14,095	14,159	14,192	14,102	14,242	14,215	13,961	14,312	14,266	14,282	14,317	14,483
Women, 20 years and over															
Civilian noninstitutional population[1]	75,489	76,860	77,308	77,426	77,542	77,656	77,766	77,876	77,981	78,090	78,211	78,360	78,473	78,598	78,723
Civilian labor force	37,416	38,910	39,362	39,445	39,659	39,878	39,857	39,751	40,137	40,246	40,125	40,471	40,589	40,297	40,486
Employed	35,180	36,698	37,112	37,248	37,402	37,574	37,604	37,496	37,602	37,576	37,530	37,769	37,961	37,824	37,716
Agriculture	586	591	572	612	582	540	567	582	552	616	541	565	548	607	572
Nonagricultural industries	34,593	36,107	36,540	36,636	36,820	37,034	37,037	36,914	37,051	36,960	36,989	37,204	37,413	37,216	37,144
Unemployed	2,236	2,213	2,250	2,197	2,257	2,304	2,254	2,255	2,534	2,670	2,596	2,702	2,628	2,473	2,771
Unemployment rate	6.0	5.7	5.7	5.6	5.7	5.8	5.7	5.7	6.3	6.6	6.5	6.7	6.5	6.1	6.8
Not in labor force	38,073	37,949	37,946	37,981	37,883	37,778	37,909	38,125	37,844	37,844	38,086	37,889	37,884	38,301	38,237
Both sexes, 16 – 19 years															
Civilian noninstitutional population[1]	16,447	16,379	16,370	16,360	16,326	16,317	16,305	16,302	16,291	16,281	16,271	16,268	16,235	16,205	16,174
Civilian labor force	9,540	9,512	9,473	9,498	9,559	9,497	9,365	9,346	9,168	9,429	9,197	9,334	8,962	9,190	9,191
Employed	7,981	7,984	7,919	7,986	8,032	7,952	7,818	7,859	7,683	7,616	7,497	7,560	7,253	7,580	7,498
Agriculture	395	356	351	335	350	344	325	381	370	379	380	401	346	437	398
Nonagricultural industries	7,586	7,628	7,568	7,651	7,682	7,608	7,493	7,478	7,313	7,237	7,117	7,159	6,907	7,143	7,100
Unemployed	1,559	1,528	1,554	1,512	1,527	1,545	1,547	1,487	1,485	1,813	1,700	1,774	1,709	1,610	1,693
Unemployment rate	16.3	16.1	16.4	15.9	16.0	16.3	16.5	15.9	16.2	19.2	18.5	19.0	19.1	17.5	18.4
Not in labor force	6,907	6,867	6,897	6,862	6,767	6,820	6,940	6,956	7,123	6,852	7,074	6,934	7,273	7,015	6,983
White															
Civilian noninstitutional population[1]	139,580	141,614	142,296	142,461	142,645	142,806	142,951	143,115	143,254	143,403	143,565	143,770	143,900	144,051	144,211
Civilian labor force	88,456	90,602	91,147	91,242	91,579	91,852	91,977	91,821	92,083	92,535	92,096	92,456	92,294	92,337	92,550
Employed	83,836	86,025	86,454	86,571	86,894	86,895	87,081	86,822	86,385	86,148	85,792	86,063	85,981	86,315	86,391
Unemployed	4,620	4,577	4,693	4,671	4,685	4,957	4,896	4,999	5,698	6,386	6,303	6,392	6,313	6,021	6,159
Unemployment rate	5.2	5.1	5.1	5.1	5.1	5.4	5.3	5.4	6.2	6.9	6.8	6.9	6.8	6.5	6.7
Not in labor force	51,124	51,011	51,149	51,219	51,066	50,954	50,975	51,294	51,171	50,868	51,469	51,314	51,606	51,714	51,661
Black and other															
Civilian noninstitutional population[1]	19,361	19,918	20,079	20,128	20,163	20,214	20,261	20,301	20,346	20,385	20,448	20,523	20,564	20,617	20,673
Civilian labor force	11,964	12,306	12,512	12,391	12,432	12,453	12,362	12,266	12,319	12,559	12,446	12,739	12,650	12,680	12,737
Employed	10,537	10,920	11,076	11,044	11,024	10,979	10,937	10,823	10,771	10,813	10,751	10,932	10,930	10,882	10,911
Unemployed	1,427	1,386	1,436	1,347	1,408	1,474	1,424	1,443	1,549	1,746	1,695	1,807	1,719	1,798	1,826
Unemployment rate	11.9	11.3	11.5	10.9	11.3	11.8	11.5	11.8	12.6	13.9	13.6	14.2	13.6	14.2	14.3
Not in labor force	7,397	7,612	7,567	7,737	7,731	7,761	7,899	8,035	8,027	7,826	8,002	7,784	7,914	7,937	7,936

[1] As in table 1, population figures are not seasonally adjusted.

NOTE: The monthly data in this table have been revised to reflect seasonal experience through 1979.

3. Selected employment indicators, seasonally adjusted

[In thousands]

Selected categories	Annual average		1979			1980									
	1978	1979	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.
CHARACTERISTIC															
Total employed, 16 years and over	94,373	96,945	97,474	97,608	97,912	97,804	97,953	97,656	97,154	96,988	96,537	96,996	97,006	97,207	97,176
Men	55,491	56,499	56,629	56,580	56,734	56,486	56,732	56,601	55,998	55,823	55,457	55,629	55,551	55,738	55,885
Women	38,882	40,446	40,845	41,028	41,178	41,318	41,221	41,051	41,156	41,165	41,079	41,367	41,455	41,469	41,291
Married men, spouse present	38,686	39,090	39,124	38,845	38,924	38,749	38,955	38,745	38,342	38,147	38,193	37,999	37,910	37,969	38,139
Married women, spouse present	21,861	22,724	22,919	22,940	23,027	23,111	23,178	23,202	23,080	23,155	23,144	23,067	23,162	23,017	22,953
OCCUPATION															
White-collar workers	47,205	49,342	49,738	49,912	49,911	50,313	50,448	50,302	50,405	50,606	50,861	51,114	51,413	51,149	51,084
Professional and technical	14,245	15,050	15,057	15,131	15,272	15,337	15,444	15,397	15,542	15,551	15,712	15,741	15,761	15,501	15,796
Managers and administrators, except farm	10,105	10,516	10,639	10,617	10,535	10,608	10,971	10,755	10,745	10,882	10,911	11,046	11,153	11,018	10,958
Salesworkers	5,951	6,163	6,261	6,362	6,346	6,452	6,186	6,113	5,988	6,022	5,981	6,128	6,124	6,347	6,317
Clerical workers	16,904	17,613	17,781	17,802	17,758	17,915	17,848	18,037	18,129	18,152	18,256	18,199	18,375	18,284	18,013
Blue-collar workers	31,531	32,066	32,205	32,110	32,302	31,882	31,754	31,670	31,127	30,681	30,243	30,149	29,983	30,444	30,621
Craft and kindred workers	12,386	12,880	13,001	12,925	13,041	12,814	12,728	12,767	12,773	12,523	12,301	12,382	12,233	12,546	12,545
Operatives, except transport	10,875	10,909	10,967	10,963	11,042	10,678	10,661	10,579	10,408	10,336	10,131	10,134	10,066	10,196	10,244
Transport equipment operatives	3,541	3,612	3,593	3,628	3,635	3,616	3,571	3,558	3,483	3,421	3,395	3,335	3,474	3,434	3,457
Nonfarm laborers	4,729	4,665	4,644	4,594	4,584	4,774	4,795	4,767	4,463	4,402	4,416	4,299	4,209	4,268	4,376
Service workers	12,839	12,834	12,937	12,869	12,970	12,979	13,080	12,981	13,034	12,932	12,930	13,045	12,917	12,917	12,863
Farmworkers	2,798	2,703	2,695	2,718	2,694	2,660	2,764	2,733	2,656	2,745	2,606	2,689	2,601	2,779	2,735
MAJOR INDUSTRY AND CLASS OF WORKER															
Agriculture:															
Wage and salary workers	1,419	1,413	1,381	1,475	1,451	1,428	1,417	1,449	1,370	1,405	1,365	1,352	1,263	1,418	1,344
Self-employed workers	1,607	1,580	1,602	1,622	1,596	1,554	1,648	1,600	1,591	1,662	1,580	1,631	1,646	1,706	1,643
Unpaid family workers	316	304	313	310	310	293	283	300	281	289	269	292	273	315	336
Nonagricultural industries:															
Wage and salary workers	84,253	86,540	86,982	87,020	87,384	87,578	87,419	87,221	86,741	86,631	86,257	86,407	86,508	86,331	86,507
Government	15,289	15,369	15,423	15,358	15,397	15,414	15,540	15,622	15,668	15,799	15,891	15,760	15,495	15,538	15,565
Private industries	68,966	71,171	71,559	71,662	71,987	72,163	71,879	71,599	71,072	70,832	70,365	70,647	71,014	70,793	70,942
Private households	1,363	1,240	1,261	1,211	1,228	1,132	1,178	1,115	1,123	1,206	1,219	1,245	1,209	1,113	1,146
Other industries	67,603	69,931	70,298	70,451	70,759	71,031	70,702	70,484	69,949	69,625	69,147	69,402	69,805	69,679	69,796
Self-employed workers	6,305	6,652	6,812	6,781	6,737	6,752	6,899	6,825	6,813	6,848	6,866	6,765	6,879	7,014	7,051
Unpaid family workers	472	455	430	417	409	379	397	376	383	411	445	441	399	423	420
PERSONS AT WORK [1]															
Nonagricultural industries	85,693	88,133	88,638	88,617	89,180	89,454	88,985	88,585	87,660	87,680	87,910	87,454	88,270	88,243	88,466
Full-time schedules	70,543	72,647	73,204	72,997	73,137	73,223	73,110	72,749	71,807	71,224	71,206	70,649	71,478	71,969	72,142
Part time for economic reasons	3,216	3,281	3,315	3,392	3,519	3,513	3,406	3,418	3,816	4,349	3,999	4,113	4,148	4,204	4,261
Usually work full time	1,249	1,325	1,354	1,413	1,491	1,549	1,380	1,463	1,709	2,064	1,781	1,847	1,692	1,695	1,667
Usually work part time	1,967	1,956	1,961	1,979	2,028	1,964	2,026	1,955	2,107	2,285	2,217	2,266	2,456	2,509	2,593
Part time for noneconomic reasons	11,934	12,205	12,119	12,228	12,524	12,718	12,469	12,418	12,037	12,106	12,706	12,692	12,644	12,069	12,064

[1] Excludes persons "with a job but not at work" during the survey period for such reasons as vacation, illness, or industrial disputes.

NOTE: The monthly data in this table have been revised to reflect seasonal experience through 1979.

4. Selected unemployment indicators, seasonally adjusted

[Unemployment rates]

Selected categories	Annual average		1979			1980									
	1978	1979	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.
CHARACTERISTIC															
Total, 16 years and over	6.0	5.8	5.9	5.8	5.9	6.2	6.0	6.2	7.0	7.8	7.7	7.8	7.6	7.5	7.6
Men, 20 years and over	4.2	4.1	4.2	4.3	4.2	4.7	4.8	4.9	5.9	6.8	6.7	6.7	6.6	6.7	6.4
Women, 20 years and over	6.0	5.7	5.7	5.6	5.7	5.8	5.7	5.7	6.3	6.6	6.5	6.7	6.5	6.1	6.8
Both sexes, 16 – 19 years	16.3	16.1	16.4	15.9	16.0	16.3	16.5	15.9	16.2	19.2	18.5	19.0	19.1	17.5	18.4
White, total	5.2	5.1	5.1	5.1	5.1	5.4	5.3	5.4	6.2	6.9	6.8	6.9	6.8	6.5	6.7
Men, 20 years and over	3.7	3.6	3.7	3.7	3.7	4.1	4.0	4.4	5.3	5.9	6.0	6.0	5.9	5.9	5.7
Women, 20 years and over	5.2	5.0	5.0	4.9	5.0	5.1	5.2	4.9	5.5	5.8	5.8	5.9	5.8	5.5	5.9
Both sexes, 16 – 19 years	13.9	13.9	14.1	13.9	13.9	14.0	13.8	13.8	14.8	17.4	16.4	16.7	17.0	14.8	15.9
Black and other, total	11.9	11.3	11.5	10.9	11.3	11.8	11.5	11.8	12.6	13.9	13.6	14.2	13.6	14.2	14.3
Men, 20 years and over	8.6	8.4	8.6	8.4	8.6	9.6	9.2	9.3	10.9	12.0	12.6	12.7	12.7	13.5	12.1
Women, 20 years and over	10.6	10.1	10.2	9.5	10.0	10.0	9.0	10.5	11.4	11.9	10.9	11.5	10.6	10.4	12.6
Both sexes, 16 – 19 years	36.3	33.5	35.1	32.8	34.3	34.6	37.9	33.0	29.8	35.2	34.4	36.6	37.4	38.2	37.8
Married men, spouse present	2.8	2.7	2.9	2.9	2.8	3.4	3.1	3.4	4.1	4.7	4.9	5.1	4.9	4.8	4.8
Married women, spouse present	5.5	5.1	5.2	4.8	5.0	5.2	5.4	5.3	5.7	6.3	6.1	6.2	6.1	5.6	6.1
Women who head families	8.5	8.3	8.4	8.4	8.4	9.2	8.5	8.7	9.3	8.3	8.4	8.9	8.9	8.5	10.4
Full-time workers	5.5	5.3	5.4	5.4	5.4	5.7	5.6	5.8	6.6	7.5	7.4	7.6	7.4	7.3	7.3
Part-time workers	9.0	8.7	8.9	8.3	8.5	8.7	8.9	8.3	8.9	9.3	8.8	8.7	8.6	8.6	9.4
Unemployed 15 weeks and over	1.4	1.2	1.2	1.1	1.2	1.3	1.2	1.3	1.6	1.6	1.7	1.8	2.1	2.2	2.2
Labor force time lost[1]	6.5	6.3	6.4	5.4	6.4	6.7	6.6	6.8	7.5	8.8	8.3	8.5	8.3	8.2	8.4
OCCUPATION															
White-collar workers	3.5	3.3	3.4	3.2	3.3	3.4	3.4	3.3	3.7	3.9	3.7	3.7	3.7	3.7	4.0
Professional and technical	2.6	2.4	2.7	2.4	2.3	2.2	2.3	2.3	2.4	2.7	2.6	2.4	2.3	2.4	2.7
Managers and administrators, except farm	2.1	2.1	2.2	1.9	2.0	1.9	2.2	2.4	2.6	2.7	2.4	2.5	2.4	2.4	2.6
Salesworkers	4.1	3.9	3.8	3.7	3.8	4.4	4.5	4.0	4.7	4.5	4.4	4.2	4.1	4.2	4.6
Clerical workers	4.9	4.6	4.7	4.4	4.6	4.8	4.7	4.5	5.1	5.4	5.3	5.4	5.4	5.4	5.6
Blue-collar workers	6.9	6.9	7.2	7.5	7.2	8.0	7.7	8.0	9.7	11.3	11.5	11.5	11.4	10.9	10.8
Craft and kindred workers	4.6	4.5	4.6	4.9	4.4	4.9	4.8	5.4	6.7	8.1	8.0	7.4	8.1	7.7	7.0
Operatives, except transport	8.1	8.4	9.1	9.0	9.0	9.9	9.2	9.3	11.6	14.0	13.8	14.6	13.6	13.0	13.2
Transport equipment operatives	5.2	5.4	5.6	5.2	5.0	6.9	6.7	6.6	8.9	9.0	10.5	10.5	10.0	10.6	10.5
Nonfarm laborers	10.7	10.8	10.7	12.2	12.2	12.3	12.0	13.0	14.1	15.4	16.2	16.1	16.5	15.1	15.3
Service workers	7.4	7.1	6.8	6.6	6.6	6.9	6.9	7.1	8.0	8.5	8.1	8.4	8.6	8.1	8.3
Farmworkers	3.8	3.8	4.3	4.5	4.3	4.4	3.9	4.0	5.0	4.8	4.2	4.8	5.6	4.3	4.5
INDUSTRY															
Nonagricultural private wage and salary workers[2]	5.9	5.7	5.9	5.8	5.8	6.2	6.0	6.2	7.1	8.2	8.3	8.2	8.0	7.8	7.9
Construction	10.6	10.2	9.9	10.2	10.3	10.8	10.5	13.0	15.1	17.5	16.5	16.1	18.3	16.5	14.3
Manufacturing	5.5	5.5	6.0	5.9	5.9	6.7	6.4	6.5	7.9	9.9	9.9	10.3	9.3	9.1	9.3
Durable goods	4.9	5.0	5.5	5.6	5.5	6.7	6.3	6.4	8.3	10.5	11.2	11.2	10.2	10.1	9.4
Nondurable goods	6.3	6.4	6.8	6.3	6.4	6.8	6.7	6.7	7.4	8.8	8.0	8.8	7.9	7.7	9.2
Transportation and public utilities	3.7	3.7	3.8	4.2	4.1	4.4	4.4	3.8	4.6	5.1	5.2	5.8	5.7	5.4	5.3
Wholesale and retail trade	6.9	6.5	6.4	6.5	6.4	6.6	6.4	6.3	7.0	7.6	8.0	7.5	7.6	7.6	7.7
Finance and service industries	5.1	4.9	4.9	4.6	4.7	4.6	4.6	4.9	5.1	5.7	5.7	5.7	5.6	5.3	5.7
Government workers	3.9	3.7	4.0	3.6	3.6	3.8	4.0	4.2	4.4	4.2	3.5	4.1	4.0	4.1	4.6
Agricultural wage and salary workers	8.8	9.1	9.9	10.1	9.4	10.3	9.2	10.2	11.9	11.7	9.7	10.8	13.8	10.9	11.8

[1] Aggregate hours lost by the unemployed and persons on part time for economic reasons as a percent of potentially available labor force hours.

[2] Includes mining, not shown separately.

NOTE: The monthly data in this table have been revised to reflect seasonal experience through 1979.

5. Unemployment rates, by sex and age, seasonally adjusted

Sex and age	Annual average		1979			1980									
	1978	1979	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.
Total, 16 years and over	6.0	5.8	5.9	5.8	5.9	6.2	6.0	6.2	7.0	7.8	7.7	7.8	7.6	7.5	7.6
16 to 19 years	16.3	16.1	16.4	15.9	16.0	16.3	16.5	15.9	16.2	19.2	18.5	19.0	19.1	17.5	18.4
16 to 17 years	19.3	18.1	18.4	17.3	18.0	19.0	18.7	17.4	18.7	21.7	19.8	20.9	22.8	19.9	20.8
18 to 19 years	14.2	14.6	15.0	14.7	14.5	14.0	15.1	14.7	14.4	17.7	18.0	17.7	16.6	15.8	16.8
20 to 24 years	9.5	9.0	9.6	8.8	9.8	10.1	9.5	9.7	11.4	12.7	12.4	12.3	11.9	11.9	12.5
25 years and over	4.0	3.9	4.0	4.0	3.8	4.2	4.1	4.4	5.0	5.5	5.5	5.7	5.5	5.4	5.4
25 to 54 years	4.2	4.1	4.2	4.3	4.1	4.4	4.5	4.7	5.4	5.9	6.0	6.1	5.9	6.0	5.9
55 years and over	3.2	3.0	3.0	2.7	2.7	3.5	2.8	2.8	3.4	3.6	3.4	3.5	3.6	3.4	3.3
Men, 16 years and over	5.2	5.1	5.2	5.2	5.2	5.7	5.5	5.7	6.7	7.7	7.8	7.8	7.7	7.7	7.5
16 to 19 years	15.7	15.8	15.7	15.8	15.6	16.2	15.6	14.8	16.1	19.7	19.5	19.7	20.2	18.6	20.0
16 to 17 years	19.2	17.9	17.1	17.8	17.9	19.0	18.0	15.9	18.3	22.0	21.8	20.8	24.6	21.3	22.0
18 to 19 years	13.2	14.2	14.4	14.0	13.6	13.9	14.1	14.0	14.2	17.9	19.3	18.7	17.0	16.6	18.4
20 to 24 years	9.1	8.6	9.5	8.4	9.4	10.4	9.9	10.4	12.3	13.7	13.8	13.4	13.9	13.5	14.1
25 years and over	3.3	3.3	3.4	3.5	3.2	3.7	3.6	3.9	4.7	5.3	5.5	5.6	5.4	5.6	5.0
25 to 54 years	3.4	3.4	3.5	3.8	3.4	3.8	3.8	4.2	5.0	5.7	5.8	6.1	5.7	6.2	5.5
55 years and over	3.1	2.9	2.8	2.6	2.6	3.5	2.6	2.7	3.4	3.5	3.8	3.9	4.0	3.5	3.2
Women, 16 years and over	7.2	6.8	6.9	6.6	6.8	6.8	6.8	6.8	7.3	7.6	7.5	7.8	7.6	7.1	7.8
16 to 19 years	17.0	16.4	17.2	16.1	16.4	16.3	17.6	17.3	16.3	18.7	17.3	18.2	17.8	16.3	16.6
16 to 17 years	19.5	18.3	19.8	16.7	18.0	19.1	19.5	19.2	19.1	21.4	17.6	20.9	20.7	18.3	19.4
18 to 19 years	15.3	15.0	15.6	15.5	15.5	14.2	16.2	15.6	14.6	17.5	16.6	16.6	16.1	15.0	15.1
20 to 24 years	10.1	9.6	9.7	9.3	10.2	9.8	9.1	9.0	10.2	11.6	10.8	11.1	9.7	10.1	10.6
25 years and over	5.1	4.8	4.9	4.7	4.7	4.9	4.9	5.0	5.5	5.7	5.6	5.7	5.7	5.3	6.0
25 to 54 years	5.4	5.2	5.2	5.0	5.1	5.2	5.4	5.5	6.0	6.1	6.1	6.2	6.2	5.8	6.5
55 years and over	3.3	3.2	3.4	2.9	2.9	3.4	3.0	2.9	3.4	3.6	2.8	3.0	3.0	3.2	3.3

6. Unemployed persons, by reason for unemployment, seasonally adjusted

[Numbers in thousands]

Reason for unemployment	1979			1980									
	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.
NUMBER OF UNEMPLOYED													
Lost last job	2,731	2,729	2,728	2,988	2,907	3,047	3,611	4,301	4,625	4,558	4,360	4,473	4,237
On layoff	929	987	944	1,019	1,031	1,129	1,424	1,944	2,117	1,975	1,692	1,809	1,727
Other job losers	1,802	1,742	1,784	1,969	1,876	1,918	2,188	2,357	2,508	2,583	2,668	2,664	2,510
Left last job	835	845	800	779	813	788	926	992	898	857	897	842	865
Reentered labor force	1,762	1,698	1,771	1,797	1,784	1,803	1,967	2,015	1,822	1,868	1,895	1,817	2,045
Seeking first job	804	736	858	811	827	805	743	884	863	930	867	858	886
PERCENT DISTRIBUTION													
Total unemployed	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Job losers	44.5	45.4	44.3	46.9	45.9	47.3	49.8	52.5	56.3	55.5	54.4	56.0	52.7
On layoff	15.2	16.4	15.3	16.0	16.3	17.5	19.6	23.7	25.8	24.0	21.1	22.6	21.5
Other job losers	29.4	29.0	29.0	30.9	29.6	29.8	30.2	28.8	30.6	31.5	33.3	33.3	31.2
Job leavers	13.6	14.1	13.0	12.2	12.8	12.2	12.8	12.1	10.9	10.4	11.2	10.5	10.8
Reentrants	28.7	28.3	28.8	28.2	28.2	28.0	27.1	24.6	22.2	22.7	23.6	22.7	25.5
New entrants	13.1	12.3	13.9	12.7	13.1	12.5	10.3	10.8	10.5	11.3	10.8	10.7	11.0
UNEMPLOYED AS A PERCENT OF THE CIVILIAN LABOR FORCE													
Job losers	2.6	2.6	2.6	2.9	2.8	2.9	3.5	4.1	4.4	4.3	4.2	4.3	4.0
Job leavers	.8	.8	.8	.7	.8	.8	.9	.9	.9	.8	.9	.8	.8
Reentrants	1.7	1.6	1.7	1.7	1.7	1.7	1.9	1.9	1.7	1.8	1.8	1.7	1.9
New entrants	.8	.7	.8	.8	.8	.8	.7	.8	.8	.9	.8	.8	.8

7. Duration of unemployment, seasonally adjusted

[Numbers in thousands]

Weeks of unemployment	Annual average		1979			1980									
	1978	1979	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.
Less than 5 weeks	2,793	2,869	2,955	2,919	2,916	3,184	2,995	2,995	3,309	3,872	3,333	3,363	3,288	2,957	3,182
5 to 14 weeks	1,875	1,892	1,983	1,869	1,966	1,807	2,081	2,169	2,391	2,697	2,822	2,700	2,490	2,613	2,488
15 weeks and over	1,379	1,202	1,195	1,191	1,230	1,334	1,286	1,383	1,629	1,722	1,766	1,916	2,184	2,326	2,318
15 to 26 weeks	746	684	678	660	711	796	790	776	953	1,014	1,027	1,057	1,259	1,287	1,264
27 weeks and over	633	518	517	531	519	538	496	587	676	709	739	858	925	990	1,053
Average (mean) duration, in weeks	11.9	10.8	10.5	10.6	10.5	10.5	10.7	11.0	11.3	10.5	11.7	11.6	12.6	13.1	13.3

NOTE: The monthly data in these tables have been revised to reflect seasonal experience through 1979.

EMPLOYMENT, HOURS, AND EARNINGS DATA FROM ESTABLISHMENT SURVEYS

EMPLOYMENT, HOURS, AND EARNINGS DATA in this section are compiled from payroll records reported monthly on a voluntary basis to the Bureau of Labor Statistics and its cooperating State agencies by 166,000 establishments representing all industries except agriculture. In most industries, the sampling probabilities are based on the size of the establishment; most large establishments are therefore in the sample. (An establishment is not necessarily a firm; it may be a branch plant, for example, or warehouse.) Self-employed persons and others not on a regular civilian payroll are outside the scope of the survey because they are excluded from establishment records. This largely accounts for the difference in employment figures between the household and establishment surveys.

LABOR TURNOVER DATA in this section are compiled from personnel records reported monthly on a voluntary basis to the Bureau of Labor Statistics and its cooperating State agencies. A sample of 40,000 establishments represents all industries in the manufacturing and mining sectors of the economy.

Definitions

Employed persons are all persons who received pay (including holiday and sick pay) for any part of the payroll period including the 12th of the month. Persons holding more than one job (about 5 percent of all persons in the labor force) are counted in each establishment which reports them.

Production workers in manufacturing include blue-collar worker supervisors and all nonsupervisory workers closely associated with production operations. Those workers mentioned in tables 14–20 include production workers in manufacturing and mining; construction workers in construction; and nonsupervisory workers in transportation and public utilities, in wholesale and retail trade, in finance, insurance, and real estate, and in services industries. These groups account for about four-fifths of the total employment on private nonagricultural payrolls.

Earnings are the payments production or nonsupervisory workers receive during the survey period, including premium pay for overtime or late-shift work but excluding irregular bonuses and other special payments. **Real earnings** are earnings adjusted to eliminate the effects of price change. The **Hourly Earnings Index** is calculated from average hourly earnings data adjusted to exclude the effects of two types of changes that are unrelated to underlying wage-rate developments: fluctuations in overtime premiums in manufacturing (the only sector for which overtime data are available) and the effects of changes and seasonal factors in the proportion of workers in high-wage and low-wage industries. **Spendable earnings** are earnings from which estimated social security and Federal income taxes have been deducted. The Bureau of Labor Statistics computes spendable earnings from gross weekly earnings for only two illustrative cases: (1) a worker with no dependents and (2) a married worker with three dependents.

Hours represent the average weekly hours of production or nonsupervisory workers for which pay was received and are different from standard or scheduled hours. **Overtime hours** represent the portion of gross average weekly hours which were in excess of regular hours and for which overtime premiums were paid.

Labor turnover is the movement of all wage and salary workers from one employment status to another. **Accession rates** indicate the average number of persons added to a payroll in a given period per 100 employees; **separation rates** indicate the average number dropped from a payroll per 100 employees. Although month-to-month changes in employment can be calculated from the labor turnover data, the results are not comparable with employment data from the employment and payroll survey. The labor turnover survey measures changes during the calendar month while the employment and payroll survey measures changes from midmonth to midmonth.

Notes on the data

Establishment data collected by the Bureau of Labor Statistics are periodically adjusted to comprehensive counts of employment (called "benchmarks"). The latest complete adjustment was made with the release of June 1980 data, published in the August 1980 issue of the *Review*. Consequently, data published in the *Review* prior to that issue are not necessarily comparable to current data. Complete comparable historical unadjusted and seasonally adjusted data are published in a Supplement to Employment and Earnings (unadjusted data from April 1977 through March 1980 and seasonally adjusted data from January 1974 through March 1980) and in *Employment and Earnings, United States, 1909–78*, BLS Bulletin 1312–11 (for prior periods).

Data on recalls were shown for the first time in tables 12 and 13 in the January 1978 issue of the *Review*. For a detailed discussion of the recalls series, along with historical data, see "New Series on Recalls from the Labor Turnover Survey," *Employment and Earnings*, December 1977, pp. 10–19.

A comprehensive discussion of the differences between household and establishment data on employment appears in Gloria P. Green, "Comparing employment estimates from household and payroll surveys," *Monthly Labor Review*, December 1969, pp. 9–20. See also *BLS Handbook of Methods for Surveys and Studies*, Bulletin 1910 (Bureau of Labor Statistics, 1976).

The formulas used to construct the spendable average weekly earnings series reflect the latest provisions of the Federal income tax and social security tax laws. For the spendable average weekly earnings formulas for the years 1978–80, see *Employment and Earnings*, March 1980, pp. 10–11. Real earnings data are adjusted using the Consumer Price Index for Urban Wage Earners and Clerical Workers (CPI-W).

8. Employment by Industry, 1950–79

[Nonagricultural payroll data, in thousands]

Year	Total	Mining	Construction	Manufacturing	Transportation and public utilities	Wholesale and retail trade	Wholesale trade	Retail trade	Finance, insurance, and real estate	Services	Government		
											Total	Federal	State and local
1950	45,197	901	2,364	15,241	4,034	9,386	2,635	6,751	1,888	5,357	6,026	1,928	4,098
1951	47,819	929	2,637	16,393	4,226	9,742	2,727	7,015	1,956	5,547	6,389	2,302	4,087
1952	48,793	898	2,668	16,632	4,248	10,004	2,812	7,192	2,035	5,699	6,609	2,420	4,188
1953	50,202	866	2,659	17,549	4,290	10,247	2,854	7,393	2,111	5,835	6,645	2,305	4,340
1954	48,990	791	2,646	16,314	4,084	10,235	2,867	7,368	2,200	5,969	6,751	2,188	4,563
1955	50,641	792	2,839	16,882	4,141	10,535	2,926	7,610	2,298	6,240	6,914	2,187	4,727
1956	52,369	822	3,039	17,243	4,244	10,858	3,018	7,840	2,389	6,497	7,278	2,209	5,069
1957	52,853	828	2,962	17,174	4,241	10,886	3,028	7,858	2,438	6,708	7,616	2,217	5,399
1958	51,324	751	2,817	15,945	3,976	10,750	2,980	7,770	2,481	6,765	7,839	2,191	5,648
1959[1]	53,268	732	3,004	16,675	4,011	11,127	3,082	8,045	2,549	7,087	8,083	2,233	5,850
1960	54,189	712	2,926	16,796	4,004	11,391	3,143	8,248	2,629	7,378	8,353	2,270	6,083
1961	53,999	672	2,859	16,326	3,903	11,337	3,133	8,204	2,688	7,620	8,594	2,279	6,315
1962	55,549	650	2,948	16,853	3,906	11,566	3,198	8,368	2,754	7,982	8,890	2,340	6,550
1963	56,653	635	3,010	16,995	3,903	11,778	3,248	8,530	2,830	8,277	9,225	2,358	6,868
1964	58,283	634	3,097	17,274	3,951	12,160	3,337	8,823	2,911	8,660	9,596	2,348	7,248
1965	60,765	632	3,232	18,062	4,036	12,716	3,466	9,250	2,977	9,036	10,074	2,378	7,696
1966	63,901	627	3,317	19,214	4,158	13,245	3,597	9,648	3,058	9,498	10,784	2,564	8,220
1967	65,803	613	3,248	19,447	4,268	13,606	3,689	9,917	3,185	10,045	11,391	2,719	8,672
1968	67,897	606	3,350	19,781	4,318	14,099	3,779	10,320	3,337	10,567	11,839	2,737	9,102
1969	70,384	619	3,575	20,167	4,442	14,705	3,907	10,798	3,512	11,169	12,195	2,758	9,437
1970	70,880	623	3,588	19,367	4,515	15,040	3,993	11,047	3,645	11,548	12,554	2,731	9,823
1971	71,214	609	3,704	18,623	4,476	15,352	4,001	11,351	3,772	11,797	12,881	2,696	10,185
1972	73,675	628	3,889	19,151	4,541	15,949	4,113	11,836	3,908	12,276	13,334	2,684	10,649
1973	76,790	642	4,097	20,154	4,656	16,607	4,277	12,329	4,046	12,857	13,732	2,663	11,068
1974	78,265	697	4,020	20,077	4,725	16,987	4,433	12,554	4,148	13,441	14,170	2,724	11,446
1975	76,945	752	3,525	18,323	4,542	17,060	4,415	12,645	4,165	13,892	14,686	2,748	11,937
1976	79,382	779	3,576	18,997	4,582	17,755	4,546	13,209	4,271	14,551	14,871	2,733	12,138
1977	82,471	813	3,851	19,682	4,713	18,516	4,708	13,808	4,467	15,303	15,127	2,727	12,399
1978	86,697	851	4,229	20,505	4,923	19,542	4,969	14,573	4,724	16,252	15,672	2,753	12,919
1979	89,886	960	4,483	21,062	5,141	20,269	5,204	15,066	4,974	17,078	15,920	2,773	13,147

[1] Data include Alaska and Hawaii beginning in 1959.

9. Employment by State

[Nonagricultural payroll data, in thousands]

State	Sept. 1979	Aug. 1980	Sept. 1980	State	Sept. 1979	Aug. 1980	Sept. 1980
Alabama	1,370.8	1,331.9	1,335.2	Montana	296.6	286.3	287.6
Alaska	177.9	184.6	. . .	Nebraska	635.7	623.8	629.1
Arizona	973.9	958.9	982.1	Nevada	394.3	402.8	407.9
Arkansas	763.8	745.3	760.7	New Hampshire	385.6	388.8	386.7
California	9,750.9	9,684.8	9,760.3	New Jersey	3,050.6	3,077.1	3,046.7
Colorado	1,234.5	1,252.1	1,255.4	New Mexico	469.7	475.3	476.5
Connecticut	1,412.6	1,386.5	1,403.4	New York	7,201.7	7,197.4	7,154.3
Delaware	259.0	256.1	257.0	North Carolina	2,406.9	2,385.9	2,427.1
District of Columbia	630.8	631.8	618.4	North Dakota	249.4	248.1	249.1
Florida	3,366.0	3,471.3	3,519.7	Ohio	4,543.6	4,360.5	4,417.8
Georgia	2,125.8	2,127.4	2,141.0	Oklahoma	1,108.1	1,134.7	1,141.8
Hawaii	395.3	413.8	396.1	Oregon	1,073.0	1,022.1	1,035.0
Idaho	344.2	327.7	. . .	Pennsylvania	4,855.9	4,729.2	4,715.7
Illinois	4,886.5	4,842.8	4,788.4	Rhode Island	406.9	391.9	394.9
Indiana	2,283.8	2,199.2	2,226.6	South Carolina	1,187.1	1,174.3	1,183.5
Iowa	1,144.1	1,074.2	1,107.3	South Dakota	243.7	240.1	238.4
Kansas	956.5	933.3	949.5	Tennessee	1,810.5	1,749.5	1,766.9
Kentucky	1,258.1	1,187.5	1,204.5	Texas	5,675.0	5,791.0	5,845.3
Louisiana	1,502.5	1,542.8	1,556.1	Utah	558.6	560.5	567.6
Maine	425.4	427.5	422.4	Vermont	201.1	198.3	201.8
Maryland	1,628.5	1,622.3	1,614.5	Virginia	2,120.2	2,124.1	2,135.9
Massachusetts	2,609.5	2,667.8	2,676.9	Washington	1,609.8	1,606.0	1,621.9
Michigan	3,618.0	3,378.9	3,453.4	West Virginia	660.2	625.4	630.1
Minnesota	1,803.0	1,786.6	1,790.9	Wisconsin	2,007.3	1,987.0	2,000.1
Mississippi	845.9	811.1	824.3	Wyoming	212.4	224.2	225.0
Missouri	2,028.9	1,966.9	1,984.0	Virgin Islands	35.2	36.5	35.4

10. Employment by industry division and major manufacturing group

[Nonagricultural payroll data, in thousands]

Industry division and group	Annual average		1979			1980									
	1978	1979	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.ᵖ	Oct.ᵖ
TOTAL	86,697	89,886	91,062	91,288	91,394	89,630	89,781	90,316	90,761	90,849	91,049	89,820	90,072	90,718	91,242
MINING	851	960	984	986	985	982	987	996	1,006	1,024	1,049	1,030	1,029	1,034	1,037
CONSTRUCTION	4,229	4,483	4,782	4,698	4,536	4,194	4,108	4,150	4,311	4,471	4,611	4,633	4,712	4,683	4,694
MANUFACTURING	20,505	21,062	21,193	21,055	20,987	20,777	20,730	20,793	20,533	20,250	20,201	19,754	20,044	20,279	20,283
Production workers	14,734	15,085	15,170	15,034	14,964	14,738	14,678	14,727	14,466	14,172	14,093	13,657	13,947	14,199	14,209
Durable goods	12,274	12,772	12,824	12,744	12,733	12,600	12,599	12,647	12,414	12,150	12,065	11,774	11,827	12,037	12,095
Production workers	8,805	9,120	9,131	9,054	9,040	8,885	8,869	8,909	8,672	8,409	8,307	8,025	8,075	8,297	8,355
Lumber and wood products	754.7	766.1	760.0	757.2	737.4	717.4	718.9	716.9	678.4	654.8	668.0	656.8	683.0	689.0	690.5
Furniture and fixtures	494.1	499.3	502.5	503.1	501.8	498.0	494.6	494.1	486.7	469.1	460.8	438.1	454.6	466.6	468.8
Stone, clay, and glass products	698.2	709.7	718.6	710.3	697.4	678.2	674.7	679.0	675.5	688.1	686.2	656.0	663.2	668.1	669.0
Primary metal industries	1,214.9	1,250.2	1,231.4	1,222.6	1,209.9	1,207.2	1,205.1	1,203.7	1,193.8	1,149.8	1,112.9	1,055.5	1,059.6	1,079.5	1,084.2
Fabricated metal products	1,672.6	1,723.7	1,733.8	1,733.3	1,725.2	1,696.8	1,699.4	1,703.8	1,671.4	1,619.8	1,596.6	1,538.4	1,567.6	1,593.6	1,605.1
Machinery, except electrical	2,325.5	2,461.6	2,465.1	2,458.7	2,471.6	2,538.5	2,536.5	2,539.9	2,523.5	2,509.3	2,486.1	2,440.2	2,417.8	2,448.5	2,458.7
Electric and electronic equipment	2,006.1	2,124.3	2,162.0	2,164.0	2,171.9	2,162.9	2,157.7	2,167.7	2,156.2	2,120.2	2,102.2	2,086.5	2,080.7	2,105.6	2,117.6
Transportation equipment	2,002.8	2,082.8	2,076.5	2,044.2	2,079.3	1,975.8	1,983.1	2,005.6	1,891.1	1,835.1	1,847.0	1,810.2	1,785.4	1,869.4	1,879.3
Instruments and related products	653.1	688.9	694.6	694.9	698.8	697.7	700.5	703.6	702.2	699.4	702.9	686.3	697.8	695.0	697.5
Miscellaneous manufacturing	451.5	445.6	459.7	455.5	439.4	427.7	428.8	432.9	433.0	424.6	420.1	404.0	417.6	421.3	423.8
Nondurable goods	8,231	8,290	8,369	8,311	8,254	8,177	8,131	8,146	8,119	8,100	8,136	7,980	8,217	8,242	8,188
Production workers	5,929	5,965	6,039	5,980	5,924	5,853	5,809	5,818	5,794	5,763	5,786	5,632	5,872	5,902	5,854
Food and kindred products	1,724.1	1,728.1	1,781.8	1,736.3	1,706.2	1,659.9	1,644.1	1,641.1	1,626.2	1,638.5	1,676.8	1,709.5	1,795.3	1,791.2	1,729.5
Tobacco manufactures	70.6	69.9	77.4	68.6	70.8	69.1	67.1	64.4	62.9	62.7	64.6	63.9	71.3	75.3	76.8
Textile mill products	899.1	888.5	886.1	890.4	889.7	884.0	884.6	886.9	882.1	870.6	853.2	820.6	854.1	854.1	857.7
Apparel and other textile products	1,332.3	1,312.5	1,317.3	1,305.8	1,287.1	1,282.0	1,305.8	1,318.4	1,304.2	1,290.0	1,310.5	1,236.9	1,299.9	1,310.6	1,304.6
Paper and allied products	698.7	706.7	709.3	707.8	705.9	703.5	701.9	701.8	698.8	692.4	695.0	682.3	698.7	688.7	686.6
Printing and publishing	1,192.0	1,239.5	1,251.4	1,262.0	1,268.5	1,266.3	1,270.4	1,272.1	1,270.4	1,267.8	1,271.3	1,264.5	1,264.3	1,267.6	1,270.8
Chemicals and allied products	1,095.5	1,110.7	1,113.7	1,113.9	1,114.2	1,113.1	1,112.1	1,116.1	1,120.6	1,119.5	1,122.2	1,112.0	1,108.4	1,106.5	1,107.8
Petroleum and coal products	207.7	210.0	213.5	212.6	210.6	208.6	155.9	153.1	173.6	203.4	209.1	212.0	212.4	211.0	213.2
Rubber and miscellaneous plastics products	754.5	775.6	770.8	765.9	755.6	750.3	746.3	746.5	737.2	702.4	688.5	659.3	680.4	695.0	699.5
Leather and leather products	256.8	246.0	247.9	247.6	245.2	240.3	242.6	243.4	243.3	243.2	244.7	218.9	242.6	242.1	241.3
TRANSPORTATION AND PUBLIC UTILITIES	4,923	5,141	5,233	5,243	5,240	5,136	5,130	5,143	5,147	5,167	5,165	5,145	5,144	5,168	5,167
WHOLESALE AND RETAIL TRADE	19,542	20,289	20,474	20,756	21,114	20,325	20,155	20,226	20,373	20,497	20,562	20,506	20,579	20,687	20,706
WHOLESALE TRADE	4,969	5,204	5,266	5,282	5,264	5,241	5,250	5,269	5,265	5,263	5,287	5,278	5,284	5,290	5,321
RETAIL TRADE	14,573	15,086	15,208	15,474	15,850	15,084	14,905	14,957	15,108	15,234	15,275	15,228	15,295	15,397	15,385
FINANCE, INSURANCE, AND REAL ESTATE	4,724	4,974	5,025	5,039	5,047	5,052	5,061	5,065	5,104	5,137	5,201	5,229	5,232	5,188	5,190
SERVICES	16,252	17,078	17,297	17,284	17,271	17,135	17,317	17,478	17,636	17,747	17,846	17,973	17,966	17,905	17,944
GOVERNMENT	15,672	15,920	16,064	16,227	16,214	16,029	16,292	16,445	16,651	16,556	16,394	15,550	15,366	15,774	16,221
Federal	2,753	2,773	2,756	2,760	2,770	2,763	2,803	2,869	3,103	2,963	2,995	2,949	2,862	2,754	2,740
State and local	12,919	13,147	13,308	13,467	13,444	13,266	13,489	13,576	13,548	13,593	13,399	12,601	12,504	13,020	13,481

11. Employment by industry division and major manufacturing group, seasonally adjusted

[Nonagricultural payroll data, in thousands]

Industry division and group	1979			1980									
	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.ᵖ	Oct.ᵖ
TOTAL	90,441	90,552	90,678	91,031	91,186	91,144	90,951	90,468	90,047	89,867	90,142	90,365	90,622
MINING	982	985	992	999	1,007	1,009	1,012	1,023	1,029	1,013	1,013	1,027	1,035
CONSTRUCTION	4,529	4,553	4,615	4,745	4,659	4,529	4,467	4,436	4,379	4,322	4,359	4,397	4,437
MANUFACTURING	21,043	20,966	20,983	20,971	20,957	20,938	20,642	20,286	20,014	19,828	19,940	20,046	20,139
Production workers	15,025	14,948	14,956	14,911	14,871	14,850	14,550	14,186	13,931	13,759	13,872	13,978	14,070
Durable goods	12,764	12,693	12,706	12,681	12,715	12,707	12,442	12,140	11,947	11,819	11,860	11,955	12,038
Production workers	9,069	9,001	9,009	8,953	8,967	8,961	8,686	8,386	8,205	8,084	8,123	8,218	8,300
Lumber and wood products	766	757	746	743	745	737	689	654	648	650	662	674	680
Furniture and fixtures	498	498	497	497	495	494	491	472	461	449	456	464	465
Stone, clay, and glass products	709	704	704	705	706	700	680	663	647	641	646	656	660
Primary metal industries	1,236	1,230	1,219	1,215	1,214	1,209	1,193	1,144	1,096	1,049	1,059	1,072	1,087
Fabricated metal products	1,723	1,722	1,718	1,707	1,711	1,711	1,678	1,620	1,584	1,551	1,569	1,586	1,596
Machinery, except electrical	2,478	2,460	2,458	2,532	2,529	2,530	2,518	2,517	2,476	2,446	2,437	2,451	2,471
Electric and electronic equipment	2,149	2,150	2,163	2,169	2,168	2,176	2,167	2,127	2,094	2,079	2,083	2,093	2,105
Transportation equipment	2,063	2,033	2,057	1,970	2,006	2,006	1,885	1,819	1,831	1,839	1,840	1,854	1,866
Instruments and related products	696	695	698	698	702	705	703	700	696	698	697	696	699
Miscellaneous manufacturing	444	444	445	444	440	439	438	424	414	415	409	409	409
Nondurable goods	8,279	8,273	8,277	8,290	8,242	8,231	8,200	8,146	8,067	8,009	8,080	8,091	8,101
Production workers	5,956	5,947	5,947	5,958	5,904	5,889	5,864	5,800	5,726	5,675	5,749	5,760	5,770
Food and kindred products	1,723	1,725	1,724	1,716	1,713	1,704	1,690	1,691	1,677	1,683	1,690	1,672	1,673
Tobacco manufactures	70	64	66	67	68	68	69	70	71	69	67	68	70
Textile mill products	885	887	889	888	886	888	884	869	843	833	851	851	857
Apparel and other textile products	1,302	1,294	1,296	1,305	1,313	1,316	1,302	1,291	1,287	1,276	1,296	1,300	1,289
Paper and allied products	709	708	708	710	709	706	702	692	685	680	682	686	686
Printing and publishing	1,251	1,258	1,261	1,269	1,273	1,274	1,272	1,268	1,269	1,266	1,265	1,280	1,271
Chemicals and allied products	1,114	1,116	1,118	1,121	1,121	1,123	1,123	1,120	1,112	1,103	1,100	1,104	1,108
Petroleum and coal products	212	212	213	214	161	157	175	203	205	207	208	208	212
Rubber and miscellaneous plastics products	766	762	756	755	751	749	740	703	681	663	680	692	695
Leather and leather products	247	246	248	245	245	244	243	239	237	229	240	241	240
TRANSPORTATION AND PUBLIC UTILITIES	5,203	5,216	5,212	5,202	5,198	5,202	5,178	5,167	5,134	5,114	5,129	5,122	5,136
WHOLESALE AND RETAIL TRADE	20,414	20,479	20,448	20,529	20,637	20,610	20,531	20,487	20,459	20,506	20,589	20,615	20,639
WHOLESALE TRADE	5,246	5,269	5,251	5,278	5,302	5,301	5,286	5,268	5,245	5,247	5,263	5,279	5,300
RETAIL TRADE	15,168	15,210	15,197	15,251	15,335	15,309	15,245	15,219	15,214	15,259	15,326	15,336	15,339
FINANCE, INSURANCE, AND REAL ESTATE	5,033	5,049	5,064	5,091	5,101	5,115	5,119	5,137	5,150	5,167	5,180	5,188	5,200
SERVICES	17,264	17,308	17,362	17,462	17,540	17,580	17,618	17,659	17,652	17,760	17,788	17,851	17,908
GOVERNMENT	15,973	15,996	16,002	16,032	16,087	16,161	16,384	16,273	16,230	16,157	16,144	16,119	16,128
Federal	2,769	2,773	2,773	2,791	2,826	2,886	3,115	2,960	2,951	2,893	2,828	2,765	2,754
State and local	13,204	13,223	13,229	13,241	13,261	13,275	13,269	13,313	13,279	13,264	13,316	13,354	13,374

12. Labor turnover rates in manufacturing, 1977 to date

[Per 100 employees]

Year	Annual average	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
	Total accessions												
1977	4.0	3.7	3.7	4.0	3.8	4.6	4.9	4.3	5.3	4.6	3.9	3.1	2.4
1978	4.1	3.8	3.2	3.8	4.0	4.7	4.9	4.4	5.4	4.9	4.3	3.3	2.4
1979	4.0	4.0	3.4	3.8	3.9	4.7	4.6	4.3	5.0	4.5	4.1	3.0	2.2
1980	...	3.8	3.3	3.5	3.1	3.4	3.9	3.8	4.5	p4.3	...	...	...
	New hires												
1977	2.8	2.2	2.1	2.6	2.7	3.5	3.7	3.0	4.0	3.5	3.0	2.2	1.6
1978	3.1	2.5	2.2	2.7	2.9	3.6	3.9	3.3	4.2	3.9	3.5	2.6	1.7
1979	2.9	2.8	2.5	2.8	2.9	3.6	3.8	3.1	3.7	3.4	3.1	2.2	1.5
1980	...	2.4	2.2	2.3	2.1	2.1	2.4	2.1	2.5	p2.5	...	...	...
	Recalls												
1977	.9	1.2	1.3	1.1	.9	.8	.8	.9	1.0	.8	.6	.6	.6
1978	.7	1.0	.7	.8	.8	.8	.7	.8	.9	.7	.6	.5	.5
1979	.7	.9	.7	.7	.7	.8	.7	.9	.9	.8	.7	.5	.5
1980	...	1.1	.9	.9	.8	1.0	1.2	1.4	1.7	p1.4	...	...	...
	Total separations												
1977	3.8	3.9	3.4	3.4	3.4	3.5	3.5	4.3	5.1	4.9	3.8	3.4	3.4
1978	3.9	3.6	3.1	3.5	3.6	3.7	3.8	4.1	5.3	4.9	4.1	3.5	3.4
1979	4.0	3.8	3.2	3.6	3.7	3.8	3.9	4.3	5.7	4.7	4.2	3.8	3.5
1980	...	4.1	3.5	3.7	4.7	4.8	4.4	4.2	4.8	p4.1	...	...	...
	Quits												
1977	1.8	1.4	1.3	1.6	1.7	1.9	1.9	1.9	3.1	2.8	1.9	1.5	1.2
1978	2.1	1.5	1.4	1.8	2.0	2.1	2.2	2.1	3.5	3.1	2.3	1.7	1.3
1979	2.0	1.8	1.6	1.9	2.0	2.1	2.1	2.0	3.3	2.7	2.1	1.6	1.1
1980	...	1.6	1.5	1.6	1.5	1.5	1.4	1.4	2.2	p1.9	...	...	...
	Layoffs												
1977	1.1	1.7	1.4	1.0	.9	.8	.8	1.5	1.0	1.1	1.1	1.1	1.5
1978	.9	1.2	.9	.9	.8	.7	.7	1.1	.8	.8	.9	1.0	1.4
1979	1.1	1.1	.8	.8	.9	.7	.9	1.4	1.3	1.1	1.2	1.5	1.7
1980	...	1.6	1.2	1.3	2.3	2.5	2.2	2.0	1.7	p1.4	...	...	...

13. Labor turnover rates in manufacturing, by major industry group

[Per 100 employees]

Major industry group	Accession rates									Separation rates								
	Total			New hires			Recalls			Total			Quits			Layoffs		
	Sept. 1979	Aug. 1980	Sept. 1980p	Sept. 1979	Aug. 1980	Sept. 1980p	Sept. 1979	Aug. 1980	Sept. 1980p	Sept. 1979	Aug. 1980	Sept. 1980p	Sept. 1979	Aug. 1980	Sept. 1980p	Sept. 1979	Aug. 1980	Sept. 1980p
MANUFACTURING	4.5	4.5	4.3	3.4	2.5	2.5	0.8	1.7	1.4	4.7	4.8	4.1	2.7	2.2	1.9	1.1	1.7	1.4
Seasonally adjusted	3.9	3.6	3.8	2.8	1.9	2.0	...	...	...	3.9	3.9	3.5	1.9	1.3	1.3	1.2	1.9	1.5
Durable goods	4.0	4.0	4.0	3.0	1.9	2.1	.7	1.7	1.5	4.1	4.5	3.6	2.2	1.7	1.5	.9	1.9	1.3
Lumber and wood products	5.7	6.9	5.3	4.9	4.3	3.5	.8	2.4	1.8	6.4	6.2	5.9	4.5	3.2	2.8	.7	1.8	2.1
Furniture and fixtures	5.8	5.0	5.7	5.2	3.3	3.9	.4	1.5	1.8	5.3	5.4	4.3	3.6	2.9	2.5	.6	1.5	.8
Stone, clay, and glass products	3.8	4.5	3.7	3.1	2.3	2.1	.5	1.8	1.4	4.6	5.0	3.9	2.6	2.0	1.6	.9	2.0	1.5
Primary metal industries	2.3	4.3	4.4	1.5	.8	1.0	.8	3.2	3.0	3.9	4.6	3.7	1.4	.9	.7	1.6	2.7	2.2
Fabricated metal products	4.6	4.7	5.0	3.6	2.2	2.4	.8	2.2	2.2	4.6	4.7	3.7	2.5	2.0	1.5	1.1	1.9	1.4
Machinery, except electrical	3.1	2.6	2.9	2.5	1.5	1.7	.3	.9	.9	3.0	3.5	3.0	1.7	1.4	1.1	.5	1.4	1.0
Electric and electronic equipment	3.8	3.2	3.3	2.9	1.5	1.9	.4	1.1	.8	3.7	3.7	3.1	2.2	1.7	1.4	.5	1.1	.8
Transportation equipment	4.4	4.5	...	2.3	1.4	...	1.7	2.5	...	4.0	5.9	...	1.4	1.1	...	1.8	3.8	...
Instruments and related products	3.0	2.6	2.9	2.5	1.7	2.3	.2	.8	.4	3.4	3.2	3.2	2.4	1.9	2.0	.3	.8	.6
Miscellaneous manufacturing	6.9	5.3	6.2	6.0	3.7	4.3	.7	1.3	1.7	6.7	5.7	5.2	4.0	3.2	2.8	1.1	1.4	1.3
Nondurable goods	5.2	5.3	4.6	4.0	3.4	3.2	.9	1.6	1.3	5.6	5.2	4.9	3.4	2.9	2.5	1.3	1.4	1.6
Food and kindred products	8.1	8.9	7.1	6.1	6.0	4.7	1.8	2.6	2.2	9.1	7.1	8.2	5.2	4.1	3.7	2.7	2.0	3.5
Tobacco manufacturers	5.8	10.3	...	2.4	4.1	...	2.4	5.6	...	3.6	3.5	...	1.5	1.2	...	1.1	1.4	...
Textile mill products	4.9	3.9	3.8	4.0	2.8	2.7	.5	.9	.9	5.2	4.8	3.9	3.5	2.8	2.3	.6	1.0	.7
Apparel and other products	6.2	6.7	6.0	4.4	3.9	3.9	1.5	2.4	1.9	6.2	6.8	5.9	4.0	3.8	3.2	1.4	2.0	1.8
Paper and allied products	2.8	2.9	2.8	2.4	1.7	1.8	.3	1.0	.8	3.6	3.9	3.4	2.0	1.8	1.4	.7	1.2	1.2
Printing and publishing	4.1	3.3	3.5	3.7	2.7	2.9	.4	.5	.5	3.9	4.2	3.5	2.8	2.8	2.2	.5	.8	.7
Chemicals and allied products	1.7	1.6	1.8	1.4	1.0	1.2	.2	.4	.5	2.2	2.6	2.1	1.2	1.4	1.0	.4	.6	.6
Petroleum and coal products	3.5	2.1	2.0	3.3	1.7	1.6	.1	.3	.3	2.6	3.1	2.2	1.4	1.3	.9	.5	1.1	.7
Rubber and miscellaneous plastics products	5.3	5.8	5.2	4.3	3.0	3.1	.6	2.5	1.8	6.1	5.5	4.5	3.6	2.6	2.2	1.3	1.7	1.4
Leather and leather products	7.3	8.5	6.5	5.6	5.2	4.9	1.2	3.0	1.2	8.7	7.5	7.1	5.3	4.5	4.1	2.2	1.9	1.9

14. Hours and earnings, by industry division, 1949–79

[Gross averages, production or nonsupervisory workers on nonagricultural payrolls]

Year	Average weekly earnings	Average weekly hours	Average hourly earnings	Average weekly earnings	Average weekly hours	Average hourly earnings	Average weekly earnings	Average weekly hours	Average hourly earnings	Average weekly earnings	Average weekly hours	Average hourly earnings
	Total private			Mining			Construction			Manufacturing		
1949	$50.24	39.4	$1.275	$62.33	36.3	$1.717	$67.56	37.7	$1.792	$53.88	39.1	$1.378
1950	53.13	39.8	1.335	67.16	37.9	1.772	69.68	37.4	1.863	58.32	40.5	1.440
1951	57.86	39.9	1.45	74.11	38.4	1.93	76.96	38.1	2.02	63.34	40.6	1.56
1952	60.65	39.9	1.52	77.59	38.6	2.01	82.86	38.9	2.13	66.75	40.7	1.64
1953	63.76	39.6	1.61	83.03	38.8	2.14	86.41	37.9	2.28	70.47	40.5	1.74
1954	64.52	39.1	1.65	82.60	38.6	2.14	88.91	37.2	2.39	70.49	39.6	1.78
1955	67.72	39.6	1.71	89.54	40.7	2.20	90.90	37.1	2.45	75.30	40.7	1.85
1956	70.74	39.3	1.80	95.06	40.8	2.33	96.38	37.5	2.57	78.78	40.4	1.95
1957	73.33	38.8	1.89	98.25	40.1	2.45	100.27	37.0	2.71	81.19	39.8	2.04
1958	75.08	38.5	1.95	96.08	38.9	2.47	103.78	36.8	2.82	82.32	39.2	2.10
1959[1]	78.78	39.0	2.02	103.68	40.5	2.56	108.41	37.0	2.93	88.26	40.3	2.19
1960	80.67	38.6	2.09	105.04	40.4	2.60	112.67	36.7	3.07	89.72	39.7	2.26
1961	82.60	38.6	2.14	106.92	40.5	2.64	118.08	36.9	3.20	92.34	39.8	2.32
1962	85.91	38.7	2.22	110.70	41.0	2.70	122.47	37.0	3.31	96.56	40.4	2.39
1963	88.46	38.8	2.28	114.40	41.6	2.75	127.19	37.3	3.41	99.23	40.5	2.45
1964	91.33	38.7	2.36	117.74	41.9	2.81	132.06	37.2	3.55	102.97	40.7	2.53
1965	95.45	38.8	2.46	123.52	42.3	2.92	138.38	37.4	3.70	107.53	41.2	2.61
1966	98.82	38.6	2.56	130.24	42.7	3.05	146.26	37.6	3.89	112.19	41.4	2.71
1967	101.84	38.0	2.68	135.89	42.6	3.19	154.95	37.7	4.11	114.49	40.6	2.82
1968	107.73	37.8	2.85	142.71	42.6	3.35	164.49	37.3	4.41	122.51	40.7	3.01
1969	114.61	37.7	3.04	154.80	43.0	3.60	181.54	37.9	4.79	129.51	40.6	3.19
1970	119.83	37.1	3.23	164.40	42.7	3.85	195.45	37.3	5.24	133.33	39.8	3.35
1971	127.31	36.9	3.45	172.14	42.4	4.06	211.67	37.2	5.69	142.44	39.9	3.57
1972	136.90	37.0	3.70	189.14	42.6	4.44	221.19	36.5	6.06	154.71	40.5	3.82
1973	145.39	36.9	3.94	201.40	42.4	4.75	235.89	36.8	6.41	166.46	40.7	4.09
1974	154.76	36.5	4.24	219.14	41.9	5.23	249.25	36.6	6.81	176.80	40.0	4.42
1975	163.53	36.1	4.53	249.31	41.9	5.95	266.08	36.4	7.31	190.79	39.5	4.83
1976	175.45	36.1	4.86	273.90	42.4	6.46	283.73	36.8	7.71	209.32	40.1	5.22
1977	189.00	36.0	5.25	301.20	43.4	6.94	295.65	36.5	8.10	228.90	40.3	5.68
1978	203.70	35.8	5.69	332.88	43.4	7.67	318.69	36.8	8.66	249.27	40.4	6.17
1979	219.30	35.6	6.16	365.50	43.0	8.50	342.99	37.0	9.27	268.94	40.2	6.69

Year	Average weekly earnings	Average weekly hours	Average hourly earnings	Average weekly earnings	Average weekly hours	Average hourly earnings	Average weekly earnings	Average weekly hours	Average hourly earnings	Average weekly earnings	Average weekly hours	Average hourly earnings
	Transportation and public utilities			Wholesale and retail trade			Finance, insurance, and real estate			Services		
1949	....	....	....	$42.93	40.5	$1.060	$47.63	37.8	$1.260	....	....	....
1950	....	....	....	44.55	40.5	1.100	50.52	37.7	1.340	....	....	....
1951	....	....	....	47.79	40.5	1.18	54.67	37.7	1.45	....	....	....
1952	....	....	....	49.20	40.0	1.23	57.08	37.8	1.51	....	....	....
1953	....	....	....	51.35	39.5	1.30	59.57	37.7	1.58	....	....	....
1954	....	....	....	53.33	39.5	1.35	62.04	37.6	1.65	....	....	....
1955	....	....	....	55.16	39.4	1.40	63.92	37.6	1.70	....	....	....
1956	....	....	....	57.48	39.1	1.47	65.68	36.9	1.78	....	....	....
1957	....	....	....	59.60	38.7	1.54	67.53	36.7	1.84	....	....	....
1958	....	....	....	61.76	38.6	1.60	70.12	37.1	1.89	....	....	....
1959[1]	....	....	....	64.41	38.8	1.66	72.74	37.3	1.95	....	....	....
1960	....	....	....	66.01	38.6	1.71	75.14	37.2	2.02	....	....	....
1961	....	....	....	67.41	38.3	1.76	77.12	36.9	2.09	....	....	....
1962	....	....	....	69.91	38.2	1.83	80.94	37.3	2.17	....	....	....
1963	....	....	....	72.01	38.1	1.89	84.38	37.5	2.25	....	....	....
1964	$118.78	41.1	$2.89	74.66	37.9	1.97	85.79	37.3	2.30	$70.03	36.1	$1.94
1965	125.14	41.3	3.03	76.91	37.7	2.04	88.91	37.2	2.39	73.60	35.9	2.05
1966	128.13	41.2	3.11	79.39	37.1	2.14	92.13	37.3	2.47	77.04	35.5	2.17
1967	130.82	40.5	3.23	82.35	36.6	2.25	95.72	37.1	2.58	80.38	35.1	2.29
1968	138.85	40.6	3.42	87.00	36.1	2.41	101.75	37.0	2.75	83.97	34.7	2.42
1969	147.74	40.7	3.63	91.39	35.7	2.56	108.70	37.1	2.93	90.57	34.7	2.61
1970	155.93	40.5	3.85	96.02	35.3	2.72	112.67	36.7	3.07	96.66	34.4	2.81
1971	168.82	40.1	4.21	101.09	35.1	2.88	117.85	36.6	3.22	103.06	33.9	3.04
1972	187.86	40.4	4.65	106.45	34.9	3.05	122.98	36.6	3.36	110.85	33.9	3.27
1973	203.31	40.5	5.02	111.76	34.6	3.23	129.20	36.6	3.53	117.29	33.8	3.47
1974	217.48	40.2	5.41	119.02	34.2	3.48	137.61	36.5	3.77	126.00	33.6	3.75
1975	233.44	39.7	5.88	126.45	33.9	3.73	148.19	36.5	4.06	134.67	33.5	4.02
1976	256.71	39.8	6.45	133.79	33.7	3.97	155.43	36.4	4.27	143.52	33.3	4.31
1977	278.90	39.9	6.99	142.52	33.3	4.28	165.26	36.4	4.54	153.45	33.0	4.65
1978	302.80	40.0	7.57	153.64	32.9	4.67	178.00	36.4	4.89	163.67	32.8	4.99
1979	325.98	39.9	8.17	164.96	32.6	5.06	190.77	36.2	5.27	175.27	32.7	5.36

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[1] Data include Alaska and Hawaii beginning in 1959.

15. Weekly hours, by industry division and major manufacturing group

[Gross averages, production or nonsupervisory workers on private nonagricultural payrolls]

Industry division and group	Annual average		1979			1980									
	1978	1979	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.ᵖ	Oct.ᵖ
TOTAL PRIVATE	35.8	35.6	35.7	35.6	35.9	35.1	35.1	35.2	35.0	35.0	35.3	35.3	35.5	35.3	35.2
MINING	43.4	43.0	43.7	43.6	43.9	43.4	43.2	43.4	42.8	42.7	43.2	41.9	43.1	43.5	43.6
CONSTRUCTION	36.8	37.0	37.7	36.6	37.2	35.3	35.7	36.2	36.7	36.9	37.9	37.7	37.3	38.0	37.8
MANUFACTURING	40.4	40.2	40.2	40.3	40.9	39.8	39.8	39.8	39.4	39.3	39.4	38.8	39.3	39.8	39.7
Overtime hours	3.6	3.3	3.4	3.4	3.4	3.0	2.9	3.0	2.7	2.5	2.5	2.4	2.7	2.9	2.9
Durable goods	41.1	40.8	40.8	40.8	41.6	40.3	40.3	40.3	39.9	39.7	39.8	39.1	39.7	40.2	40.2
Overtime hours	3.8	3.5	3.5	3.4	3.5	3.1	3.0	3.1	2.7	2.5	2.4	2.3	2.6	2.9	2.9
Lumber and wood products	39.8	39.4	39.8	38.8	39.2	38.1	38.5	38.3	37.1	37.6	38.4	38.2	39.2	39.4	39.1
Furniture and fixtures	39.3	38.7	39.3	39.3	39.9	38.4	38.4	38.5	37.9	37.3	37.3	38.2	37.6	38.4	38.5
Stone, clay, and glass products	41.6	41.5	41.7	41.7	41.8	40.1	40.1	40.7	40.4	40.6	41.0	40.3	40.7	41.2	41.3
Primary metal industries	41.8	41.4	40.9	40.7	40.9	40.7	40.7	40.7	40.6	39.3	39.1	38.6	39.0	39.9	40.2
Fabricated metal products	41.0	40.7	40.9	41.0	41.9	40.6	40.4	40.6	40.2	39.9	40.1	39.2	40.0	40.4	40.4
Machinery except electrical	42.1	41.8	41.5	41.8	42.7	41.5	41.5	41.5	41.1	40.8	40.8	40.0	40.4	41.1	40.8
Electric and electronic equipment	40.3	40.3	40.3	40.8	41.3	40.2	40.2	40.0	39.6	39.3	39.4	38.5	39.2	39.7	39.7
Transportation equipment	42.2	41.1	41.3	40.8	42.7	40.0	40.4	40.4	39.8	39.9	39.9	39.5	40.0	40.5	41.1
Instruments and related products	40.9	40.8	40.8	41.4	41.7	41.0	40.8	40.6	40.4	40.3	40.5	39.6	39.9	40.1	39.9
Miscellaneous manufacturing	38.8	38.8	39.1	39.4	39.5	38.8	38.6	38.8	38.4	38.2	38.3	37.8	38.5	39.0	38.8
Nondurable goods	39.4	39.3	39.4	39.6	39.9	39.0	38.9	38.9	38.7	38.7	38.8	38.5	38.9	39.1	39.0
Overtime hours	3.2	3.1	3.2	3.3	3.2	2.9	2.8	2.9	2.7	2.5	2.5	2.6	2.9	3.0	2.9
Food and kindred products	39.7	39.9	40.0	40.2	40.4	39.5	39.1	39.0	38.9	39.7	39.6	39.9	40.3	40.3	39.8
Tobacco manufactures	38.1	38.0	38.9	38.8	39.4	37.3	36.9	37.7	38.2	38.7	38.3	36.5	36.8	37.7	39.0
Textile mill products	40.4	40.4	40.8	41.3	41.5	40.9	40.8	40.9	39.9	39.8	39.6	38.5	39.2	39.7	39.6
Apparel and other textile products	35.6	35.3	35.5	35.6	35.9	35.2	35.4	35.4	35.3	35.3	35.6	35.3	35.4	35.2	35.4
Paper and allied products	42.9	42.8	42.7	42.9	43.5	42.7	42.4	42.4	42.2	41.6	41.7	41.4	41.8	42.4	42.3
Printing and publishing	37.6	37.5	37.5	37.9	38.1	37.2	37.0	37.2	36.8	36.9	36.7	36.8	37.2	37.3	37.1
Chemicals and allied products	41.9	41.9	41.7	42.2	42.2	41.7	41.6	41.7	41.6	41.3	41.2	40.7	40.9	41.3	41.4
Petroleum and coal products	43.6	43.8	44.1	44.8	43.5	36.2	39.7	39.4	41.1	42.3	42.3	42.7	42.2	43.2	43.1
Rubber and miscellaneous plastics products	40.9	40.5	40.5	40.3	40.7	40.3	39.9	40.6	39.7	39.0	39.3	38.6	40.0	40.4	40.7
Leather and leather products	37.1	36.5	36.5	36.8	37.3	36.7	36.8	36.4	36.7	37.0	37.4	36.4	36.6	36.4	36.2
TRANSPORTATION AND PUBLIC UTILITIES	40.0	39.9	40.0	40.2	40.0	39.5	39.4	39.5	39.5	39.3	39.6	39.9	39.7	39.6	39.5
WHOLESALE AND RETAIL TRADE	32.9	32.6	32.4	32.4	32.9	31.9	31.9	32.0	31.8	31.9	32.3	32.5	32.7	32.1	31.9
WHOLESALE TRADE	38.8	38.8	38.9	38.9	39.1	38.5	38.4	38.4	38.4	38.5	38.2	38.2	38.4	38.4	38.4
RETAIL TRADE	31.0	30.6	30.4	30.4	31.0	29.8	29.8	29.9	29.7	29.9	30.4	30.7	30.9	30.1	29.9
FINANCE, INSURANCE, AND REAL ESTATE	36.4	36.2	36.2	36.3	36.4	36.2	36.3	36.3	36.2	36.1	36.4	36.2	36.3	36.1	36.0
SERVICES	32.8	32.7	32.6	32.6	32.8	32.5	32.5	32.5	32.4	32.3	32.6	33.1	33.1	32.6	32.5

16. Weekly hours, by industry division and major manufacturing group, seasonally adjusted

[Gross averages, production or nonsupervisory workers on private nonagricultural payrolls]

Industry division and group	1979			1980									
	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.ᵖ	Oct.ᵖ
TOTAL PRIVATE	35.6	35.6	35.7	35.6	35.5	35.4	35.3	35.1	35.0	34.9	35.1	35.2	35.1
MINING	43.7	43.6	43.9	43.4	43.2	43.4	42.8	42.7	43.2	41.9	43.1	43.5	43.8
CONSTRUCTION	36.8	37.0	37.2	37.3	37.1	36.6	36.7	36.8	37.1	36.8	36.5	37.5	38.0
MANUFACTURING	40.1	40.1	40.2	40.3	40.1	39.8	39.8	39.3	39.1	39.0	39.4	39.5	39.6
Overtime hours	3.2	3.3	3.2	3.2	3.0	3.1	3.0	2.6	2.4	2.5	2.7	2.7	2.8
Durable goods	40.7	40.6	40.7	40.8	40.6	40.3	40.3	39.7	39.5	39.4	39.9	40.0	40.1
Overtime hours	3.3	3.3	3.2	3.3	3.1	3.2	3.0	2.5	2.4	2.4	2.6	2.7	2.8
Lumber and wood products	39.2	38.9	39.0	39.4	39.1	38.7	37.3	37.5	37.6	38.1	38.9	38.9	38.8
Furniture and fixtures	38.8	38.9	38.9	39.2	39.0	38.5	38.5	37.6	37.0	36.6	37.4	38.1	38.0
Stone, clay, and glass products	41.3	41.4	41.5	41.4	41.2	40.9	40.6	40.3	40.4	40.2	40.3	41.0	40.9
Primary metal industries	41.1	40.8	40.7	40.8	40.8	40.7	40.6	39.2	38.8	38.6	39.2	39.7	40.4
Fabricated metal products	40.8	40.7	40.9	40.9	40.8	40.7	40.8	39.9	39.7	39.6	40.1	40.3	40.3
Machinery, except electrical	41.5	41.5	41.5	41.6	41.5	41.3	41.5	41.0	40.7	40.6	40.8	41.0	40.8
Electric and electronic equipment	40.3	40.4	40.5	40.5	40.3	40.0	39.9	39.5	39.2	39.0	39.4	39.5	39.7
Transportation equipment	41.0	40.5	40.9	40.9	40.8	40.4	40.5	39.7	39.5	39.6	40.9	40.4	40.8
Instruments and related products	40.7	41.0	41.0	41.4	40.9	40.4	40.7	40.3	40.4	40.1	40.1	40.1	39.8
Miscellaneous manufacturing	38.9	38.9	39.0	39.2	39.1	38.6	38.5	38.3	38.2	38.3	38.6	38.8	38.6
Nondurable goods	39.3	39.4	39.4	39.5	39.4	39.0	39.1	38.9	38.6	38.5	38.7	38.8	38.9
Overtime hours	3.1	3.2	3.1	3.1	2.9	3.0	3.0	2.6	2.5	2.6	2.8	2.7	2.8
Food and kindred products	39.9	39.9	39.9	39.8	39.7	39.3	39.6	39.9	39.6	39.7	39.8	39.7	39.7
Tobacco manufactures	38.3	37.8	38.5	38.5	37.9	37.7	38.2	38.2	37.3	38.5	37.3	37.0	38.4
Textile mill products	40.8	41.0	41.0	41.5	41.1	40.8	40.3	39.7	39.1	38.8	39.2	39.6	39.6
Apparel and other textile products	35.4	35.3	35.6	36.0	35.9	35.3	35.8	35.3	35.2	35.1	35.1	35.1	35.3
Paper and allied products	42.6	42.7	42.8	43.0	42.9	42.6	42.5	41.7	41.4	41.4	41.8	42.2	42.3
Printing and publishing	37.4	37.5	37.4	37.8	37.4	37.2	37.2	37.1	36.8	36.9	37.1	36.9	37.0
Chemicals and allied products	41.7	42.0	41.8	42.0	41.9	41.8	41.5	41.3	41.1	40.8	41.0	41.3	41.4
Petroleum and coal products	43.5	44.4	43.4	36.9	40.7	39.7	41.1	42.5	42.3	42.2	42.2	42.5	42.5
Rubber and miscellaneous plastics products	40.2	40.0	40.0	40.7	40.0	39.9	40.1	39.3	39.2	39.0	40.2	40.2	40.4
Leather and leather products	36.5	36.6	37.0	37.2	37.2	36.9	37.3	36.7	36.7	36.1	36.5	36.4	36.2
TRANSPORTATION AND PUBLIC UTILITIES	40.0	40.2	40.0	39.5	39.4	39.5	39.5	39.3	39.6	39.9	39.7	39.6	39.5
WHOLESALE AND RETAIL TRADE	32.6	32.6	32.6	32.6	32.4	32.3	32.0	32.1	31.9	31.8	32.0	32.1	32.0
WHOLESALE TRADE	38.8	38.9	38.9	38.9	38.8	38.5	38.5	38.6	38.0	38.0	38.2	38.4	38.2
RETAIL TRADE	30.6	30.6	30.6	30.6	30.4	30.3	30.0	30.1	30.0	29.8	30.1	30.1	30.1
FINANCE, INSURANCE, AND REAL ESTATE	36.2	36.3	36.4	36.2	36.3	36.3	36.2	36.1	36.4	36.2	36.3	36.1	36.0
SERVICES	32.6	32.7	32.8	32.7	32.7	32.7	32.6	32.5	32.6	32.6	32.6	32.6	32.5

17. Hourly earnings, by industry division and major manufacturing group

[Gross averages, production or nonsupervisory workers on private nonagricultural payrolls]

Industry division and group	Annual average		1979			1980									
	1978	1979	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.^{p}	Oct.^{p}
TOTAL PRIVATE	$5.69	$6.16	$6.31	$6.34	$6.36	$6.42	$6.46	$6.51	$6.53	$6.57	$6.61	$6.64	$6.66	$6.79	$6.84
MINING	7.67	8.50	8.59	8.73	8.75	8.88	8.90	8.95	9.10	9.08	9.16	9.08	9.18	9.28	9.42
CONSTRUCTION	8.66	9.27	9.50	9.52	9.58	9.49	9.61	9.68	9.69	9.77	9.81	9.91	10.05	10.18	10.22
MANUFACTURING	6.17	6.69	6.82	6.87	6.97	6.96	7.00	7.06	7.09	7.13	7.20	7.29	7.30	7.42	7.48
Durable goods	6.58	7.13	7.25	7.29	7.42	7.39	7.48	7.54	7.56	7.60	7.69	7.77	7.73	7.93	8.01
Lumber and wood products	5.60	6.08	6.23	6.22	6.24	6.21	6.33	6.35	6.28	6.40	6.56	6.72	6.76	6.80	6.76
Furniture and fixtures	4.68	5.06	5.19	5.21	5.26	5.27	5.32	5.37	5.39	5.42	5.49	5.52	5.54	5.57	5.59
Stone, clay, and glass products	6.33	6.85	7.01	7.06	7.11	7.06	7.14	7.27	7.34	7.45	7.53	7.60	7.64	7.68	7.74
Primary metal industries	8.20	8.97	9.11	9.26	9.28	9.30	9.44	9.45	9.53	9.61	9.65	9.82	9.84	9.95	9.99
Fabricated metal products	6.35	6.84	6.98	7.01	7.14	7.09	7.14	7.24	7.27	7.32	7.42	7.42	7.48	7.60	7.64
Machinery, except electrical	6.78	7.32	7.44	7.50	7.63	7.66	7.69	7.76	7.81	7.91	7.97	8.05	8.07	8.27	8.36
Electric and electronic equipment	5.82	6.32	6.49	6.52	6.64	6.67	6.71	6.78	6.79	6.78	6.87	6.96	7.02	7.15	7.20
Transportation equipment	7.91	8.54	8.70	8.72	8.93	8.81	8.86	9.04	9.04	9.06	9.24	9.34	9.35	9.59	9.79
Instruments and related products	5.71	6.17	6.32	6.39	6.50	6.57	6.59	6.63	6.63	6.72	6.80	6.86	6.86	6.90	6.93
Miscellaneous manufacturing	4.69	5.03	5.10	5.13	5.20	5.28	5.30	5.34	5.37	5.40	5.42	5.46	5.46	5.51	5.52
Nondurable goods	5.53	6.00	6.14	6.21	6.26	6.28	6.27	6.30	6.36	6.42	6.48	6.60	6.62	6.68	6.71
Food and kindred products	5.80	6.27	6.35	6.50	6.55	6.61	6.64	6.68	6.75	6.82	6.84	6.89	6.90	6.93	6.95
Tobacco manufactures	6.13	6.65	6.33	6.97	6.96	7.08	7.36	7.57	7.79	7.64	7.97	8.06	7.74	7.44	7.44
Textile mill products	4.30	4.66	4.83	4.86	4.87	4.90	4.90	4.92	4.91	4.90	4.93	5.06	5.19	5.23	5.26
Apparel and other textile products	3.94	4.23	4.31	4.32	4.38	4.44	4.46	4.49	4.46	4.45	4.51	4.50	4.60	4.70	4.71
Paper and allied products	6.52	7.13	7.38	7.43	7.50	7.49	7.52	7.55	7.63	7.65	7.79	7.97	7.99	8.05	8.07
Printing and publishing	6.51	6.95	7.10	7.13	7.21	7.24	7.29	7.34	7.34	7.44	7.46	7.53	7.63	7.72	7.72
Chemicals and allied products	7.02	7.60	7.83	7.88	7.92	7.97	8.01	8.05	8.12	8.17	8.24	8.35	8.39	8.44	8.52
Petroleum and coal products	8.63	9.36	9.48	9.56	9.48	9.46	9.37	9.29	9.83	10.07	10.22	10.25	10.22	10.33	10.34
Rubber and miscellaneous plastics products	5.52	5.96	6.12	6.14	6.21	6.25	6.25	6.27	6.30	6.34	6.39	6.48	6.57	6.65	6.73
Leather and leather products	3.89	4.22	4.31	4.33	4.35	4.45	4.47	4.51	4.52	4.53	4.54	4.54	4.59	4.59	4.60
TRANSPORTATION AND PUBLIC UTILITIES	7.57	8.17	8.43	8.51	8.54	8.55	8.58	8.62	8.71	8.72	8.75	8.90	8.95	9.02	9.14
WHOLESALE AND RETAIL TRADE	4.67	5.06	5.15	5.18	5.18	5.34	5.36	5.40	5.40	5.42	5.43	5.48	5.48	5.56	5.57
WHOLESALE TRADE	5.88	6.39	6.52	6.58	6.69	6.72	6.77	6.83	6.87	6.89	6.95	6.99	7.01	7.06	7.09
RETAIL TRADE	4.20	4.53	4.59	4.62	4.61	4.78	4.78	4.81	4.80	4.82	4.83	4.88	4.89	4.94	4.96
FINANCE, INSURANCE, AND REAL ESTATE	4.89	5.27	5.35	5.41	5.48	5.53	5.60	5.68	5.68	5.70	5.77	5.77	5.82	5.87	5.92
SERVICES	4.99	5.36	5.48	5.55	5.61	5.65	5.70	5.75	5.75	5.79	5.81	5.79	5.81	5.92	5.98

18. Hourly Earnings Index for production or nonsupervisory workers on private nonagricultural payrolls, by industry division

[Seasonally adjusted data: 1967 = 100]

Industry	1979			1980										Sept. 1980 to Oct. 1980	Oct. 1979 to Oct. 1980
	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.^{p}	Oct.^{p}		
TOTAL PRIVATE (in current dollars)	235.0	237.3	239.4	240.3	242.4	245.2	246.2	248.3	250.9	252.1	254.0	255.1	257.2	0.8	9.4
Mining	267.7	272.0	274.6	277.0	278.5	280.9	283.7	284.2	286.3	285.3	288.9	289.4	295.2	2.0	10.3
Construction	224.7	226.5	228.1	225.8	229.8	232.2	233.0	234.2	235.3	236.7	239.0	239.1	241.1	.8	7.3
Manufacturing	239.9	241.9	244.1	245.2	247.8	250.2	252.4	255.0	258.3	260.6	262.4	264.4	266.0	.6	10.9
Transportation and public utilities	255.8	258.7	260.1	260.6	262.4	265.9	267.2	268.7	270.6	272.8	273.2	273.7	278.3	1.7	8.8
Wholesale and retail trade	227.6	229.7	231.4	234.2	236.2	237.8	238.0	239.8	241.8	243.5	245.3	246.1	247.1	.4	8.6
Finance, insurance, and real estate	212.9	215.7	217.9	218.4	221.1	225.7	224.9	226.3	230.2	229.0	232.7	233.1	235.1	.9	10.4
Services	232.3	234.9	237.8	237.7	238.7	242.7	243.0	245.7	248.4	247.6	249.8	251.4	253.4	.8	9.1
TOTAL PRIVATE (in constant dollars)	104.1	104.1	103.8	102.7	102.2	102.0	101.4	101.4	101.5	102.0	102.0	101.4	...	...	...

19. Weekly earnings, by industry division and major manufacturing group

[Gross averages, production or nonsupervisory workers on private nonagricultural payrolls]

Industry division and group	Annual average		1979			1980									
	1978	1979	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept. p	Oct. p
TOTAL PRIVATE	$203.70	$219.30	$225.27	$225.70	$229.04	$225.34	$226.75	$229.15	$228.55	$229.95	$233.33	$234.39	$237.14	$239.69	$240.77
MINING	332.88	365.50	375.38	380.63	384.13	385.39	384.46	388.43	389.46	387.72	395.71	380.45	395.66	403.68	410.71
CONSTRUCTION	318.69	342.99	358.15	348.43	356.38	335.00	343.08	360.42	355.62	360.51	371.80	373.61	374.87	386.84	386.32
MANUFACTURING	249.27	268.94	274.16	276.86	285.07	277.01	278.60	280.99	279.35	280.21	283.68	282.65	286.69	295.32	296.96
Durable goods	270.44	290.90	295.80	297.43	308.67	297.82	300.64	303.86	301.64	301.72	306.06	303.81	308.67	318.79	322.00
Lumber and wood products	222.88	239.55	247.95	241.34	244.61	238.60	243.71	243.21	232.99	240.64	251.90	256.70	264.99	267.92	264.32
Furniture and fixtures	183.92	195.82	203.97	204.75	209.87	202.37	204.29	206.75	204.28	202.17	204.78	199.82	208.30	213.89	215.22
Stone, clay, and glass products	263.33	284.28	292.32	295.24	297.20	283.11	288.31	295.89	296.54	302.47	308.73	306.28	310.95	316.42	319.66
Primary metal industries	342.76	371.36	372.60	376.88	379.55	378.51	384.21	384.62	386.92	377.67	377.32	379.05	383.76	397.01	401.60
Fabricated metal products	260.35	276.39	285.48	287.41	299.17	287.65	288.46	293.94	292.25	292.07	297.54	290.86	299.20	307.04	308.66
Machinery except electrical	285.44	305.98	308.76	313.50	325.80	317.89	319.14	322.04	320.21	322.73	325.18	322.00	326.03	339.90	341.09
Electric and electronic equipment	234.55	254.70	261.55	266.02	274.23	268.13	269.74	271.20	268.88	266.45	270.68	267.96	275.18	283.86	285.84
Transportation equipment	333.80	350.99	359.31	355.78	381.31	352.40	357.94	365.22	359.79	361.49	368.68	368.93	374.00	388.40	402.37
Instruments and related products	233.54	251.74	257.86	264.55	271.05	269.37	268.87	269.18	267.85	270.82	275.40	271.66	273.71	276.69	276.51
Miscellaneous manufacturing	181.97	195.16	199.41	202.12	205.40	204.86	204.58	207.19	206.21	206.28	207.59	206.39	210.21	214.89	214.18
Nondurable goods	217.88	235.80	241.92	245.92	249.77	244.92	243.90	245.07	246.13	248.45	251.42	254.10	257.52	261.19	261.69
Food and kindred products	230.26	250.17	254.00	261.30	264.62	261.10	259.62	260.52	262.58	270.75	270.86	274.91	278.07	279.28	276.61
Tobacco manufactures	233.55	252.70	246.24	270.44	275.01	264.08	271.58	285.39	297.56	295.67	305.25	294.19	284.83	280.49	290.16
Textile mill products	173.72	188.26	197.06	200.72	202.11	200.41	199.92	201.23	195.91	195.02	195.23	194.81	203.45	207.63	208.30
Apparel and other textile products	140.26	149.32	153.01	153.79	157.24	156.29	157.53	158.95	157.44	157.09	160.56	158.85	162.84	165.44	166.73
Paper and allied products	279.71	303.74	314.27	318.75	326.25	319.82	318.85	320.12	321.99	318.24	324.84	329.96	333.98	341.32	341.36
Printing and publishing	244.78	260.63	266.25	270.23	274.70	269.33	269.73	273.05	270.11	274.54	273.78	277.10	283.84	287.96	286.41
Chemicals and allied products	294.14	318.44	326.51	332.54	334.22	332.35	333.22	335.69	337.79	337.42	339.49	339.85	343.15	348.57	352.73
Petroleum and coal products	376.27	409.97	418.07	428.29	412.38	342.45	371.99	366.03	404.01	425.96	432.31	437.68	431.28	446.26	445.65
Rubber and miscellaneous plastics products	225.77	241.38	247.86	247.44	252.75	251.88	249.38	250.80	250.11	247.26	251.13	250.13	262.80	266.06	273.91
Leather and leather products	144.32	154.03	157.32	159.34	162.26	163.32	164.50	164.16	165.88	167.61	169.80	165.26	167.99	167.08	166.52
TRANSPORTATION AND PUBLIC UTILITIES	302.80	325.98	337.20	342.10	341.60	337.73	338.05	340.49	344.05	342.70	346.50	355.11	355.32	357.19	361.03
WHOLESALE AND RETAIL TRADE	153.64	164.96	166.86	167.83	170.42	170.35	170.98	172.80	171.72	172.90	175.39	178.10	179.20	178.16	177.68
WHOLESALE TRADE	228.14	247.93	253.63	255.96	261.58	258.72	259.97	262.27	263.81	265.27	265.49	267.02	269.18	271.10	272.26
RETAIL TRADE	130.20	138.62	139.54	140.45	142.91	142.44	142.44	143.82	142.56	144.12	146.83	149.82	151.10	148.69	148.30
FINANCE, INSURANCE, AND REAL ESTATE	178.00	190.77	193.67	196.38	199.47	200.19	203.28	206.18	205.62	205.77	210.03	208.87	211.27	211.91	213.12
SERVICES	163.67	175.27	178.65	180.93	184.01	183.63	185.25	186.88	186.30	187.02	190.57	191.05	192.31	192.99	194.35

20. Gross and spendable weekly earnings, in current and 1967 dollars, 1960 to date

[Averages for production or nonsupervisory workers on private nonagricultural payrolls]

Year and month	Private nonagricultural workers						Manufacturing workers					
	Gross average weekly earnings		Spendable average weekly earnings				Gross average weekly earnings		Spendable average weekly earnings			
			Worker with no dependents		Married worker with 3 dependents				Worker with no dependents		Married worker with 3 dependents	
	Current dollars	1967 dollars	Current dollars	1967 dollars	Current dollars	1967 dollars	Current dollars	1967 dollars	Current dollars	1967 dollars	Current dollars	1967 dollars
1960	$80.67	$90.95	$65.59	$73.95	$72.96	$82.25	$89.72	$101.15	$72.57	$81.82	$80.11	$90.32
1961	82.60	92.19	67.08	74.87	74.48	83.13	92.34	103.06	74.60	83.26	82.18	91.72
1962	85.91	94.82	69.56	76.78	76.99	84.98	96.56	106.58	77.86	85.94	85.53	94.40
1963	88.46	96.47	71.05	77.48	78.56	85.67	99.23	108.21	79.51	86.71	87.25	95.15
1964	91.33	98.31	75.04	80.78	82.57	88.88	102.97	110.84	84.40	90.85	92.18	99.22
1965	95.45	101.01	79.32	83.94	86.63	91.67	107.53	113.79	89.08	94.26	96.78	102.41
1966	98.82	101.67	81.29	83.63	88.66	91.21	112.19	115.42	91.45	94.08	99.33	102.19
1967	101.84	101.84	83.38	83.38	90.86	90.86	114.49	114.49	92.97	92.97	100.93	100.93
1968	107.73	103.39	86.71	83.21	95.28	91.44	122.51	117.57	97.70	93.76	106.75	102.45
1969	114.61	104.38	90.96	82.84	99.99	91.07	129.51	117.95	101.90	92.81	111.44	101.49
1970	119.83	103.04	96.21	82.73	104.90	90.20	133.33	114.64	106.32	91.42	115.58	99.38
1971	127.31	104.95	103.80	85.57	112.43	92.69	142.44	117.43	114.97	94.78	124.24	102.42
1972	136.90	109.26	112.19	89.54	121.68	97.11	154.71	123.47	125.34	100.03	135.57	108.20
1973	145.39	109.23	117.51	88.29	127.38	95.70	166.46	125.06	132.57	99.60	143.50	107.81
1974	154.76	104.78	124.37	84.20	134.61	91.14	176.80	119.70	140.19	94.92	151.56	102.61
1975	163.53	101.45	132.49	82.19	145.65	90.35	190.79	118.36	151.61	94.05	166.29	103.16
1976	175.45	102.90	143.30	84.05	155.87	91.42	209.32	122.77	167.83	98.43	181.32	106.35
1977	189.00	104.13	155.19	85.50	169.93	93.63	228.90	126.12	183.80	101.27	200.06	110.23
1978	203.70	104.30	165.39	84.69	180.71	92.53	249.27	127.63	197.40	101.08	214.87	110.02
1979	219.30	100.73	177.55	81.56	194.35	89.27	268.94	123.54	212.43	97.58	232.07	106.60
1979: October	225.27	99.85	181.80	80.63	198.94	88.18	274.16	121.52	215.97	95.73	236.04	104.63
November	225.70	99.17	182.22	80.06	199.27	87.55	276.86	121.64	217.80	95.69	238.06	104.60
December	229.04	9.58	184.59	80.26	201.80	87.74	285.07	123.94	223.38	97.12	244.31	106.22
1980: January	225.34	96.59	181.96	77.99	199.00	85.30	277.01	118.74	217.91	93.40	238.20	102.10
February	226.75	95.88	182.96	77.37	200.07	84.60	278.60	117.80	218.99	92.60	239.40	101.23
March	229.15	95.52	184.67	76.98	201.89	84.16	280.99	117.13	220.61	91.96	241.22	100.55
April	228.55	94.21	184.25	75.95	201.43	83.03	279.35	115.15	219.49	90.47	239.97	98.92
May	229.95	93.82	185.23	75.57	202.49	82.62	280.21	114.32	220.08	89.79	240.63	98.18
June	233.33	94.16	187.59	75.70	205.06	82.75	283.68	114.48	222.43	89.76	243.26	98.17
July	234.39	94.51	188.33	75.94	205.88	83.01	282.85	114.05	221.87	89.46	242.63	97.83
August	237.14	95.01	190.25	76.22	207.95	83.31	286.89	114.94	224.61	89.99	245.69	98.43
September[p]	239.89	95.15	192.03	76.23	209.88	83.32	295.32	117.24	230.33	91.44	252.09	100.08
October[p]	240.77	...	192.79	...	210.70	...	296.96	...	231.45	...	253.33	...

[1] Not available.

NOTE: The earnings expressed in 1967 dollars have been adjusted for changes in price level as measured by the Bureau's Consumer Price Index for Urban Wage Earners and Clerical Workers. These series are described in "The Spendable Earnings Series: A Technical Note on its Calculation," Employment and Earnings and Monthly Report on the Labor Force, February 1969, pp. 6–13. See also "Spendable Earnings Formulas, 1978–80," Employment and Earnings, March 1980, pp. 10–11.

UNEMPLOYMENT INSURANCE DATA

UNEMPLOYMENT INSURANCE DATA are compiled monthly by the Employment and Training Administration of the U.S. Department of Labor from records of State and Federal unemployment insurance claims filed and benefits paid. Railroad unemployment insurance data are prepared by the U.S. Railroad Retirement Board.

Definitions

Data for **all programs** represent an unduplicated count of insured unemployment under State programs, Unemployment Compensation for Ex-Servicemen, and Unemployment Compensation for Federal Employees, and the Railroad Insurance Act.

Under both State and Federal unemployment insurance programs for civilian employees, insured workers must report the completion of at least 1 week of unemployment before they are defined as unemployed. Persons not covered by unemployment insurance (about one-third of the labor force) and those who have exhausted or not yet earned benefit rights are excluded from the scope of the survey. **Initial claims** are notices filed by persons in unemployment insurance programs to indicate they are out of work and wish to begin receiving compensation. A claimant who continued to be unemployed a full week is then counted in the insured unemployment figure. The **rate of insured unemployment** expresses the number of insured unemployed as a percent of the average insured employment in a 12-month period.

An **application** for benefits is filed by a railroad worker at the beginning of his first period of unemployment in a benefit year; no application is required for subsequent periods in the same year. **Number of payments** are payments made in 14-day registration periods. The **average amount of benefit payment** is an average for all compensable periods, not adjusted for recovery of overpayments or settlement of underpayments. However, **total benefits** paid have been adjusted.

21. Unemployment insurance and employment service operations

[All items except average benefits amounts are in thousands]

Item	1979				1980								
	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
All programs:													
Insured unemployment	2,164	2,236	2,559	3,047	3,740	3,730	3,652	3,629	3,680	3,790	4,140	3,911	3,961
State unemployment insurance program:[1]													
Initial claims[2]	1,219	1,641	1,827	2,263	2,837	1,818	1,705	2,190	p2,248	2,319	2,737	....	....
Insured unemployment (average weekly volume)	2,024	2,057	2,384	2,864	3,537	3,518	3,356	3,278	3,343	3,455	3,892	3,408	3,087
Rate of insured unemployment	2.4	2.4	2.8	3.4	4.1	4.1	3.9	3.8	3.9	4.0	4.3	3.9	3.6
Weeks of unemployment compensated	6,993	7,638	8,107	9,171	13,792	12,801	13,170	12,689	p12,302	12,441	14,398	....	....
Average weekly benefit amount for total unemployment	$89.07	$90.59	$92.39	$94.54	$96.41	$98.39	$99.15	$99.52	p$99.55	$99.88	$98.75	....	....
Total benefits paid	$606,095	$673,965	$728,370	$843,869	$1,283,946	$1,229,877	$1,218,231	$1,232,173	$1,196,836	$1,213,595	$1,397,508	....	....
Unemployment compensation for ex-servicemen:[3]													
Initial claims[1]	23	26	24	24	25	21	21	21	p20	23	27	....	....
Insured unemployment (average weekly volume)	52	52	54	56	60	58	63	52	50	45	58	55	56
Weeks of unemployment compensated	211	236	232	233	299	255	249	248	p220	122	331	....	....
Total benefits paid	$19,634	$23,325	$23,093	$23,093	$29,835	$25,306	$24,928	$24,518	$22,025	$11,761	$33,342	....	....
Unemployment compensation for Federal civilian employees:[4]													
Initial claims	13	18	15	15	19	11	12	11	p12	14	17	....	....
Insured unemployment (average weekly volume)	25	28	29	31	34	32	30	25	22	20	26	25	29
Weeks of unemployment compensated	91	109	118	118	150	129	123	108	p86	50	124	....	....
Total benefits paid	$8,453	$10,093	$11,063	$11,047	$14,118	$12,226	$11,801	$10,323	$8,280	$4,865	$11,296	....	....
Railroad unemployment insurance:													
Applications	13	11	10	11	22	7	5	4	6	24	44	13	....
Insured unemployment (average weekly volume)	21	18	20	19	40	39	30	27	23	27	44	39	....
Number of payments	32	51	36	41	80	71	68	62	54	55	66	66	....
Average amount of benefit payment	$189.06	$189.61	$183.38	$197.22	$199.01	$208.73	$210.79	$201.87	$183.44	$199.06	$207.08	$211.87	....
Total benefits paid	$5,747	$8,003	$6,462	$8,085	$14,967	$14,573	$13,884	$13,002	$9,953	$10,140	$13,220	$17,336	....
Employment service:[5]													
New applications and renewals	15,525	1,855	3,183	4,378	5,980	7,285	8,708	10,021	11,446	12,884	....	....	....
Nonfarm placements	4,340	458	768	1,044	1,314	1,561	1,853	2,143	2,413	2,730	....	....	....

[1] Initial claims and State insured unemployment include data under the program for Puerto Rican sugarcane workers.

[2] Includes interstate claims for the Virgin Islands. Excludes transition claims under State programs.

[3] Excludes data on claims and payments made jointly with other programs.

[4] Includes the Virgin Islands. Exludes data on claims and payments made jointly with State programs.

[5] Cumulative total for fiscal year (October 1 - September 30).

NOTE: Data for Puerto Rico included. Dashes indicate data not available.

PRICE DATA

PRICE DATA are gathered by the Bureau of Labor Statistics from retail and primary markets in the United States. Price indexes are given in relation to a base period (1967 = 100, unless otherwise noted).

Definitions

The **Consumer Price Index** is a monthly statistical measure of the average change in prices in a fixed market basket of goods and services. Effective with the January 1978 index, the Bureau of Labor Statistics began publishing CPI's for two groups of the population. One index, a new CPI for All Urban Consumers, covers 80 percent of the total noninstitutional population; and the other index, a revised CPI for Urban Wage Earners and Clerical Workers, covers about half the new index population. The All Urban Consumers index includes, in addition to wage earners and clerical workers, professional, managerial, and technical workers, the self-employed, short-term workers, the unemployed, retirees, and others not in the labor force.

The CPI is based on prices of food, clothing, shelter, fuel, drugs, transportation fares, doctor's and dentist's fees, and other goods and services that people buy for day-to-day living. The quantity and quality of these items is kept essentially unchanged between major revisions so that only price changes will be measured. Prices are collected from over 18,000 tenants, 24,000 retail establishments, and 18,000 housing units for property taxes in 85 urban areas across the country. All taxes directly associated with the purchase and use of items are included in the index. Because the CPI's are based on the expenditures of two population groups in 1972–73, they may not accurately reflect the experience of individual families and single persons with different buying habits.

Though the CPI is often called the "Cost-of-Living Index," it measures only price change, which is just one of several important factors affecting living costs. Area indexes do not measure differences in the level of prices among cities. They only measure the average change in prices for each area since the base period.

Producer Price Indexes measure average changes in prices received in primary markets of the United States by producers of commodities in all stages of processing. The sample used for calculating these indexes contains about 2,800 commodities and about 10,000 quotations per month selected to represent the movement of prices of all commodities produced in the manufacturing, agriculture, forestry, fishing, mining, gas and electricity, and public utilities sectors. The universe includes all commodities produced or imported for sale in commercial transactions in primary markets in the United States.

Producer Price Indexes can be organized by stage of processing or by commodity. The stage of processing structure organizes products by degree of fabrication (that is, finished goods, intermediate or semifinished goods, and crude materials). The commodity structure organizes products by similarity of end-use or material composition.

To the extent possible, prices used in calculating Producer Price Indexes apply to the first significant commercial transaction in the United States, from the production or central marketing point. Price data are generally collected monthly, primarily by mail questionnaire. Most prices are obtained directly from producing companies on a voluntary and confidential basis. Prices generally are reported for the Tuesday of the week containing the 13th day of the month.

In calculating Producer Price Indexes, price changes for the various commodities are averaged together with implicit quantity weights representing their importance in the total net selling value of all commodities as of 1972. The detailed data are aggregated to obtain indexes for stage of processing groupings, commodity groupings, durability of product groupings, and a number of special composite groupings.

Price indexes for the output of selected SIC industries measure average price changes in commodities produced by particular industries, as defined in the *Standard Industrial Classification Manual 1972* (Washington, U.S. Office of Management and Budget, 1972). These indexes are derived from several price series, combined to match the economic activity of the specified industry and weighted by the value of shipments in the industry. They use data from comprehensive industrial censuses conducted by the U.S. Bureau of the Census and the U.S. Department of Agriculture.

Notes on the data

Beginning with the May 1978 issue of the *Review*, regional CPI's cross classified by population size, were introduced. These indexes will enable users in local areas for which an index is not published to get a better approximation of the CPI for their area by using the appropriate population size class measure for their region. The cross-classified indexes will be published bimonthly. (See table 24.)

For further details about the new and the revised indexes and a comparison of various aspects of these indexes with the old unrevised CPI, see *Facts About the Revised Consumer Price Index*, a pamphlet in the Consumer Price Index Revision 1978 series. See also *The Consumer Price Index: Concepts and Content Over the Years*. Report 517, revised edition (Bureau of Labor Statistics, May 1978).

For interarea comparisons of living costs at three hypothetical standards of living, see the family budget data published in the *Handbook of Labor Statistics, 1977*, Bulletin 1966 (Bureau of Labor Statistics, 1977), tables 122–133. Additional data and analysis on price changes are provided in the *CPI Detailed Report* and *Producer Prices and Price Indexes*, both monthly publications of the Bureau.

As of January 1976, the Wholesale Price Index (as it was then called) incorporated a revised weighting structure reflecting 1972 values of shipments. From January 1967 through December 1975, 1963 values of shipments were used as weights.

For a discussion of the general method of computing consumer, producer, and industry price indexes, see *BLS Handbook of Methods for Surveys and Studies*, Bulletin 1910 (Bureau of Labor Statistics, 1976), chapters 13–15. See also John F. Early, "Improving the measurement of producer price change," *Monthly Labor Review*, April 1978, pp. 7–15. For industry prices, see also Bennett R. Moss, "Industry and Sector Price Indexes," *Monthly Labor Review*, August 1965, pp. 974–82.

22. Consumer Price Index for Urban Wage Earners and Clerical Workers, annual averages and changes, 1967–79

[1967 = 100]

Year	All items		Food and beverages		Housing		Apparel and upkeep		Transportation		Medical care		Entertainment		Other goods and services	
	Index	Percent change	Index	Percent change	Index	Percent change	Index	Percent change	Index	Percent change	Index	Percent change	Index	Percent change	Index	Percent change
1967	100.0	...	100.0	...	100.0	...	100.0	...	100.0	...	100.0	...	100.0	...	100.0	...
1968	104.2	4.2	103.6	3.6	104.0	4.0	105.4	5.4	103.2	3.2	106.1	6.1	105.7	5.7	105.2	5.2
1969	109.8	5.4	108.8	5.0	110.4	6.2	111.5	5.8	107.2	3.9	113.4	6.9	111.0	5.0	110.4	4.9
1970	116.3	5.9	114.7	5.4	118.2	7.1	116.1	4.1	112.7	5.1	120.6	6.3	116.7	5.1	116.8	5.8
1971	121.3	4.3	118.3	3.1	123.4	4.4	119.8	3.2	118.6	5.2	128.4	6.5	122.9	5.3	122.4	4.8
1972	125.3	3.3	123.2	4.1	128.1	3.8	122.3	2.1	119.9	1.1	132.5	3.2	126.5	2.9	127.5	4.2
1973	133.1	6.2	139.5	13.2	133.7	4.4	126.8	3.7	123.8	3.3	137.7	3.9	130.0	2.8	132.5	3.9
1974	147.7	11.0	158.7	13.8	148.8	11.3	136.2	7.4	137.7	11.2	150.5	9.3	139.8	7.5	142.0	7.2
1975	161.2	9.1	172.1	8.4	164.5	10.6	142.3	4.5	150.6	9.4	168.6	12.0	152.2	8.9	153.9	8.4
1976	170.5	5.8	177.4	3.1	174.6	6.1	147.6	3.7	165.5	9.9	184.7	9.5	159.8	5.0	162.7	5.7
1977	181.5	6.5	188.0	6.0	186.5	6.8	154.2	4.5	177.2	7.1	202.4	9.6	167.7	4.9	172.2	5.8
1978	195.3	7.6	206.2	9.7	202.6	8.6	159.5	3.4	185.8	4.9	219.4	8.4	176.2	5.1	183.2	6.4
1979	217.7	11.5	228.7	10.9	227.5	12.3	166.4	4.3	212.8	14.5	240.1	9.4	187.6	6.5	196.3	7.2

23. Consumer Price Index for All Urban Consumers and revised CPI for Urban Wage Earners and Clerical Workers, U.S. city average—general summary and groups, subgroups, and selected items

[1967 = 100 unless otherwise specified]

General summary	All Urban Consumers							Urban Wage Earners and Clerical Workers (revised)						
	1979	1980						1979	1980					
	Sept.	Apr.	May	June	July	Aug.	Sept.	Sept.	Apr.	May	June	July	Aug.	Sept.
All items	223.4	242.5	244.9	247.6	247.8	249.4	251.7	223.7	242.6	245.1	247.8	248.0	249.6	251.9
Food and beverages	231.0	242.8	244.1	245.7	248.3	252.0	254.2	231.2	243.2	244.7	246.4	249.1	252.5	255.1
Housing	234.6	257.9	261.7	266.7	265.1	265.8	267.7	234.5	257.8	261.7	266.9	265.1	265.8	267.6
Apparel and upkeep	169.8	177.3	177.5	177.2	176.2	178.6	182.2	169.3	176.1	176.8	176.0	175.4	177.9	181.4
Transportation	221.4	246.8	249.0	249.7	251.0	252.7	254.7	222.4	247.7	249.9	250.6	251.9	253.5	255.2
Medical care	243.7	262.0	263.4	264.7	266.6	268.4	270.6	244.7	263.1	264.9	265.9	267.8	270.0	272.2
Entertainment	191.1	202.5	204.0	205.3	206.6	208.0	209.8	190.2	201.3	202.4	204.0	204.4	205.6	208.1
Other goods and services	201.7	209.8	211.2	212.5	213.5	214.5	220.6	200.6	209.2	210.6	212.1	212.9	214.0	219.0
Commodities	214.1	229.9	231.4	232.8	234.1	236.7	239.0	214.4	230.1	231.7	233.0	234.4	236.9	239.2
Commodities less food and beverages	203.3	220.4	222.0	223.2	224.0	226.0	228.4	203.5	220.6	222.3	223.4	224.2	226.2	228.4
Nondurables less food and beverages	213.2	239.5	240.3	241.1	241.4	242.6	244.1	214.8	241.7	242.6	243.2	243.5	244.8	246.0
Durables	194.5	204.9	207.1	208.6	209.8	212.4	215.3	193.5	203.3	205.4	206.8	208.0	210.5	213.5
Services	240.7	265.3	269.2	274.2	272.4	272.5	274.8	241.0	265.8	269.9	275.1	273.1	273.3	275.4
Rent, residential	179.0	187.0	188.9	191.1	192.1	193.2	195.1	178.9	186.9	188.7	190.8	191.8	193.0	194.8
Household services less rent	276.7	313.4	319.6	328.8	323.3	321.5	322.6	278.2	315.8	322.2	331.9	325.9	324.2	325.3
Transportation services	216.6	238.1	241.5	242.6	243.8	246.4	249.4	216.8	238.0	241.5	242.7	243.9	246.3	248.2
Medical care services	262.8	283.4	284.7	285.9	288.0	289.8	292.3	263.8	284.5	286.3	287.3	289.3	291.7	294.3
Other services	204.7	214.5	215.9	216.9	218.1	219.2	225.3	204.9	214.6	216.5	217.9	218.6	219.5	225.4
Special indexes:														
All items less food	219.6	239.9	242.6	245.5	245.1	246.3	248.6	219.8	240.2	242.9	245.7	245.3	246.6	248.7
All items less mortgage interest costs	216.7	231.8	233.7	235.4	236.8	239.0	241.5	217.2	232.4	234.2	235.7	237.4	239.6	242.0
Commodities less food	201.8	218.6	220.2	221.4	222.2	224.2	226.6	202.0	218.9	220.5	221.6	222.4	224.4	226.5
Nondurables less food	209.6	234.6	235.5	236.3	236.6	237.8	239.3	211.0	236.7	237.7	238.3	238.7	239.9	241.1
Nondurables less food and apparel	232.7	266.5	267.9	269.3	270.3	270.9	271.3	234.2	266.7	270.0	271.4	272.2	272.9	273.0
Nondurables	223.1	242.2	243.2	244.5	245.9	248.3	250.2	223.9	243.3	244.6	245.7	247.2	249.6	251.5
Services less rent	252.1	280.0	284.4	290.0	287.6	287.4	289.8	252.6	280.8	285.4	291.2	288.6	288.6	290.7
Services less medical care	236.7	261.5	265.7	271.0	268.9	268.7	271.0	236.9	261.9	266.3	271.8	269.4	269.4	271.4
Domestically produced farm foods	223.7	232.7	233.6	234.8	238.5	243.5	248.2	223.6	232.4	233.4	234.7	238.4	242.9	246.1
Selected beef cuts	255.3	268.0	265.6	264.8	269.2	274.5	278.8	258.0	268.5	267.5	267.1	271.2	275.9	280.8
Energy	304.3	358.8	363.2	367.8	370.4	370.7	370.1	307.0	363.3	367.3	371.8	373.9	374.2	373.1
All items less energy	217.3	233.4	235.7	238.3	239.3	240.0	242.5	217.0	232.7	235.1	237.6	237.6	239.4	242.0
All items less food and energy	211.5	228.5	231.0	233.7	233.1	234.3	236.9	211.0	227.5	230.0	232.7	232.1	233.4	235.9
Commodities less food and energy	188.2	198.2	199.9	201.2	202.0	204.3	207.2	187.5	196.9	198.6	199.8	200.6	202.9	205.7
Energy commodities	325.3	402.3	403.0	404.1	404.8	404.2	401.7	326.5	404.0	404.7	405.6	406.1	405.5	402.7
Services less energy	238.4	263.5	267.0	271.5	269.1	269.0	271.3	238.7	264.2	267.8	272.5	269.8	269.9	271.9
Purchasing power of the consumer dollar, 1967 = $1	$0.448	$0.412	$0.408	$0.404	$0.404	$0.401	$0.397	$0.447	$0.412	$0.408	$0.404	$0.403	$0.401	$0.397

23. Continued—Consumer Price Index—U.S. city average

[1967=100 unless otherwise specified]

General summary	All Urban Consumers							Urban Wage Earners and Clerical Workers (revised)						
	1979	1980						1979	1980					
	Sept.	Apr.	May	June	July	Aug.	Sept.	Sept.	Apr.	May	June	July	Aug.	Sept.
FOOD AND BEVERAGES	231.0	242.8	244.1	245.7	248.3	252.0	254.2	231.2	243.2	244.7	246.4	249.1	252.5	255.1
Food	237.1	249.1	250.4	252.0	254.8	258.7	261.1	237.3	249.5	251.0	252.7	255.5	259.2	261.9
Food at home	234.7	245.3	246.5	248.0	251.5	256.3	258.9	234.2	245.0	246.1	247.7	251.1	255.6	258.6
Cereals and bakery products	225.6	242.0	244.5	245.9	247.8	249.2	250.3	226.6	242.2	244.4	245.7	248.0	249.6	251.1
Cereals and cereal products (12/77 = 100)	120.0	129.4	131.5	133.1	135.0	136.3	137.1	120.6	130.1	132.4	133.9	135.5	136.8	137.8
Flour and prepared flour mixes (12/77 = 100)	123.4	127.8	129.0	131.1	132.9	133.6	133.3	125.1	128.9	129.9	131.4	132.8	133.9	134.1
Cereal (12/77 = 100)	118.8	129.4	131.5	133.0	135.5	137.6	138.5	118.7	129.7	132.0	133.3	136.5	137.7	138.6
Rice, pasta, and cornmeal (12/77 = 100)	118.6	130.8	133.8	135.2	136.2	136.8	138.4	119.1	131.9	135.2	137.0	137.9	138.4	140.2
Bakery products (12/77 = 100)	119.2	127.6	128.7	129.1	129.8	130.4	130.9	119.7	127.5	128.3	128.8	129.8	130.5	131.2
White bread	200.7	215.1	216.7	216.9	218.4	217.9	219.6	200.5	215.1	216.0	215.4	217.5	217.2	219.3
Other breads (12/77 = 100)	119.6	127.0	128.3	128.1	129.4	129.7	130.9	122.5	129.3	130.6	130.8	132.3	133.3	134.3
Fresh biscuits, rolls, and muffins (12/77 = 100)	119.0	126.9	127.8	129.5	129.2	130.0	129.2	118.6	125.3	126.4	127.9	128.1	128.9	128.1
Fresh cakes and cupcakes (12/77 = 100)	116.7	126.5	127.4	127.6	127.9	129.8	129.5	116.8	125.4	126.5	126.9	127.3	129.4	129.7
Cookies (12/77 = 100)	115.9	125.3	126.1	126.3	127.1	128.7	129.9	117.8	126.3	126.8	126.9	128.3	130.1	131.7
Crackers and bread and cracker products (12/77 = 100)	114.8	122.0	122.2	123.6	125.5	124.6	124.2	114.9	122.2	123.0	124.5	125.7	124.7	124.5
Fresh sweetrolls, coffeecake, and donuts (12/77 = 100)	115.8	126.6	128.4	129.1	129.5	131.4	131.6	121.6	128.0	129.2	130.0	130.0	131.6	132.0
Frozen and refrigerated bakery products and fresh pies, tarts, and turnovers (12/77 = 100)	121.7	129.7	131.0	131.2	131.5	131.4	132.1	118.6	125.3	126.0	127.2	129.6	129.2	129.9
Meats, poultry, fish, and eggs	231.0	235.1	231.5	231.2	236.7	245.4	251.8	230.5	234.3	230.7	230.4	236.1	244.3	251.2
Meats, poultry, and fish	236.0	241.1	238.2	237.9	243.4	251.0	257.7	235.4	240.2	237.2	237.1	242.8	249.8	257.1
Meats	238.1	242.6	239.2	238.1	243.3	251.1	257.8	237.7	241.3	238.1	237.5	242.8	250.0	257.2
Beef and veal	254.2	267.0	264.8	263.8	267.9	273.1	277.5	256.4	268.2	266.3	265.6	269.6	274.1	279.1
Ground beef other than canned	261.4	272.9	269.4	266.9	266.6	272.9	276.8	263.5	274.7	270.6	269.0	268.7	275.6	279.9
Chuck roast	261.0	277.9	273.0	268.6	277.7	279.8	287.7	267.9	286.1	280.0	275.0	285.3	287.9	295.4
Round roast	229.2	242.7	243.4	240.9	243.2	248.8	248.0	231.0	242.1	245.5	243.8	246.2	248.2	249.0
Round steak	239.2	253.5	250.6	247.4	253.2	258.0	260.7	235.7	249.6	250.2	247.3	253.6	256.4	261.4
Sirloin steak	251.0	256.1	256.2	264.8	270.2	274.1	280.9	253.9	257.8	257.5	268.3	274.2	278.8	282.2
Other beef and veal (12/77 = 100)	145.6	153.3	152.4	152.5	155.9	159.0	161.8	146.6	153.1	152.2	152.4	155.2	157.6	161.2
Pork	206.5	197.1	191.8	190.4	200.3	212.0	222.7	206.1	196.7	191.8	190.5	200.7	212.0	222.8
Bacon	194.0	182.1	177.4	173.1	186.3	201.5	220.1	195.6	183.9	177.7	175.6	189.1	205.6	223.0
Pork chops	198.1	187.0	182.4	182.7	193.1	199.9	206.2	196.1	184.7	180.9	180.6	193.3	198.5	205.0
Ham other than canned (12/77 = 100)	95.2	90.6	87.4	87.8	92.1	98.4	102.2	94.3	88.7	85.4	86.1	90.5	96.3	100.7
Sausage	258.4	255.1	250.2	246.2	249.2	262.5	277.9	258.4	258.0	253.9	249.6	252.0	263.6	280.0
Canned ham	216.6	213.5	210.0	208.1	208.6	217.0	225.1	215.3	214.5	213.0	210.1	207.6	219.1	225.9
Other pork (12/77 = 100)	117.4	110.7	107.1	106.3	115.1	123.1	128.6	117.5	110.0	106.5	105.9	114.9	122.7	128.5
Other meats	240.2	243.9	240.2	239.4	239.1	247.8	254.9	236.6	239.0	235.6	235.9	236.5	244.1	251.5
Frankfurters	235.9	240.6	234.8	230.9	229.1	245.8	256.1	236.1	239.3	234.0	231.0	231.5	245.9	254.3
Bologna, liverwurst, and salami (12/77 = 100)	133.2	134.9	133.5	133.4	135.1	138.5	143.5	129.5	131.1	129.5	130.7	131.4	134.5	141.2
Other lunchmeats (12/77 = 100)	121.6	121.9	121.4	121.0	120.6	123.7	125.7	119.0	118.4	117.6	118.1	118.8	121.5	123.5
Lamb and organ meats (12/77 = 100)	135.6	140.1	136.3	137.6	137.2	140.4	143.8	136.9	141.3	138.4	139.3	138.2	140.8	145.0
Poultry	174.8	177.2	176.5	177.9	187.9	197.5	205.2	172.8	176.0	173.8	175.7	186.0	195.1	203.3
Fresh whole chicken	169.9	174.7	172.9	176.3	193.6	205.3	214.0	165.8	170.6	168.0	170.7	189.1	199.9	209.6
Fresh and frozen chicken parts (12/77 = 100)	111.8	114.5	114.4	115.7	120.9	127.8	134.0	110.9	114.7	112.7	115.6	120.8	128.1	134.1
Other poultry (12/77 = 100)	119.2	117.3	117.4	115.9	117.0	120.3	122.9	119.8	118.1	117.7	116.1	116.6	119.1	122.0
Fish and seafood	309.7	325.3	324.5	329.1	330.1	331.8	335.8	304.4	325.1	323.0	324.9	326.4	327.3	333.4
Canned fish and seafood (12/77 = 100)	113.9	122.9	125.4	127.3	129.2	131.2	133.2	113.5	121.8	124.0	125.7	127.3	129.3	131.0
Fresh and frozen fish and seafood (12/77 = 100)	120.4	124.5	122.5	124.2	123.7	123.6	124.8	117.5	125.1	122.4	122.6	122.5	121.8	124.5
Eggs	170.7	161.2	148.4	147.9	154.2	178.3	179.9	170.5	161.5	148.9	147.2	153.5	177.1	178.4
Dairy products	211.3	222.4	226.2	227.2	228.6	229.7	230.6	212.0	223.1	226.9	227.8	229.2	229.9	230.9
Fresh milk and cream (12/77 = 100)	119.0	124.7	127.0	127.1	127.7	127.9	128.0	119.5	124.9	127.2	127.4	128.0	128.0	128.2
Fresh whole milk	195.4	204.9	208.5	208.6	209.4	209.8	209.7	195.6	204.8	208.4	208.7	209.8	209.7	209.8
Other fresh milk and cream (12/77 = 100)	118.1	123.5	125.9	126.0	126.9	127.1	127.7	119.3	124.1	126.8	127.2	127.5	127.6	128.3
Processed dairy products (12/77 = 100)	120.1	127.0	129.1	130.4	131.4	132.5	133.6	120.5	128.0	129.9	130.7	131.9	132.9	134.1
Butter	209.9	219.9	222.2	225.0	226.9	231.2	236.2	212.3	222.7	225.3	227.2	229.7	233.7	238.8
Cheese (12/77 = 100)	120.1	126.2	127.8	128.8	130.0	130.4	132.3	120.2	126.8	128.5	129.0	130.1	130.9	132.7
Ice cream and related products (12/77 = 100)	120.1	128.6	131.9	133.7	134.6	137.0	135.7	120.7	130.4	132.9	133.8	135.5	136.1	135.4
Other dairy products (12/77 = 100)	115.5	124.0	126.1	127.3	127.5	128.3	128.9	115.6	123.6	125.7	127.4	127.7	128.8	129.3
Fruits and vegetables	231.8	240.9	246.6	250.1	253.9	258.4	257.4	229.6	239.8	245.5	250.2	253.0	256.6	255.8
Fresh fruits and vegetables	234.7	245.2	255.1	260.0	265.8	273.0	269.6	232.9	244.8	254.4	261.4	265.2	270.8	267.8
Fresh fruits	271.6	257.0	264.7	273.9	282.7	302.3	286.3	271.2	255.6	263.8	274.9	282.3	300.1	284.9
Apples	244.7	265.5	276.3	293.3	316.6	340.8	295.2	243.1	264.4	277.3	297.4	318.7	342.2	295.3
Bananas	210.3	242.8	249.7	242.6	232.6	234.0	238.0	208.4	243.5	244.5	237.7	228.7	228.0	234.3
Oranges	312.3	240.6	243.9	264.4	273.9	297.1	296.5	291.8	234.3	237.6	251.0	261.5	285.5	284.2
Other fresh fruits (12/77 = 100)	147.1	136.5	140.8	143.7	147.5	158.5	150.8	152.3	135.7	140.9	146.5	148.7	157.9	151.9
Fresh vegetables	200.3	234.2	246.2	247.0	250.1	245.6	253.9	198.4	235.2	246.0	249.4	249.8	244.4	252.4
Potatoes	199.3	201.7	210.1	246.3	310.5	327.1	313.2	193.4	198.2	205.6	244.4	309.4	325.4	300.2
Lettuce	219.6	271.9	279.9	238.8	205.9	213.1	265.9	222.9	281.9	288.6	241.7	200.6	209.3	262.5
Tomatoes	178.5	201.2	230.8	230.6	209.2	205.4	214.2	179.2	197.7	228.4	228.6	210.8	199.6	210.8
Other fresh vegetables (12/77 = 100)	109.5	134.6	140.1	140.2	137.1	126.2	127.1	108.0	135.3	139.7	143.4	138.0	127.0	127.6
Processed fruits and vegetables	230.6	238.4	239.4	241.4	243.0	244.5	246.3	227.9	236.2	237.6	239.7	241.5	242.9	244.6
Processed fruits (12/77 = 100)	120.6	125.0	125.4	126.4	126.6	126.9	127.4	119.8	124.9	125.7	126.7	126.8	127.2	127.6
Frozen fruit and fruit juices (12/77 = 100)	116.3	119.3	118.1	120.1	118.5	119.2	119.3	114.9	118.4	117.5	118.9	117.8	118.1	118.5
Fruit juices and other than frozen (12/77 = 100)	119.3	128.3	129.3	129.5	130.6	130.1	130.8	119.7	128.4	129.8	130.4	130.9	130.7	131.0
Canned and dried fruits (12/77 = 100)	125.5	126.3	127.5	128.3	129.0	130.0	130.7	123.9	126.4	127.8	128.9	129.5	130.7	131.5
Processed vegetables (12/77 = 100)	111.2	114.5	115.2	116.2	117.6	118.8	120.1	109.9	113.2	113.9	115.0	116.6	117.5	118.7
Frozen vegetables (12/77 = 100)	109.8	113.3	114.7	116.4	118.4	119.6	119.7	109.4	113.0	114.6	116.3	118.2	119.2	119.4

23. Continued — Consumer Price Index — U.S. city average

[1967=100 unless otherwise specified]

General summary	All Urban Consumers							Urban Wage Earners and Clerical Workers (revised)						
	1979	1980						1979	1980					
	Sept.	Apr.	May	June	July	Aug.	Sept.	Sept.	Apr.	May	June	July	Aug.	Sept.
FOOD AND BEVERAGES — Continued														
Food — Continued														
Food at home — Continued														
Fruits and vegetables — Continued														
Cut corn and canned beans except lima (12/77=100)	114.7	115.6	116.0	116.6	118.1	119.4	121.4	112.8	114.3	114.2	115.2	117.0	118.1	119.6
Other canned and dried vegetables (12/77=100)	110.1	114.7	115.1	115.9	117.0	118.0	119.6	108.7	112.7	113.3	114.2	115.6	116.4	117.9
Other foods at home	276.0	295.1	298.1	301.8	304.3	307.8	309.2	274.7	294.6	299.0	301.4	303.7	307.4	309.1
Sugar and sweets	282.0	319.5	326.8	342.0	353.1	355.1	361.1	281.2	320.8	328.0	342.9	354.6	356.6	361.8
Candy and chewing gum (12/77=100)	119.7	126.3	128.9	130.5	131.6	132.6	134.2	119.3	126.5	129.0	130.8	132.0	133.2	134.7
Sugar and artificial sweeteners (12/77=100)	115.9	156.9	161.4	180.3	194.2	194.6	200.2	116.4	158.6	163.3	180.7	194.5	195.1	199.7
Other sweets (12/77=100)	115.3	121.3	123.6	125.8	127.2	128.3	129.2	114.0	120.0	122.2	124.6	126.5	126.9	127.7
Fats and oils (12/77=100)	231.5	238.3	239.5	240.0	239.3	242.0	243.6	230.7	238.3	240.1	240.5	240.6	242.4	244.6
Margarine	245.5	247.9	246.1	249.0	247.0	249.3	249.2	242.8	248.3	248.4	249.4	248.6	251.5	251.8
Nondairy substitutes and peanut butter (12/77=100)	114.6	119.8	121.4	123.1	123.6	124.7	125.8	114.5	120.0	121.6	123.5	124.0	124.8	125.8
Other fats, oils, and salad dressings (12/77=100)	120.6	124.8	125.8	124.9	124.6	126.2	127.4	120.4	124.4	125.5	124.9	125.0	125.7	127.4
Nonalcoholic beverages	367.7	390.3	393.0	395.9	397.4	402.8	403.9	365.0	389.2	392.3	395.1	396.2	403.0	403.6
Cola drinks, excluding diet cola	242.7	261.7	265.4	267.8	268.4	275.2	276.7	240.1	260.1	263.2	267.1	265.6	274.7	274.9
Carbonated drinks, including diet cola (12/77=100)	117.9	125.6	126.2	128.3	129.2	131.3	132.5	115.7	123.4	124.8	125.2	127.4	128.8	130.2
Roasted coffee	425.9	434.0	433.5	432.4	435.3	433.9	426.1	418.2	430.4	430.0	429.2	432.3	430.4	423.1
Freeze dried and instant coffee	359.9	380.2	381.9	380.2	381.0	380.3	376.1	358.9	379.2	380.4	378.7	379.2	379.7	374.8
Other noncarbonated drinks (12/77=100)	114.0	120.7	120.7	121.8	122.1	123.1	124.5	112.7	119.6	120.0	120.8	121.1	122.3	123.8
Other prepared foods	212.6	226.6	229.1	230.9	232.3	234.9	235.2	212.4	226.6	229.6	230.8	232.1	234.2	235.6
Canned and packaged soup (12/77=100)	113.1	120.5	122.0	122.9	123.3	123.7	123.8	113.3	120.6	122.5	123.7	123.5	124.2	124.7
Frozen prepared foods (12/77=100)	123.1	130.4	131.3	132.0	132.4	134.6	133.9	121.1	128.8	131.0	130.8	131.3	131.7	131.6
Snacks (12/77=100)	118.4	124.8	126.1	127.2	128.3	129.3	129.8	119.0	126.0	127.3	127.9	128.5	129.9	130.4
Seasonings, olives, pickles, and relish (12/77=100)	117.4	125.2	125.4	127.5	128.0	129.4	130.7	116.3	124.5	125.5	127.3	127.3	127.8	129.5
Other condiments (12/77=100)	115.9	127.1	127.9	128.8	130.2	131.8	133.0	117.5	128.1	129.2	129.9	131.6	133.4	135.0
Miscellaneous prepared foods (12/77=100)	116.8	124.4	127.6	128.6	129.3	130.9	130.6	116.3	123.7	127.0	128.3	128.9	130.2	131.1
Other canned and packaged prepared foods (12/77=100)	116.7	123.1	124.6	125.2	126.0	127.5	126.9	116.7	123.3	124.3	124.1	125.4	126.8	127.2
Food away from home	247.6	263.0	264.6	266.6	267.8	269.5	271.4	249.3	265.3	267.6	269.9	271.2	272.8	274.9
Lunch (12/77=100)	120.7	127.9	128.5	129.3	130.0	131.2	132.1	121.7	128.9	129.9	130.7	131.1	131.8	132.9
Dinner (12/77=100)	120.3	127.9	128.7	129.5	130.1	130.7	131.9	120.9	129.1	130.5	131.0	132.0	132.8	133.6
Other meals and snacks (12/77=100)	118.6	126.4	127.4	129.0	129.3	130.0	130.4	119.9	127.7	128.6	131.1	131.6	132.3	133.3
Alcoholic beverages	174.2	183.9	185.4	186.4	187.2	188.7	189.6	174.9	185.0	186.9	188.0	189.2	190.6	191.7
Alcoholic beverages at home (12/77=100)	113.3	119.9	120.9	121.4	122.1	123.1	123.6	114.3	120.8	122.0	122.7	123.6	124.6	125.1
Beer and ale	172.3	185.9	187.7	188.2	189.2	190.1	190.8	171.8	185.1	187.5	188.8	189.7	191.1	191.9
Whiskey	129.0	133.4	133.9	134.7	135.2	136.9	137.6	130.4	134.6	135.1	135.4	136.6	137.8	138.5
Wine	195.2	206.6	208.5	211.5	212.6	213.9	214.7	202.7	209.8	212.0	213.7	217.4	218.1	219.8
Other alcoholic beverages (12/77=100)	105.5	108.2	109.0	108.7	109.6	111.2	111.7	105.3	107.8	108.7	108.9	109.6	111.1	111.2
Alcoholic beverages away from home (12/77=100)	115.1	120.5	121.5	122.3	122.5	123.5	124.5	113.4	120.5	121.7	122.5	122.9	123.6	124.8
HOUSING	234.6	257.9	261.7	266.7	265.1	265.8	267.7	234.5	257.8	261.7	266.9	265.1	265.8	267.6
Shelter	247.4	276.0	280.2	286.3	282.9	283.3	285.3	248.2	277.2	281.6	288.0	284.3	284.8	286.8
Rent, residential	179.0	187.0	188.9	191.1	192.1	193.2	195.1	178.9	186.9	188.7	190.8	191.8	193.0	194.8
Other rental costs	239.3	260.7	261.9	264.2	265.7	267.5	268.9	238.6	260.5	261.7	263.9	265.5	267.3	268.6
Lodging while out of town	251.8	279.3	279.9	282.1	283.8	286.4	287.0	249.9	278.0	278.6	280.8	282.3	285.1	285.6
Tenants' insurance (12/77=100)	113.7	119.9	121.2	122.6	123.1	122.2	124.7	114.1	120.1	121.4	122.7	123.3	122.7	125.2
Homeownership	271.9	307.7	312.9	320.4	315.4	315.4	317.6	273.3	310.0	315.4	323.4	317.9	318.1	320.2
Home purchase	229.8	246.5	249.7	252.6	253.9	258.1	261.5	230.0	246.5	249.8	253.0	254.3	258.6	262.1
Financing, taxes, and insurance	323.0	390.6	399.7	416.1	399.6	393.6	393.5	325.6	395.3	404.9	422.0	405.0	398.8	398.9
Property insurance	316.7	338.9	344.9	351.8	355.5	355.9	358.8	318.5	340.4	346.4	352.7	357.2	357.9	362.9
Property taxes	184.7	188.4	187.6	187.7	188.3	190.3	191.2	186.1	190.1	189.3	189.4	190.0	192.0	193.0
Contracted mortgage interest cost	396.7	499.4	513.6	538.9	512.2	501.8	500.9	397.1	500.9	515.6	541.5	514.6	504.2	503.6
Mortgage interest rates	169.7	199.4	202.4	210.3	199.0	192.0	188.9	169.7	199.8	202.8	210.8	199.6	192.5	189.5
Maintenance and repairs	262.5	282.9	284.9	285.9	287.6	288.5	291.6	263.4	281.7	283.4	283.8	285.1	287.7	290.3
Maintenance and repair services	284.4	307.9	310.1	310.6	312.1	312.4	315.9	287.2	307.7	309.1	308.5	309.0	312.1	315.6
Maintenance and repair commodities	211.5	224.3	225.8	228.0	230.3	232.7	234.9	210.8	224.3	226.5	228.8	231.3	233.2	233.9
Paint and wallpaper, supplies, tools, and equipment (12/77=100)	117.0	126.6	128.7	131.3	133.4	134.4	135.6	116.1	126.0	128.7	130.9	132.2	133.1	132.7
Lumber, awnings, glass, and masonry (12/77=100)	115.2	118.8	118.0	118.9	119.1	120.1	122.2	115.7	119.7	118.4	118.5	119.3	120.4	121.8
Plumbing, electrical, heating, and cooling supplies (12/77=100)	111.9	119.1	119.3	119.9	121.1	122.7	123.2	112.6	120.0	122.0	123.8	125.9	126.6	128.1
Miscellaneous supplies and equipment (12/77=100)	112.9	118.2	118.7	119.1	120.1	122.1	122.7	111.2	119.4	120.1	120.7	122.5	123.9	125.2
Fuel and other utilities	251.2	270.5	275.9	282.2	285.5	286.8	288.2	251.7	271.0	276.4	283.0	286.1	287.4	288.7
Fuels	306.6	337.8	346.4	355.8	360.8	362.5	364.5	306.6	337.6	346.0	355.8	360.3	362.1	363.8
Fuel oil, coal, and bottled gas	461.6	556.4	556.0	558.7	560.4	561.5	561.5	462.5	557.1	557.1	559.8	561.9	562.7	562.9
Fuel oil	482.5	580.7	580.4	583.2	585.1	586.1	585.4	483.3	580.7	580.5	583.3	585.6	586.4	585.9
Other fuels (6/78 = 100)	114.4	139.6	139.4	140.1	140.4	140.8	142.1	114.6	140.8	141.3	141.9	142.1	142.5	143.8
Gas (piped) and electricity	270.1	288.0	298.2	308.8	314.3	316.1	318.4	269.9	287.6	297.5	308.5	313.5	315.4	317.4
Electricity	230.6	241.5	248.1	261.9	267.4	268.3	269.2	231.1	241.5	248.0	262.3	267.6	268.6	269.6
Utility (piped) gas	317.5	347.9	364.6	366.7	371.6	375.2	380.2	315.8	348.4	362.3	364.9	368.6	372.0	376.1

23. Continued—Consumer Price Index—U.S. city average

[1967 = 100 unless otherwise specified]

General summary	All Urban Consumers							Urban Wage Earners and Clerical Workers (revised)						
	1979	1980						1979	1980					
	Sept.	Apr.	May	June	July	Aug.	Sept.	Sept.	Apr.	May	June	July	Aug.	Sept.
HOUSING—Continued														
Fuel and other utilities—Continued														
Other utilities and public services	159.8	162.3	163.1	164.9	165.9	166.5	167.1	159.8	162.3	163.1	164.9	165.9	166.4	167.1
Telephone services	132.4	133.4	134.0	135.5	136.3	136.5	137.0	132.4	133.2	133.9	135.4	136.1	136.4	136.9
Local charges (12/77 = 100)	100.4	103.5	104.3	105.3	105.4	105.4	106.0	100.5	103.3	104.0	105.1	105.2	105.2	105.9
Interstate toll calls (12/77 = 100)	98.4	97.3	97.3	99.5	101.6	101.9	102.1	98.4	97.4	97.4	99.5	101.6	101.9	102.1
Intrastate toll calls (12/77 = 100)	101.4	99.0	99.4	99.6	99.5	99.9	100.1	101.3	98.9	98.3	99.5	98.3	98.7	100.0
Water and sewerage maintenance	245.3	256.2	256.5	259.3	261.3	263.5	264.5	245.5	256.2	257.6	260.5	262.4	264.5	265.5
Household furnishings and operations	192.2	203.0	204.2	205.5	206.2	207.2	209.2	190.6	200.7	201.9	202.9	203.5	204.5	206.0
Housefurnishings	164.1	172.7	173.4	174.6	174.7	175.2	177.3	163.5	171.5	172.2	172.9	172.9	173.5	175.0
Textile housefurnishings	175.3	188.2	187.3	189.4	188.2	189.1	194.1	174.9	186.3	186.1	189.6	188.7	189.6	192.5
Household linens (12/77 = 100)	106.7	114.8	114.4	116.0	114.6	114.1	118.4	106.3	113.8	113.4	116.2	114.8	114.7	117.7
Curtains, drapes, slipcovers, and sewing materials (12/77 = 100)	112.0	119.9	119.3	120.1	120.2	121.9	123.6	112.2	118.9	119.0	120.5	121.0	122.4	122.7
Furniture and bedding	178.3	190.9	191.9	193.6	192.8	192.6	195.7	178.5	189.4	190.1	190.8	189.7	189.9	192.0
Bedroom furniture (12/77 = 100)	114.8	124.3	125.0	126.2	125.4	125.8	127.9	113.0	120.9	121.7	123.1	122.6	123.6	124.5
Sofas (12/77 = 100)	107.1	111.6	111.4	113.0	112.2	111.3	112.7	108.6	111.8	112.0	112.7	111.7	110.4	111.1
Living room chairs and tables (12/77 = 100)	105.1	110.9	110.8	110.6	110.7	111.6	114.1	106.7	112.6	112.6	111.7	111.3	112.3	115.1
Other furniture (12/77 = 100)	113.9	124.0	125.6	127.1	126.6	125.7	127.5	114.2	123.1	123.5	123.9	123.0	122.5	123.6
Appliances including TV and sound equipment	136.2	139.3	139.9	140.2	140.5	141.4	142.0	135.7	139.7	140.2	140.1	140.1	140.6	141.2
Television and sound equipment (12/77 = 100)	104.7	105.7	105.7	105.6	105.8	106.6	107.0	104.4	105.4	105.4	105.2	105.0	105.2	105.7
Television	102.9	104.0	104.1	104.2	104.4	105.0	105.0	101.9	102.8	102.8	103.1	102.7	103.3	103.2
Sound equipment (12/77 = 100)	107.5	108.3	108.3	107.9	108.2	109.1	109.8	107.4	108.6	108.7	108.0	108.0	107.9	108.8
Household appliances	155.8	161.4	162.6	163.4	163.7	164.6	165.5	155.2	162.3	163.4	163.6	163.8	164.5	165.2
Refrigerators and home freezer	154.1	160.6	162.7	163.2	163.6	164.4	164.8	156.5	163.5	166.0	166.8	166.4	168.0	169.1
Laundry equipment (12/77 = 100)	110.9	117.5	118.2	119.1	119.6	120.2	120.9	111.2	117.8	118.5	118.9	118.7	120.1	120.0
Other household appliances (12/77 = 100)	109.1	111.5	112.1	112.7	112.6	113.3	114.2	107.2	111.6	111.8	111.7	112.1	112.0	112.5
Stoves, dishwashers, vacuums, and sewing machines (12/77 = 100)	108.6	110.0	110.3	111.2	111.6	111.8	111.8	107.7	111.6	111.9	111.4	112.8	111.4	111.8
Office machines, small electric appliances, and air conditioners (12/77 = 100)	109.7	113.1	114.2	114.4	113.8	115.1	117.0	106.8	111.6	111.7	112.0	111.3	112.6	113.4
Other household equipment (12/77 = 100)	110.9	118.4	119.0	120.2	121.3	121.7	123.0	110.3	117.0	117.8	118.5	119.7	120.5	121.6
Floor and window coverings, infants' laundry cleaning and outdoor equipment (12/77 = 100)	111.1	118.2	117.6	120.2	120.8	121.7	123.0	105.8	113.1	113.2	114.3	114.7	115.3	116.8
Clocks, lamps, and decor items (12/77 = 100)	108.0	115.6	117.6	118.8	119.0	119.8	120.6	107.0	112.6	114.4	115.9	116.6	117.1	118.2
Tableware, serving pieces, and nonelectric kitchenware (12/77 = 100)	114.7	123.4	124.1	125.4	126.4	125.8	128.2	114.5	121.4	121.7	122.2	124.0	125.1	126.3
Lawn equipment, power tools, and other hardware (12/77 = 100)	107.6	113.5	114.0	113.7	115.9	117.1	117.2	109.5	115.9	117.4	117.6	118.7	119.6	120.3
Housekeeping supplies	224.1	240.7	243.6	245.4	247.3	249.9	252.0	222.6	238.1	241.2	243.0	245.2	247.8	249.6
Soaps and detergents	215.1	233.2	235.0	234.9	237.2	240.1	243.7	214.5	231.1	232.1	232.3	234.4	236.8	241.1
Other laundry and cleaning products (12/77 = 100)	112.3	117.6	119.8	121.1	122.3	124.4	125.6	112.4	118.1	119.5	120.8	122.3	123.9	125.0
Cleansing and toilet tissue, paper towels and napkins (12/77 = 100)	116.4	126.2	126.6	129.4	130.2	132.2	133.8	117.1	128.1	130.8	131.5	132.7	135.1	135.8
Stationery, stationery supplies, and gift wrap (12/77 = 100)	109.9	115.6	116.3	116.9	117.6	117.4	118.0	108.3	114.9	116.0	116.5	117.9	117.4	116.9
Miscellaneous household products (12/77 = 100)	113.3	122.0	123.0	124.4	125.4	127.7	129.0	111.8	119.2	120.9	122.1	123.5	125.5	126.6
Lawn and garden supplies (12/77 = 100)	112.7	123.8	125.2	126.8	127.6	127.5	127.1	109.9	116.5	118.9	121.0	120.7	121.4	120.5
Housekeeping services	253.4	266.0	267.6	269.1	270.4	271.6	273.3	252.1	264.3	265.6	267.0	268.1	269.0	270.2
Postage	257.3	257.3	257.3	257.3	257.3	257.3	257.3	257.2	257.3	257.3	257.3	257.3	253.7	257.3
Moving, storage, freight, household laundry, and drycleaning services (12/77 = 100)	118.1	128.3	129.4	130.5	131.0	131.3	132.8	118.6	127.8	128.5	129.2	129.7	129.7	130.3
Appliance and furniture repair (12/77 = 100)	111.7	116.5	117.2	117.7	118.7	119.4	119.8	111.1	116.2	116.7	117.4	117.8	118.3	118.7
APPAREL AND UPKEEP	169.8	177.3	177.5	177.2	176.2	178.6	182.2	169.3	176.1	176.8	176.0	175.4	177.9	181.4
Apparel commodities	164.2	170.2	170.1	169.7	168.5	171.0	174.9	163.9	169.5	169.8	168.8	168.0	170.7	174.4
Apparel commodities less footwear	161.5	167.2	166.9	166.4	165.0	167.8	171.8	161.2	166.3	166.4	165.3	164.4	167.3	171.1
Men's and boys'	162.7	166.9	168.0	166.8	165.9	167.9	171.7	163.2	167.3	168.9	168.1	167.2	168.4	171.6
Men's (12/77 = 100)	102.7	105.0	105.7	104.8	103.9	105.6	108.1	103.2	105.2	106.3	105.5	104.7	106.1	108.3
Suits, sport coats, and jackets (12/77 = 100)	100.0	101.1	101.2	99.7	97.1	99.2	103.2	98.3	97.3	97.1	95.4	93.2	95.2	98.3
Coats and jackets (12/77 = 100)	96.5	96.5	97.3	96.3	96.0	96.7	99.9	99.1	97.0	97.2	97.1	97.1	98.0	100.0
Furnishings and special clothing (12/77 = 100)	110.6	116.6	117.9	118.2	118.4	119.3	120.8	108.6	114.2	116.4	115.4	115.7	116.3	117.5
Shirts (12/77 = 100)	107.2	111.5	112.2	110.8	110.7	114.9	116.9	107.1	111.7	113.7	112.9	111.2	115.1	117.4
Dungarees, jeans, and trousers (12/77 = 100)	99.0	99.4	100.2	99.5	99.2	99.5	101.2	102.5	104.2	105.2	105.0	104.8	105.0	107.1
Boys' (12/77 = 100)	104.8	108.9	109.7	109.5	110.0	109.5	111.4	103.9	108.7	109.6	109.8	110.0	108.6	110.2
Coats, jackets, sweaters, and shirts (12/77 = 100)	102.7	104.4	105.2	104.6	104.4	106.0	108.1	102.0	107.2	107.7	107.8	107.4	107.1	108.6
Furnishings (12/77 = 100)	109.4	113.3	114.3	114.6	114.7	114.6	116.6	108.8	111.6	112.7	113.3	113.3	112.9	113.7
Suits, trousers, sport coats, and jackets (12/77 = 100)	104.5	110.7	111.3	111.3	112.6	110.3	111.9	103.5	108.8	109.9	110.1	110.9	108.2	109.4
Women's and girls'	155.9	155.9	154.1	153.0	150.6	153.7	159.0	154.4	154.7	154.1	151.2	149.9	154.1	158.8
Women's (12/77 = 100)	103.9	103.9	102.4	101.7	99.8	101.7	105.7	103.0	103.3	103.0	100.8	99.6	102.5	107.0
Coats and jackets	174.1	168.3	162.0	158.1	158.8	164.0	168.9	175.7	167.8	162.4	155.2	157.5	170.2	177.0
Dresses	171.1	167.8	163.9	163.3	153.9	158.3	168.5	158.5	154.1	154.5	152.5	148.2	151.1	156.8
Separates and sportswear (12/77 = 100)	99.8	101.1	100.3	99.5	96.8	98.5	102.2	100.4	101.6	101.2	98.2	97.1	99.7	104.6
Underwear, nightwear, and hosiery (12/77 = 100)	108.2	111.5	111.8	112.1	113.2	114.2	114.6	107.4	111.7	112.2	112.3	112.8	114.3	114.8
Suits (12/77 = 100)	96.7	90.4	88.0	86.5	85.5	88.5	95.4	98.1	98.2	98.2	91.7	90.1	91.3	105.7
Girls (12/77 = 100)	102.4	102.6	102.7	102.1	102.0	104.5	105.8	101.1	101.1	100.5	98.6	100.0	102.3	103.3
Coats, jackets, dresses, and suits (12/77 = 100)	102.8	99.8	99.4	98.1	98.9	103.4	102.1	98.5	96.8	95.3	93.8	95.6	99.5	97.3
Separates and sportswear (12/77 = 100)	100.3	101.4	101.8	100.7	99.7	102.0	105.3	102.1	100.5	99.9	98.5	98.2	100.7	104.2
Underwear, nightwear, hosiery, and accessories (12/77 = 100)	105.7	109.5	110.0	111.4	111.4	111.2	113.0	103.5	108.9	110.0	110.9	110.4	108.6	111.3

23. Continued—Consumer Price Index—U.S. city average

[1967 = 100 unless otherwise specified]

General summary	All Urban Consumers							Urban Wage Earners and Clerical Workers (revised)						
	1979	1980						1979	1980					
	Sept.	Apr.	May	June	July	Aug.	Sept.	Sept.	Apr.	May	June	July	Aug.	Sept.
APPAREL AND UPKEEP—Continued														
Apparel commodities—Continued														
Apparel commodities less footwear—Continued														
Infants' and toddlers'	223.4	234.3	237.4	240.9	243.0	243.9	242.4	226.0	241.1	242.8	246.8	249.2	252.6	248.3
Other apparel commodities	172.6	201.9	202.7	205.3	205.5	208.9	210.5	174.9	198.5	197.4	201.0	200.8	204.1	204.4
Sewing materials and notions (12/77 = 100)	102.3	107.9	109.1	110.2	109.3	110.2	110.9	100.4	106.9	108.6	110.9	108.8	110.0	110.7
Jewelry and luggage (12/77 = 100)	115.6	140.1	140.4	142.2	142.8	146.5	146.8	118.9	138.1	136.3	138.6	139.4	142.0	142.0
Footwear	180.1	188.3	189.3	189.0	189.5	190.3	193.2	179.4	188.1	189.3	188.9	189.3	190.0	193.3
Men's (12/77 = 100)	115.0	119.7	120.0	121.3	121.1	121.3	123.6	116.3	122.4	122.7	123.6	123.2	123.4	124.9
Boys' and girls' (12/77 = 100)	111.6	119.5	121.3	121.0	123.5	122.8	123.3	111.6	119.5	121.5	121.3	123.1	123.9	124.6
Womens' (12/77 = 100)	112.0	115.6	115.8	114.6	113.8	115.4	117.7	109.6	112.6	112.9	111.7	111.3	111.7	115.1
Apparel services	210.2	230.0	232.2	230.6	234.4	235.4	237.3	208.7	226.0	230.8	231.8	232.6	233.7	234.5
Laundry and drycleaning other than coin operated (12/77 = 100)	123.6	135.5	136.9	137.5	137.7	138.3	140.0	123.2	134.1	135.6	137.3	137.5	138.4	139.1
Other apparel services (12/77 = 100)	113.0	123.3	124.5	125.5	126.3	126.9	126.9	112.3	120.4	125.0	123.9	124.7	125.0	125.1
TRANSPORTATION	221.4	246.8	249.0	249.7	251.0	252.7	254.7	222.4	247.7	249.9	250.6	251.9	253.5	255.2
Private	222.0	247.0	249.2	249.7	250.5	251.6	253.2	222.7	248.0	250.1	250.8	251.5	252.7	254.1
New cars	166.1	177.0	178.9	178.5	179.2	181.1	181.7	165.9	177.7	179.6	179.4	180.0	181.9	182.3
Used cars	202.9	196.7	199.3	200.7	203.4	206.4	214.6	202.9	196.8	199.3	200.8	203.4	206.4	214.6
Gasoline	301.0	374.7	375.4	376.2	376.7	375.9	373.0	302.3	376.3	377.1	377.6	377.8	377.1	373.9
Automobile maintenance and repair	247.1	264.1	266.1	267.3	269.0	271.1	273.8	247.5	264.3	266.1	268.0	269.7	272.2	273.9
Body work (12/77 = 100)	119.4	128.1	130.6	131.4	131.8	133.0	133.8	119.2	128.4	129.7	130.8	131.3	132.4	133.0
Automobile drive train, brake, and miscellaneous mechanical repair (12/77 = 100)	118.1	126.1	126.6	127.5	128.1	129.0	130.9	119.0	127.4	127.8	128.8	129.9	131.5	131.8
Maintenance and servicing (12/77 = 100)	116.9	124.7	125.9	126.1	127.3	128.4	129.4	116.8	124.2	125.4	126.2	127.2	128.4	129.5
Power plant repair (12/77 = 100)	116.7	124.4	125.1	125.9	126.4	127.3	128.7	117.0	124.6	125.4	126.2	126.6	127.5	128.5
Other private transportation	201.7	221.3	224.5	225.0	224.5	224.7	226.0	202.3	223.1	226.7	227.3	226.7	226.8	227.6
Other private transportation commodities	177.7	194.1	195.3	195.5	197.7	198.3	200.9	178.7	195.8	196.7	196.8	200.1	200.6	201.9
Motor oil, coolant, and other products (12/77 = 100)	114.4	129.8	132.2	134.1	136.3	136.3	137.5	114.5	129.1	131.5	133.6	135.5	136.1	135.6
Automobile parts and equipment (12/77 = 100)	114.9	124.8	125.4	125.3	126.6	127.0	128.8	115.7	126.2	126.5	126.3	128.4	128.7	129.8
Tires	156.4	171.2	172.6	172.3	174.9	175.9	178.8	158.1	174.9	175.6	174.9	178.9	179.9	181.5
Other parts and equipment (12/77 = 100)	119.1	127.1	126.5	128.8	128.6	128.2	127.3	118.6	125.1	125.0	125.4	125.7	125.2	125.8
Other private transportation services	210.1	230.6	234.5	235.0	233.8	233.9	234.9	210.6	232.6	236.8	237.6	236.0	236.0	236.7
Automobile insurance	233.5	245.2	247.1	248.5	249.1	250.2	251.3	233.5	244.9	246.9	248.2	248.7	249.9	250.9
Automobile finance charges (12/77 = 100)	117.7	148.6	156.0	153.7	148.7	148.2	148.6	117.0	147.8	153.8	153.5	149.1	147.5	147.5
Automobile rental, registration, and other fees (12/77 = 100)	107.8	111.5	112.1	112.9	113.3	114.0	114.5	108.4	112.2	113.1	114.0	114.7	115.4	115.8
State registration	144.0	146.4	146.4	146.4	146.4	146.5	146.5	143.9	146.5	146.5	146.5	146.5	146.5	146.5
Drivers' license (12/77 = 100)	104.5	104.7	104.7	104.7	104.9	104.9	104.9	104.3	104.4	104.4	104.4	104.6	104.6	104.6
Vehicle inspection (12/77 = 100)	114.6	119.7	120.4	121.5	122.6	122.8	122.8	115.5	120.3	121.0	122.1	123.3	123.5	123.5
Other vehicle related fees (12/77 = 100)	116.1	122.7	124.0	126.1	126.8	128.3	129.8	120.3	127.8	130.0	132.7	134.6	136.6	137.8
Public	205.2	235.9	238.5	242.2	250.5	261.5	271.0	204.1	229.7	232.9	234.9	245.8	256.9	264.4
Airline fare	214.1	264.3	270.0	275.5	276.9	289.8	310.3	214.2	263.9	270.0	275.4	275.5	287.9	308.6
Intercity bus fare	268.0	291.5	293.6	293.8	294.2	297.9	304.7	268.0	291.0	293.4	293.6	293.9	298.0	304.5
Intracity mass transit	190.5	203.0	204.6	204.4	222.6	234.1	234.8	190.2	200.8	202.0	201.9	221.8	233.8	234.4
Taxi fare	228.5	256.4	259.9	262.0	263.3	266.2	266.8	233.9	261.6	265.7	267.6	269.2	273.0	273.6
Intercity train fare	221.0	237.3	250.0	255.2	255.3	255.4	255.5	221.3	237.2	251.1	255.5	255.4	255.6	255.6
MEDICAL CARE	243.7	262.0	263.4	264.7	266.6	268.4	270.6	244.7	263.1	264.9	265.9	267.8	270.0	272.2
Medical care commodities	155.8	164.9	166.4	167.9	169.1	170.2	171.3	156.7	166.0	167.2	168.5	169.7	170.8	171.8
Prescription drugs	143.5	152.2	153.5	154.8	155.6	156.4	157.5	144.4	153.5	154.6	155.8	156.6	157.4	158.5
Anti-infective drugs (12/77 = 100)	113.1	118.5	118.7	120.5	121.2	120.5	122.4	114.1	120.4	120.7	122.0	122.3	121.6	123.4
Tranquilizers and sedatives (12/77 = 100)	114.9	122.9	124.1	124.9	125.5	126.1	126.3	115.0	122.7	123.5	124.2	124.7	125.4	125.4
Circulatories and diuretics (12/77 = 100)	109.3	114.2	114.6	115.1	115.4	116.0	116.9	110.0	115.9	116.8	117.3	117.6	118.2	118.9
Hormones, diabetic drugs, biologicals, and prescription and supplies (12/77 = 100)	120.8	131.3	133.2	134.3	135.5	138.2	138.9	120.8	131.3	132.4	133.7	134.8	137.0	138.1
Pain and symptom control drugs (12/77 = 100)	114.6	121.4	122.9	124.2	124.5	125.2	125.6	116.0	122.6	124.2	125.5	126.1	127.6	128.1
Supplements, cough and cold preparations, and respiratory agents (12/77 = 100)	110.9	117.1	118.2	118.6	119.3	119.9	120.5	112.2	118.5	119.5	120.2	120.9	121.2	121.8
Nonprescription drugs and medical supplies (12/77 = 100)	112.0	118.4	119.5	120.6	121.7	122.6	123.3	112.8	119.2	120.1	121.0	122.0	122.9	123.6
Eyeglasses (12/77 = 100)	109.2	115.0	116.5	118.2	118.7	119.9	120.5	109.3	115.3	116.3	117.3	117.8	118.4	119.0
Internal and respiratory over-the-counter drugs	173.0	184.4	186.0	187.3	189.1	190.4	191.2	174.7	185.4	186.9	188.4	190.1	191.6	192.4
Nonprescription medical equipment and supplies (12/77 = 100)	110.8	115.3	118.5	117.5	119.1	119.9	120.8	111.2	116.3	117.1	117.5	119.0	119.9	121.2
Medical care services	262.8	283.4	284.7	285.9	288.0	289.8	292.3	263.8	284.5	286.3	287.3	289.3	291.7	294.3
Professional services	230.3	248.2	250.3	251.8	250.5	254.7	257.3	233.1	251.2	253.5	255.1	256.1	257.8	260.4
Physicians' services	248.4	264.8	267.5	269.2	270.9	272.2	274.2	251.5	269.7	272.3	273.9	275.4	277.6	280.5
Dental services	217.2	237.2	238.8	240.3	241.1	242.2	245.8	220.7	238.9	241.2	243.1	243.0	244.5	247.3
Other professional services (12/77 = 100)	112.4	121.7	122.2	122.8	125.0	126.0	126.7	111.7	121.1	121.6	122.2	123.8	123.9	124.5
Other medical care services	302.0	325.8	326.3	327.2	329.7	332.3	334.7	301.3	325.3	326.5	326.5	329.8	333.3	335.6
Hospital and other medical services (12/77 = 100)	119.6	129.7	130.4	131.4	133.4	135.4	137.1	118.9	128.6	129.7	130.3	132.6	134.9	136.4
Hospital room	376.4	408.0	410.1	412.6	418.2	424.0	426.4	374.1	403.6	406.7	408.5	414.9	422.4	427.2
Other hospital and medical care services	118.8	128.8	129.5	130.6	132.8	135.1	137.0	118.0	128.0	129.1	129.7	132.3	134.4	136.0

23. Continued—Consumer Price Index—U.S. city average

[1967 = 100 unless otherwise specified]

General summary	All Urban Consumers							Urban Wage Earners and Clerical Workers (revised)						
	1979	1980						1979	1980					
	Sept.	Apr.	May	June	July	Aug.	Sept.	Sept.	Apr.	May	June	July	Aug.	Sept.
ENTERTAINMENT	191.1	202.5	204.0	205.3	206.6	208.0	209.8	190.2	201.3	202.4	204.0	204.4	205.6	208.1
Entertainment commodities	192.0	205.7	207.0	208.3	209.3	210.8	212.8	189.9	202.8	203.4	204.5	204.8	206.4	208.6
Reading materials (12/77 = 100)	111.9	120.1	121.5	122.3	123.0	123.2	126.1	111.4	119.7	121.1	121.8	122.5	122.7	125.5
Newspapers	214.5	234.8	237.2	239.0	240.0	240.7	242.3	214.2	234.3	236.4	238.2	239.3	239.9	241.5
Magazines, periodicals, and books (12/77 = 100)	115.0	120.8	122.4	123.1	124.1	124.0	129.3	114.8	120.6	122.3	122.8	123.7	123.7	129.3
Sporting goods and equipment (12/77 = 100)	111.3	118.7	118.5	118.6	119.5	120.9	121.1	107.5	114.1	114.0	114.2	114.2	115.3	115.8
Sport vehicles (12/77 = 100)	NA	120.6	119.9	119.8	120.7	122.2	NA	NA	113.0	112.5	112.6	112.5	113.5	NA
Indoor and warm weather sport equipment (12/77 = 100)	108.1	111.3	112.0	111.1	112.4	113.5	113.8	104.7	110.5	110.3	110.2	110.6	111.7	112.1
Bicycles	165.6	178.6	179.7	180.6	181.6	183.6	184.7	164.7	179.8	180.9	181.4	181.4	183.2	184.9
Other sporting goods and equipment (12/77 = 100)	109.3	113.1	113.7	114.6	115.0	116.5	117.2	108.5	114.0	114.6	115.3	116.1	116.9	117.4
Toys, hobbies, and other entertainment (12/77 = 100)	110.4	118.4	119.4	120.6	121.0	121.8	122.6	110.4	118.0	118.1	119.0	119.1	120.3	121.3
Toys, hobbies, and music equipment (12/77 = 100)	110.4	117.3	118.5	119.6	119.0	120.4	121.4	109.6	116.5	115.8	117.0	115.9	117.8	119.0
Photographic supplies and equipment (12/77 = 100)	108.9	120.1	120.8	121.8	122.8	122.5	123.1	108.8	118.9	120.5	121.1	122.4	121.7	121.8
Pet supplies and expense (12/77 = 100)	111.6	119.2	120.1	121.7	123.2	123.9	124.4	112.9	120.0	120.9	121.4	122.9	123.8	125.2
Entertainment services	190.2	198.5	200.1	201.4	203.1	204.3	206.1	191.8	199.9	201.8	204.3	204.8	205.2	208.4
Fees for participant sports (12/77 = 100)	113.0	119.0	120.2	120.9	122.1	123.2	124.5	113.4	119.3	120.5	121.5	121.9	121.8	124.7
Admissions (12/77 = 100)	115.2	118.7	118.8	120.4	121.3	122.1	122.6	116.3	120.1	121.0	123.2	123.2	124.2	124.1
Other entertainment services (12/77 = 100)	109.4	114.8	116.4	116.6	117.4	117.4	118.3	110.9	115.1	116.5	118.2	118.8	119.1	120.8
OTHER GOODS AND SERVICES	201.7	209.8	211.2	212.5	213.5	214.5	220.6	200.6	209.2	210.6	212.1	212.9	214.0	219.0
Tobacco products	190.9	198.8	200.4	203.4	203.8	204.5	204.5	190.9	198.9	200.5	203.6	204.0	204.4	204.3
Cigarettes	193.6	201.4	202.9	206.0	206.4	207.0	206.8	193.7	201.6	203.2	206.4	206.8	207.0	206.8
Other tobacco products and smoking accessories (12/77 = 100)	112.2	117.6	119.0	120.2	120.7	122.0	122.8	111.0	117.2	118.5	119.5	120.3	121.7	122.7
Personal care	199.0	209.7	211.6	212.4	214.4	215.4	216.7	198.4	209.5	210.9	211.8	213.1	214.7	216.6
Toilet goods and personal care appliances	191.4	201.8	204.1	205.1	207.9	209.0	210.3	191.0	201.8	203.9	204.5	206.6	208.8	210.4
Products for the hair, hairpieces and wigs (12/77 = 100)	111.6	117.9	120.0	120.7	121.4	121.7	121.8	110.6	117.9	120.0	119.7	120.5	122.5	123.6
Dental and shaving products (12/77 = 100)	114.3	120.5	121.0	122.3	124.0	125.2	125.3	112.5	119.3	118.8	120.4	122.0	123.6	124.0
Cosmetics, bath and nail preparations, manicure and eye makeup implements (12/77 = 100)	110.4	115.7	116.5	116.7	119.1	119.6	121.3	110.6	115.2	116.2	116.6	117.9	118.5	119.7
Other toilet goods and small personal care appliances (12/77 = 100)	108.6	115.4	117.4	117.6	119.4	119.9	120.8	110.3	117.2	119.0	119.1	120.4	121.5	122.1
Personal care services	206.4	217.2	218.8	219.6	220.9	221.7	223.1	205.8	217.2	218.1	219.1	219.8	220.7	222.9
Beauty parlor services for women	207.7	218.6	220.4	220.6	222.1	222.5	224.5	207.4	218.6	219.4	220.2	221.0	222.0	225.0
Haircuts and other barber shop services for men (12/77 = 100)	115.5	121.7	122.2	123.4	123.9	124.8	124.8	114.7	121.5	122.0	122.8	123.0	123.4	123.9
Personal and educational expenses	223.3	226.7	229.2	229.5	229.9	231.4	249.5	223.5	228.7	229.4	229.8	230.3	231.6	249.8
School books and supplies	201.5	207.1	207.1	207.1	207.2	207.7	221.0	205.0	210.9	210.9	210.9	210.9	211.5	224.8
Personal and educational services	228.6	234.0	234.7	235.0	235.5	237.1	256.2	228.4	233.4	234.2	234.8	235.4	237.1	256.1
Tuition and other school fees	117.7	118.5	118.6	118.6	118.7	119.4	131.6	117.9	118.7	118.7	118.7	118.8	119.5	131.8
College tuition (12/77 = 100)	116.9	117.9	117.9	117.9	118.0	118.7	130.7	116.8	117.9	117.9	117.9	118.0	118.7	130.7
Elementary and high school tuition (12/77 = 100)	120.9	120.9	120.9	120.9	120.9	122.0	134.4	120.7	120.7	120.7	120.7	120.7	121.8	134.3
Personal expenses (12/77 = 100)	115.1	126.1	127.8	128.7	129.5	130.7	130.5	114.4	123.3	125.1	126.4	127.4	128.5	129.7
Special indexes:														
Gasoline, motor oil, coolant, and other products	297.1	369.3	370.1	370.9	371.5	370.7	367.9	298.3	370.8	371.6	372.2	372.5	371.8	368.7
Insurance and finance	283.5	335.2	342.6	353.8	342.3	338.3	338.6	283.1	335.2	342.8	354.0	342.6	338.7	339.0
Utilities and public transportation	219.3	233.4	238.9	244.8	249.1	251.9	254.8	219.5	232.6	237.9	244.0	248.4	251.2	253.6
Housekeeping and home maintenance services	276.6	295.7	297.6	298.6	300.1	300.8	303.6	277.8	295.1	296.5	296.7	297.5	299.7	302.3

24. Consumer Price Index for All Urban Consumers: Cross classification of region and population size class by expenditure category and commodity and service group

[December 1977 = 100]

Category and group	Size class A (1.25 million or more)			Size class B (385,000 - 1.250 million)			Size class C (75,000 - 385,000)			Size class D (75,000 or less)		
	1980			1980			1980			1980		
	Apr.	June	Aug.	Apr.	June	Aug.	Apr.	June	Aug.	Apr.	June	Aug.
	Northeast											
EXPENDITURE CATEGORY												
All items	125.0	127.1	129.1	129.0	131.0	134.8	132.7	135.6	138.3	127.4	131.0	134.1
Food and beverages	124.5	126.2	129.5	127.1	128.6	131.0	128.8	130.5	133.4	125.2	127.6	130.4
Housing	126.1	129.6	131.2	130.0	133.1	139.7	140.2	144.9	148.4	127.9	133.5	138.7
Apparel and upkeep	112.5	111.5	112.0	111.1	111.3	113.1	112.7	113.2	113.9	113.0	115.0	115.0
Transportation	133.8	135.3	138.0	140.8	141.7	143.5	136.2	138.2	140.3	138.1	140.2	141.4
Medical care	122.4	123.0	125.1	122.4	123.2	124.4	122.5	123.5	125.0	122.7	124.4	125.2
Entertainment	116.7	117.7	118.3	117.9	120.2	121.1	115.7	116.5	118.9	121.5	123.8	124.4
Other goods and services	114.7	116.1	117.2	117.5	119.0	120.0	119.6	121.9	123.3	116.0	116.8	118.3
COMMODITY AND SERVICE GROUP												
Commodities	126.5	128.4	130.4	130.8	132.1	136.1	131.6	133.8	136.9	128.0	131.5	135.1
Commodities less food and beverages	127.8	129.7	131.0	132.5	133.8	138.5	132.9	135.4	138.6	129.3	133.3	137.3
Services	122.9	125.4	127.4	126.3	129.2	132.8	134.5	138.5	140.4	126.5	130.2	132.5
	North Central											
EXPENDITURE CATEGORY												
All items	133.2	136.7	136.8	130.9	134.4	134.7	128.9	131.9	132.9	128.7	131.9	131.7
Food and beverages	126.8	128.1	131.5	124.9	126.7	129.8	127.0	128.7	131.8	126.9	129.6	133.9
Housing	141.1	147.5	145.4	135.8	141.2	139.4	130.4	135.6	135.3	129.1	134.5	131.5
Apparel and upkeep	109.2	108.5	109.0	111.2	111.0	112.9	110.7	111.0	112.0	113.6	114.6	113.6
Transportation	138.1	140.1	141.0	137.6	140.7	141.3	139.3	140.4	141.6	137.4	139.8	140.4
Medical care	125.3	126.1	127.8	125.0	125.8	128.8	125.7	126.6	129.1	127.4	128.9	133.7
Entertainment	118.9	120.1	122.4	114.0	117.1	118.6	118.7	121.3	122.7	116.1	117.3	116.9
Other goods and services	116.2	117.9	118.6	121.5	123.2	124.4	116.7	117.5	118.8	119.8	121.6	122.9
COMMODITY AND SERVICE GROUP												
Commodities	130.9	132.9	134.5	127.9	129.9	132.4	128.1	129.7	131.9	126.0	128.0	129.8
Commodities less food and beverages	132.8	135.2	135.9	129.2	131.2	133.4	128.5	130.1	131.9	124.8	127.3	128.0
Services	136.6	142.3	140.3	135.6	141.7	138.4	130.3	135.5	134.5	132.9	138.1	134.8
	South											
EXPENDITURE CATEGORY												
All items	130.7	133.5	134.8	131.7	134.7	135.4	131.3	133.1	133.7	128.3	131.4	131.9
Food and beverages	126.4	128.5	132.3	127.0	127.9	131.3	127.8	129.1	132.8	126.2	128.1	132.4
Housing	133.9	138.5	138.2	136.7	141.4	140.5	136.6	138.9	137.1	129.7	134.0	132.4
Apparel and upkeep	116.4	116.4	116.7	112.9	112.8	114.1	108.2	107.3	109.4	104.7	107.2	105.6
Transportation	139.7	140.9	143.5	138.4	140.6	142.0	137.2	139.7	141.1	136.5	138.7	140.4
Medical care	121.9	124.1	125.4	123.3	125.8	127.5	126.4	127.5	128.8	131.2	133.9	133.9
Entertainment	115.7	116.3	119.5	119.8	122.5	124.0	118.3	120.3	122.0	124.4	128.0	130.5
Other goods and services	119.3	120.9	122.3	118.1	119.5	121.3	118.8	120.2	121.6	121.9	123.9	125.1
COMMODITY AND SERVICE GROUP												
Commodities	129.3	130.9	133.1	129.0	130.6	132.7	128.7	129.7	131.9	127.2	129.0	131.3
Commodities less food and beverages	130.6	132.0	133.5	129.8	131.7	133.3	129.1	130.0	131.5	127.7	129.3	130.9
Services	132.6	137.2	137.1	135.8	140.9	139.5	135.3	138.4	136.4	129.8	135.1	132.7
	West											
EXPENDITURE CATEGORY												
All items	132.8	136.1	135.5	134.1	136.0	136.8	131.4	133.6	134.2	130.4	134.3	135.4
Food and beverages	126.5	127.7	130.5	128.8	130.2	133.1	125.7	127.6	129.5	128.0	129.6	132.9
Housing	136.3	142.5	139.2	139.1	141.4	140.9	134.8	137.9	137.2	129.7	135.9	135.6
Apparel and upkeep	115.7	114.5	116.4	115.8	118.4	119.5	107.7	107.4	108.5	121.8	123.6	126.3
Transportation	141.2	141.1	142.8	139.2	140.7	142.4	141.2	142.1	143.6	138.6	141.7	143.5
Medical care	128.6	129.5	130.6	126.9	127.9	129.0	126.7	129.4	132.2	128.9	132.5	134.1
Entertainment	117.8	119.5	120.8	123.1	123.9	125.9	121.0	122.4	125.2	127.5	130.3	131.5
Other goods and services	121.2	121.7	122.8	121.5	124.3	125.7	117.7	119.0	120.2	122.5	124.4	124.5
COMMODITY AND SERVICE GROUP												
Commodities	129.5	130.4	132.3	131.5	132.5	134.6	129.0	130.1	132.2	129.8	131.7	134.1
Commodities less food and beverage	130.8	131.6	133.1	132.7	133.5	135.2	130.4	131.1	133.3	130.6	132.6	134.6
Services	137.2	143.6	139.7	137.7	140.8	140.0	134.8	138.5	137.1	131.2	138.2	137.3

25. Consumer Price Index—U.S. city average, and selected areas

[1967 = 100 unless otherwise specified]

Area[1]	All Urban Consumers							Urban Wage Earners and Clerical Workers (revised)						
	1979	1980						1979	1980					
	Sept.	Apr.	May	June	July	Aug.	Sept.	Sept.	Apr.	May	June	July	Aug.	Sept.
U.S. city average[2]	223.4	242.5	244.9	247.6	247.8	249.4	251.7	223.7	242.6	245.1	247.8	248.0	249.6	251.9
Anchorage, Alaska (10/67 = 100)	213.2	...	226.5	...	228.4	...	230.9	210.9	...	223.1	...	224.8	...	226.7
Atlanta, Ga.	...	235.3	...	242.2	...	246.5	...	...	239.3	...	244.7	...	249.7	...
Baltimore, Md.	224.9	...	249.1	...	252.4	...	255.0	224.9	...	247.8	...	250.8	...	253.2
Boston, Mass.	218.1	...	236.9	...	240.9	...	244.4	217.9	...	236.8	...	240.9	...	244.5
Buffalo, N.Y.	...	233.7	...	235.4	...	236.8	...	...	233.3	...	234.6	...	235.5	...
Chicago, Ill.-Northwestern Ind.	221.3	240.1	243.1	248.2	246.8	245.2	250.1	220.6	239.8	243.0	248.0	247.0	245.4	249.5
Cincinnati, Ohio-Ky.-Ind.	229.0	...	251.6	...	256.7	...	258.9	230.8	...	252.9	...	259.1	...	261.7
Cleveland, Ohio	...	247.3	...	250.1	...	253.9	...	...	248.4	...	250.5	...	254.4	...
Dallas-Ft. Worth, Tex.	...	251.4	...	256.4	...	258.5	...	...	249.6	...	254.5	...	257.4	...
Denver-Boulder, Colo.	240.8	...	258.0	...	261.6	...	266.6	243.6	...	262.4	...	265.8	...	270.9
Detroit, Mich.	223.7	248.2	248.4	256.7	253.7	255.1	259.5	223.5	246.0	248.9	255.8	252.1	253.8	257.7
Honolulu, Hawaii	...	227.4	...	227.5	...	230.1	...	...	228.4	...	228.0	...	229.5	...
Houston, Tex.	...	260.8	...	266.5	...	268.6	...	...	257.3	...	262.8	...	265.6	...
Kansas City, Mo.-Kansas	...	242.8	...	247.8	...	250.8	...	...	242.2	...	246.3	...	249.3	...
Los Angeles-Long Beach, Anaheim, Calif.	220.7	244.6	249.1	250.1	248.7	247.3	249.6	223.0	247.8	252.6	253.4	251.5	250.1	252.0
Miami, Fla. (11/77 = 100)	117.4	...	129.7	...	133.6	...	133.1	118.7	...	130.9	...	134.7	...	134.9
Milwaukee, Wis.	226.0	...	250.3	...	251.6	...	258.4	228.7	...	255.2	...	256.9	...	263.2
Minneapolis-St. Paul, Minn.-Wis.	...	244.3	...	246.4	...	250.1	...	...	245.7	...	248.4	...	250.6	...
New York, N.Y.-Northeastern N.J.	218.1	233.1	234.5	237.2	238.9	240.8	241.8	217.8	232.4	234.1	236.7	238.4	240.7	241.5
Northeast, Pa. (Scranton)	215.4	...	232.5	...	239.8	...	243.1	217.1	...	235.8	...	243.2	...	246.9
Philadelphia, Pa.-N.J.	219.5	237.4	239.4	242.5	244.1	246.0	247.2	220.3	237.9	239.9	243.8	245.3	247.3	248.3
Pittsburgh, Pa.	...	240.9	...	246.1	...	250.7	...	...	242.2	...	246.8	...	251.2	...
Portland, Oreg.-Wash.	232.2	...	257.3	...	252.7	...	256.9	232.6	...	255.9	...	252.2	...	255.4
St. Louis, Mo.-Ill.	222.2	...	241.8	...	245.0	...	252.4	222.5	...	242.6	...	245.9	...	252.7
San Diego, Calif.	240.4	...	269.7	...	269.9	...	271.8	237.7	...	264.8	...	265.7	...	267.7
San Francisco-Oakland, Calif.	...	243.5	...	248.0	...	251.0	...	...	242.8	...	247.7	...	251.4	...
Seattle-Everett, Wash.	222.6	...	249.6	...	255.1	...	258.1	221.0	...	246.8	...	251.6	...	254.6
Washington, D.C.-Md.-Va.	222.9	...	241.2	...	247.2	...	249.2	224.4	...	242.0	...	248.7	...	251.8

[1] The areas listed include not only the central city but the entire portion of the Standard Metropolitan Statistical Area, as defined for the 1970 Census of Population, except that the Standard Consolidated Area is used for New York and Chicago.

[2] Average of 85 cities.

26. Producer Price Indexes, by stage of processing

[1967 = 100]

Commodity grouping	Annual average 1979	1979			1980									
		Oct.	Nov.	Dec.	Jan.	Feb	Mar.	Apr.	May	June [1]	July	Aug.	Sept.	Oct.
FINISHED GOODS														
Finished goods	216.1	224.2	226.3	228.1	232.4	235.7	238.5	240.5	241.6	r243.0	246.6	249.0	248.9	252.2
Finished consumer goods	215.7	224.7	227.1	229.1	233.5	237.6	240.8	242.1	243.4	r245.0	249.1	251.8	251.8	253.6
Finished consumer foods	226.3	226.7	230.5	232.1	231.4	231.6	233.1	228.9	230.0	231.0	239.5	249.9	245.8	245.9
Crude	231.4	215.5	228.1	227.9	226.0	220.1	230.9	222.3	226.1	r223.6	230.7	240.7	253.2	231.3
Processed	223.8	225.5	228.6	230.3	229.7	230.4	231.1	227.2	228.1	229.4	238.0	243.0	242.9	244.8
Nondurable goods less foods	225.9	243.3	245.5	247.9	254.7	262.7	270.9	276.9	278.6	r281.0	282.8	284.3	284.7	284.9
Durable goods	181.9	189.0	190.0	191.8	199.1	202.1	200.3	201.2	201.0	r203.5	205.3	206.3	204.9	211.0
Consumer nondurable goods less food and energy	(2)	177.6	178.3	179.1	182.9	185.1	187.0	189.3	190.6	r192.1	193.4	194.6	195.5	196.6
Capital equipment	216.7	222.8	223.9	225.3	229.3	230.5	232.2	236.2	236.6	r237.7	240.2	241.9	241.3	248.2
INTERMEDIATE MATERIALS														
Intermediate materials, supplies, and components	242.8	255.0	256.3	258.7	265.9	271.6	273.7	275.1	276.4	r278.2	280.3	282.6	284.1	286.3
Materials and components for manufacturing	234.1	244.3	245.5	247.8	255.5	259.8	259.5	260.3	262.2	r264.1	264.7	267.2	268.4	271.8
Materials for food manufacturing	223.6	225.5	227.8	230.4	226.0	245.6	240.1	238.7	255.5	r260.4	262.6	277.5	275.9	296.4
Materials for nondurable manufacturing	220.1	231.4	233.4	235.3	241.1	244.0	247.4	253.0	255.5	r256.3	256.9	258.8	258.3	259.6
Materials for durable manufacturing	271.3	284.7	284.6	287.8	303.7	306.5	301.4	296.6	295.5	r298.2	297.9	298.1	301.4	306.0
Components for manufacturing	206.8	213.2	214.8	216.3	219.2	223.2	225.3	227.7	228.6	r230.0	231.2	234.5	236.2	237.6
Materials and components for construction	246.9	254.7	254.0	253.7	257.7	262.1	265.5	265.6	265.7	r267.1	269.2	271.1	271.5	272.1
Processed fuels and lubricants	360.9	410.6	416.5	424.6	444.0	464.0	481.0	486.9	486.8	r493.0	504.9	506.1	510.2	507.1
Manufacturing industries	298.9	322.5	325.2	332.2	340.5	351.4	356.6	358.3	364.3	r373.0	378.4	381.3	385.9	384.9
Nonmanufacturing industries	422.9	500.6	510.0	519.1	550.3	579.9	609.5	620.0	617.2	r616.4	635.3	638.9	638.2	632.7
Containers	235.3	242.6	243.8	247.1	250.9	251.6	253.8	262.6	263.8	r265.5	267.1	266.5	266.8	270.0
Supplies	217.6	224.9	226.4	229.2	232.5	239.0	240.8	241.7	241.8	r243.2	246.2	248.2	251.7	253.7
Manufacturing industries	204.4	212.2	213.7	216.3	220.9	222.5	223.7	227.1	228.5	r230.6	232.3	232.2	233.1	234.4
Nonmanufacturing industries	224.7	231.7	233.3	236.1	236.7	247.8	249.8	249.5	248.9	r249.9	253.6	256.7	261.5	263.8
Feeds	224.1	228.9	226.9	230.4	224.4	223.3	218.9	206.6	210.5	r207.7	223.0	235.4	251.9	256.3
Other supplies	221.5	228.9	231.2	233.9	238.3	249.6	252.9	255.2	253.7	r255.6	256.6	257.6	259.8	261.6
CRUDE MATERIALS														
Crude materials for further processing	282.2	289.5	290.8	296.2	296.8	306.4	303.5	297.0	300.7	r299.6	316.3	327.7	331.8	336.0
Foodstuffs and feedstuffs	247.2	247.5	246.4	249.7	243.0	252.6	245.9	235.5	242.9	242.5	263.3	276.6	276.7	279.1
Nonfood materials	(2)	368.9	374.9	384.2	398.9	414.3	412.7	413.9	410.5	407.9	416.8	424.3	436.3	444.1
Nonfood materials except fuel	284.5	298.1	304.6	311.6	330.1	341.7	339.8	337.0	329.3	324.4	331.3	340.5	348.1	353.5
Manufacturing industries	293.3	307.8	314.9	322.5	342.1	354.9	352.5	349.1	340.3	r334.7	342.3	352.6	360.6	366.0
Construction	207.0	212.6	214.8	216.6	226.0	228.7	229.9	232.4	232.8	r234.1	235.3	235.8	239.6	245.3
Crude fuel	568.2	612.9	617.4	634.5	636.3	664.8	664.1	678.9	690.3	r695.6	711.0	713.2	740.5	756.1
Manufacturing industries	607.6	662.5	667.8	688.3	690.3	725.7	724.5	742.2	756.1	r762.9	781.9	784.5	818.0	837.9
Nonmanufacturing industries	548.3	585.5	589.3	603.9	605.7	628.8	628.6	641.3	650.8	655.1	667.8	669.8	692.3	704.7
SPECIAL GROUPINGS														
Finished goods excluding foods	(2)	221.3	222.8	224.6	230.5	234.6	237.8	241.7	242.8	r244.3	246.4	247.9	247.4	251.7
Finished consumer goods excluding foods	208.2	220.6	223.1	225.3	232.3	238.3	242.3	246.2	247.6	r249.5	251.4	252.7	252.3	255.0
Finished consumer goods less energy	(2)	202.8	204.7	206.1	209.4	211.2	211.9	211.5	212.4	r214.0	218.0	220.7	220.9	223.2
Intermediate materials less foods and feeds	244.0	256.8	258.1	260.5	268.4	273.7	276.2	278.0	278.6	r280.5	282.3	283.9	285.2	286.6
Intermediate materials less energy	(2)	246.4	247.1	249.1	255.3	259.8	260.5	261.4	262.6	r264.2	265.5	267.8	269.3	272.0
Intermediate foods and feeds	223.2	226.0	226.9	229.8	224.8	237.5	232.4	227.3	239.7	242.1	248.7	262.7	267.1	262.2
Crude materials less agricultural products	390.5	417.0	424.1	435.0	452.9	469.3	469.0	469.9	464.7	r463.8	470.5	479.3	491.5	502.5
Crude materials less energy	(2)	243.7	243.8	246.9	244.0	254.8	248.4	238.7	241.5	r239.0	237.0	268.7	270.7	273.5

[1] Data for June 1980 have been revised to reflect the availability of late reports and corrections by respondents. All data are subject to revision 4 months after original publication.

[2] Not available.

r = revised.

27. Producer Price Indexes, by commodity groupings

[1967 = 100 unless otherwise specified]

Code	Commodity group and subgroup	Annual average 1979	1979			1980									
			Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June[1]	July	Aug.	Sept.	Oct.
	All commodities	235.6	245.6	247.2	249.7	254.9	260.2	261.9	262.8	264.2	r265.6	269.8	273.1	274.1	277.0
	All commodities (1957 - 59 = 100)	250.0	260.6	262.3	267.3	270.2	275.6	277.4	278.8	280.3	r281.8	286.3	289.8	290.8	293.9
	Farm products and processed foods and feeds	229.8	230.6	232.3	234.6	231.9	237.0	234.9	229.3	233.8	r234.3	246.1	254.8	256.3	258.8
	Industrial commodities	236.5	249.0	250.6	253.1	260.6	265.9	268.6	271.3	271.9	r273.5	275.8	277.3	278.2	281.2
	FARM PRODUCTS AND PROCESSED FOODS AND FEEDS														
01	Farm products	241.4	239.6	240.2	242.5	236.4	242.3	239.3	228.9	233.5	233.4	253.9	263.6	266.6	263.4
01 - 1	Fresh and dried fruits and vegetables	229.0	218.0	216.5	210.7	219.0	220.6	218.5	223.2	244.0	r233.5	247.5	253.8	266.0	240.4
01 - 2	Grains	214.8	229.0	226.6	227.9	214.6	223.3	217.9	210.8	219.0	215.3	244.8	256.5	260.6	269.2
01 - 3	Livestock	260.3	251.7	248.3	252.5	247.8	257.2	251.8	230.5	233.3	240.0	260.5	275.7	266.8	263.0
01 - 4	Live poultry	194.3	162.0	195.5	194.7	195.2	184.6	180.1	171.9	171.3	166.6	227.2	224.5	241.0	222.9
01 - 5	Plant and animal fibers	209.9	212.9	215.4	222.0	239.0	269.5	254.9	266.9	272.7	247.0	267.0	274.6	295.2	278.5
01 - 6	Fluid milk	250.1	260.8	262.5	264.0	262.3	263.8	263.1	265.4	265.4	265.5	265.8	271.6	275.5	280.9
01 - 7	Eggs	176.5	155.9	178.7	198.4	165.6	150.4	184.2	153.3	140.5	146.8	159.3	176.9	188.4	175.2
01 - 8	Hay, hayseeds, and oilseeds	244.3	235.6	229.8	230.3	218.1	224.7	215.9	205.1	206.9	207.4	251.4	261.5	280.7	284.4
01 - 9	Other farm products	289.0	313.6	318.3	319.4	301.1	304.7	311.5	304.8	311.0	309.4	282.4	282.7	283.9	282.9
02	Processed foods and feeds	222.5	224.8	227.1	229.3	228.5	233.1	231.6	228.6	233.1	r233.9	241.1	249.1	249.8	255.4
02 - 1	Cereal and bakery products	210.3	219.8	222.5	223.6	225.4	229.9	231.8	232.4	234.7	r233.2	234.6	235.5	238.0	241.3
02 - 2	Meats, poultry, and fish	242.0	234.2	239.3	242.8	239.6	239.6	239.2	226.0	224.5	r226.6	248.5	259.9	257.7	255.8
02 - 3	Dairy products	211.2	218.1	219.3	219.9	221.0	220.8	223.0	227.5	228.5	r229.5	230.5	233.0	234.1	236.4
02 - 4	Processed fruits and vegetables	221.9	223.4	222.4	222.6	222.9	223.3	223.7	224.6	225.4	r227.2	229.5	230.6	231.9	234.5
02 - 5	Sugar and confectionery	214.7	218.9	222.9	234.4	235.0	267.5	264.1	275.0	327.8	r325.4	313.7	347.1	341.4	399.9
02 - 6	Beverages and beverage materials	210.7	218.9	221.2	221.6	224.0	224.8	225.9	227.9	231.2	r234.3	234.4	237.3	236.2	236.7
02 - 7	Fats and oils	243.3	246.0	241.9	235.6	225.1	226.4	222.6	214.5	212.0	r212.8	221.7	236.8	237.8	231.1
02 - 8	Miscellaneous processed foods	216.5	220.8	222.2	223.1	225.4	223.5	224.7	225.1	223.7	r223.4	223.6	224.0	226.9	230.6
02 - 9	Manufactured animal feeds	219.4	224.0	222.4	224.9	219.7	219.8	216.6	205.0	207.2	r205.0	220.6	230.1	243.8	247.2
	INDUSTRIAL COMMODITIES														
03	Textile products and apparel	168.7	172.0	172.8	173.1	175.2	176.5	179.3	181.2	182.0	r183.0	184.3	185.2	186.2	187.8
03 - 1	Synthetic fibers (12/75 = 100)	119.0	124.7	124.2	124.7	127.0	127.2	129.1	130.4	133.2	r134.5	136.3	137.8	139.3	140.9
03 - 2	Processed yarns and threads (12/75 = 100)	109.2	112.1	112.5	112.7	114.6	118.0	119.3	122.1	124.2	r122.8	121.9	122.6	123.4	124.2
03 - 3	Gray fabrics (12/75 = 100)	127.1	129.7	130.7	132.3	132.7	132.3	136.8	137.0	136.5	r134.8	134.8	136.6	139.2	142.5
03 - 4	Finished fabrics (12/75 = 100)	107.4	108.9	109.7	109.9	110.5	111.1	113.2	114.5	115.3	r115.8	116.5	116.7	116.8	118.2
03 - 81	Apparel	160.4	162.2	163.1	162.6	165.5	166.8	168.0	170.0	170.2	r172.7	174.1	174.8	174.7	175.5
03 - 82	Textile housefurnishings	190.4	196.3	196.5	197.1	199.0	199.7	201.3	201.6	202.6	202.7	210.7	211.0	217.1	218.0
04	Hides, skins, leather, and related products	252.4	253.9	248.9	249.2	255.7	250.9	246.8	243.5	240.7	r240.9	244.9	251.1	247.8	247.3
04 - 1	Hides and skins	535.4	478.8	447.6	443.9	468.8	404.8	348.7	328.6	289.7	315.7	356.6	398.4	356.1	381.5
04 - 2	Leather	356.7	343.6	319.8	324.8	347.6	340.3	311.0	297.6	290.4	284.4	292.2	314.2	300.2	272.5
04 - 3	Footwear	218.0	227.5	227.9	227.9	229.1	228.0	231.8	231.9	231.9	r231.9	232.9	233.9	235.7	236.8
04 - 4	Other leather and related products	205.0	209.7	208.4	208.0	213.1	214.8	217.8	216.2	217.4	r215.9	216.3	217.4	217.6	221.9
05	Fuels and related products and power	408.1	468.5	476.9	487.9	508.0	532.7	553.5	566.6	572.1	r576.5	585.4	589.5	593.0	592.5
05 - 1	Coal	450.9	454.6	455.1	458.6	459.3	459.6	461.7	465.2	466.5	r466.6	467.8	469.0	472.1	471.0
05 - 2	Coke	429.2	431.2	431.2	431.2	430.6	430.6	430.6	430.6	430.6	430.6	430.6	430.6	430.6	430.6
05 - 3	Gas fuels[1]	544.1	619.9	637.0	662.4	677.5	716.6	716.6	730.1	745.1	r749.2	763.3	762.3	785.3	801.1
05 - 4	Electric power	270.2	283.5	281.9	287.0	290.5	299.3	305.5	310.1	316.5	r326.0	331.4	333.8	338.6	337.6
05 - 61	Crude petroleum[2]	376.5	436.7	450.4	470.8	513.6	515.1	522.8	533.9	540.1	549.0	550.9	566.3	570.8	579.6
05 - 7	Petroleum products, refined[3]	444.8	533.7	545.4	555.2	583.3	620.4	659.0	678.0	680.9	r681.7	693.3	697.5	695.5	689.6
06	Chemicals and allied products	222.3	234.2	236.0	238.2	246.0	248.7	252.8	259.8	262.5	r262.8	262.7	264.3	263.2	264.6
06 - 1	Industrial chemicals[4]	264.0	285.7	288.4	292.3	302.9	307.9	313.3	322.1	328.5	r329.5	327.8	329.0	326.2	329.0
06 - 21	Prepared paint	204.4	206.7	209.4	210.7	223.3	223.3	228.7	231.5	238.8	238.8	236.8	239.1	239.6	239.6
06 - 22	Paint materials	241.2	253.6	256.6	256.8	259.9	263.4	267.5	272.1	273.9	r275.0	277.0	278.2	278.9	279.5
06 - 3	Drugs and pharmaceuticals	159.4	162.8	163.0	164.4	166.5	167.6	168.9	172.6	172.8	r174.4	175.4	175.7	176.7	178.3
06 - 4	Fats and oils, inedible	376.7	366.9	344.3	327.1	325.6	302.2	299.9	298.2	294.7	255.8	260.0	307.6	304.5	302.0
06 - 5	Agricultural chemicals and chemical products	214.4	224.3	229.5	232.9	241.9	248.0	256.1	258.5	258.5	r257.6	258.2	259.6	260.4	260.0
06 - 6	Plastic resins and materials	235.9	260.0	261.4	262.5	270.4	272.1	274.5	287.6	288.4	r287.6	286.2	282.0	277.1	276.7
06 - 7	Other chemicals and allied products	191.8	197.0	198.8	201.4	209.4	211.3	215.0	223.1	224.8	r226.9	228.0	229.9	229.4	231.3
07	Rubber and plastic products	194.3	203.0	204.9	205.9	207.8	210.7	212.7	214.1	215.0	r217.3	218.3	219.9	221.2	222.7
07 - 1	Rubber and rubber products	209.2	220.3	223.7	224.3	226.1	231.5	231.5	233.4	234.7	r236.8	239.4	240.7	242.5	245.4
07 - 11	Crude rubber	221.4	236.5	237.2	240.2	252.7	263.9	255.8	264.7	263.9	r264.1	262.5	263.4	266.3	270.7
07 - 12	Tires and tubes	205.9	218.3	223.1	223.1	225.1	231.6	231.6	231.8	233.2	r235.6	237.0	237.0	239.9	244.7
07 - 13	Miscellaneous rubber products	208.4	214.7	217.1	217.7	215.9	217.8	220.6	222.1	224.0	r226.4	231.8	234.6	234.8	234.8
07 - 2	Plastic products (6/78 = 100)	110.0	114.0	114.3	115.2	116.3	116.7	119.0	119.7	119.9	r121.4	121.1	122.4	122.8	123.0
08	Lumber and wood products	300.4	308.8	298.9	290.1	290.0	294.7	294.8	275.6	272.1	279.8	288.9	295.3	291.8	288.7
08 - 1	Lumber	354.3	370.3	355.6	339.5	336.3	341.4	340.6	310.1	301.4	313.0	327.3	333.5	326.6	319.2
08 - 2	Millwork	254.3	255.6	252.3	250.3	254.1	258.0	262.2	257.5	251.8	253.0	255.9	260.3	264.5	265.4
08 - 3	Plywood	250.5	254.0	242.2	237.9	238.2	243.4	240.0	219.8	230.6	r241.7	251.1	262.3	253.6	253.1
08 - 4	Other wood products	235.4	237.7	238.9	240.5	242.2	243.4	243.1	241.7	240.7	238.7	236.9	236.2	236.8	236.7

See footnotes at end of table.

27. Continued—Producer Price indexes, by commodity groupings

[1967=100 unless otherwise specified]

Code	Commodity group and subgroup	Annual average 1979	1979			1980									
			Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June [1]	July	Aug.	Sept.	Oct.
	INDUSTRIAL COMMODITIES—Continued														
09	Pulp, paper, and allied products	219.0	227.5	229.5	231.7	237.4	239.2	242.6	247.8	249.2	r251.1	252.4	252.2	252.7	254.4
09-1	Pulp, paper, and products, excluding building paper and board	220.7	229.0	231.1	233.4	239.2	240.8	244.1	249.4	250.6	r252.4	253.7	253.6	254.1	255.8
09-11	Woodpulp	314.3	337.5	338.0	338.0	356.6	356.4	356.8	385.6	385.6	r387.7	386.6	386.6	390.6	329.1
09-12	Wastepaper	206.6	206.7	220.0	221.2	222.9	223.4	224.9	242.5	226.1	206.6	194.0	193.8	192.5	192.8
09-13	Paper	229.6	238.7	241.8	242.7	245.5	247.2	250.3	253.5	256.1	r257.9	258.5	258.8	258.9	262.5
09-14	Paperboard	202.1	211.3	212.8	215.4	221.8	223.7	227.4	232.1	235.5	r238.9	237.5	238.1	239.2	241.0
09-15	Converted paper and paperboard products	209.9	217.3	219.0	221.9	227.7	229.5	233.0	236.7	237.6	r239.8	242.4	242.0	242.5	243.4
09-2	Building paper and board	182.4	183.5	183.6	184.6	186.2	191.7	198.7	201.3	206.8	208.9	211.8	209.2	209.6	212.1
10	Metals and metal products	259.3	269.6	271.1	273.6	284.6	288.9	286.8	284.4	281.8	r281.9	281.5	282.7	286.2	290.4
10-1	Iron and steel	283.5	289.2	292.0	292.8	297.4	300.3	301.8	307.2	304.8	r303.4	300.4	302.3	304.3	310.4
10-13	Steel mill products	280.4	288.3	288.8	289.3	293.6	294.2	295.5	304.1	305.5	305.8	301.0	301.0	301.0	307.5
10-2	Nonferrous metals	261.7	283.1	284.1	291.9	326.3	337.7	321.4	298.3	289.7	r288.8	289.0	288.9	297.9	303.9
10-3	Metal containers	269.2	279.9	280.9	280.9	283.3	284.4	288.5	304.1	302.7	302.7	303.0	303.2	303.2	304.4
10-4	Hardware	218.7	224.0	225.5	226.2	228.2	230.4	231.5	237.3	238.4	r240.5	241.9	242.6	245.1	245.8
10-5	Plumbing fixtures and brass fittings	217.1	223.5	225.4	226.5	232.8	236.7	242.4	243.8	247.5	r248.6	249.6	250.4	250.5	250.6
10-6	Heating equipment	187.1	192.2	193.1	195.6	199.5	202.6	202.6	204.2	204.0	r205.0	206.1	208.0	208.8	210.0
10-7	Fabricated structural metal products	248.9	256.3	256.7	257.7	258.9	259.7	265.1	269.1	269.9	r270.1	271.9	272.6	273.8	276.2
10-8	Miscellaneous metal products	231.4	238.5	238.6	239.1	240.6	241.6	244.2	246.1	246.7	r250.4	251.8	254.1	255.8	257.1
11	Machinery and equipment	213.9	220.0	221.3	223.4	227.6	230.2	232.5	236.4	237.6	r239.2	241.3	242.2	244.3	246.4
11-1	Agricultural machinery and equipment	232.1	240.0	243.4	244.2	248.4	249.9	252.0	254.4	256.4	r257.1	257.3	258.9	262.5	262.8
11-2	Construction machinery and equipment	256.2	263.9	265.4	268.8	276.0	278.3	279.5	284.2	285.9	r287.6	290.9	292.8	295.0	298.4
11-3	Metalworking machinery and equipment	241.3	249.6	252.2	254.6	258.9	261.8	264.1	270.2	272.9	275.4	278.0	278.9	280.2	282.2
11-4	General purpose machinery and equipment	236.4	242.8	244.2	247.6	251.0	253.3	256.7	261.1	262.8	r264.8	265.8	266.6	268.9	271.9
11-6	Special industry machinery and equipment	247.0	253.8	254.9	256.1	260.6	263.2	265.5	271.9	273.0	r274.3	277.2	277.3	283.2	286.2
11-7	Electrical machinery and equipment	178.9	184.3	184.9	186.6	190.6	194.3	196.5	198.9	199.9	r201.6	203.5	204.7	206.0	207.0
11-9	Miscellaneous machinery	208.9	213.6	214.9	216.3	220.3	221.1	223.2	227.2	227.3	r228.2	230.7	231.5	233.1	236.1
12	Furniture and household durables	171.3	175.1	176.4	177.9	183.4	185.6	185.7	184.4	185.4	r186.5	186.7	187.3	187.8	189.1
12-1	Household furniture	186.3	190.1	193.0	194.8	197.4	198.5	198.9	200.3	203.0	r204.0	204.3	206.3	206.6	207.7
12-2	Commercial furniture	221.8	223.3	223.3	225.1	226.9	231.4	232.8	233.6	233.9	235.5	237.1	237.1	237.4	241.2
12-3	Floor coverings	147.9	152.1	152.8	152.9	159.0	158.5	160.8	162.2	161.9	r162.1	163.2	163.5	163.9	164.5
12-4	Household appliances	160.9	163.2	164.5	165.3	166.5	168.9	169.9	171.1	173.2	r175.5	174.8	175.0	176.2	176.6
12-5	Home electronic equipment	91.3	90.3	90.3	90.5	91.0	91.2	91.3	91.4	92.0	r91.8	89.3	88.9	89.1	88.9
12-6	Other household durable goods	228.2	245.6	248.2	254.4	287.4	295.3	288.3	267.3	265.6	r266.5	271.1	273.0	273.2	277.8
13	Nonmetallic mineral products	248.6	256.2	257.4	259.6	268.4	274.0	276.5	283.7	284.0	r283.4	284.0	284.8	286.0	287.8
13-11	Flat glass	183.9	184.7	185.4	186.4	191.0	191.0	191.4	195.3	195.3	r193.6	194.3	199.5	199.7	200.7
13-2	Concrete ingredients	244.0	248.3	249.6	251.0	265.0	266.6	267.5	271.7	272.4	r273.2	272.5	272.7	274.6	277.8
13-3	Concrete products	244.1	250.1	250.6	253.2	265.4	266.7	269.1	272.9	275.2	r275.8	275.9	275.9	277.5	276.9
13-4	Structural clay products excluding refractories	217.9	221.1	221.8	226.7	229.6	231.0	231.4	235.0	230.0	r230.1	230.2	229.8	230.2	233.4
13-5	Refractories	236.5	244.6	247.4	248.0	248.5	251.1	253.9	261.7	264.4	r265.8	269.6	271.4	271.4	274.1
13-6	Asphalt roofing	325.3	337.5	347.4	346.5	356.6	372.5	388.8	408.9	401.1	r400.9	412.0	409.4	406.2	408.4
13-7	Gypsum products	252.3	255.3	256.2	255.0	255.4	262.2	267.6	264.0	256.5	257.1	253.1	251.8	251.8	249.5
13-8	Glass containers	261.1	265.2	265.2	274.2	274.3	274.3	274.3	294.3	294.3	r294.3	294.6	294.6	294.6	305.0
13-9	Other nonmetallic minerals	313.7	341.2	342.2	342.2	351.8	381.7	387.0	399.6	400.7	r394.8	396.1	397.1	400.7	400.6
14	Transportation equipment (12/68 = 100)	188.1	194.2	194.8	195.6	198.7	198.2	198.8	203.2	202.5	r203.1	204.9	206.6	204.2	215.8
14-1	Motor vehicles and equipment	190.5	197.1	197.4	198.2	200.7	200.1	200.7	205.4	204.5	r205.2	207.1	211.4	205.3	217.8
14-4	Railroad equipment	277.3	288.3	288.2	289.0	297.5	299.3	302.1	309.9	310.5	r312.2	316.4	316.4	320.4	323.3
15	Miscellaneous products	208.7	218.9	221.4	227.4	242.9	262.9	256.1	252.8	251.7	r258.0	261.3	259.9	264.4	265.0
15-1	Toys, sporting goods, small arms, ammunition	176.2	181.1	181.2	183.0	190.9	193.5	194.5	195.4	196.0	r197.5	200.3	201.0	201.6	202.0
15-2	Tobacco products	217.8	222.1	222.2	226.6	236.6	237.2	237.3	238.1	247.7	r248.1	247.6	247.6	247.6	248.9
15-3	Notions	191.8	195.7	195.8	196.8	203.1	203.2	207.2	216.8	217.0	217.0	221.7	223.8	223.9	224.0
15-4	Photographic equipment and supplies	153.7	157.4	161.2	164.3	165.9	218.6	219.1	212.3	199.6	r201.7	202.0	202.3	201.3	201.2
15-51	Mobile homes (12/74 = 100)	138.1	142.9	144.0	144.1	144.7	146.8	147.1	149.4	150.4	150.6	151.2	151.4	151.0	152.0
15-9	Other miscellaneous products	263.7	288.3	293.3	308.8	351.6	378.3	351.3	340.9	340.2	r360.2	369.4	363.3	360.5	381.0

[1] Data for June 1980 have been revised to reflect the availability of late reports and corrections by respondents. All data are subject to revision 4 months after original publication.

[2] Prices for natural gas are lagged 1 month.

[3] Includes only domestic production.

[4] Most prices for refined petroleum products are lagged 1 month.

[5] Some prices for industrial chemicals are lagged 1 month.

r = revised.

28. Producer Price Indexes, for special commodity groupings

[1967=100 unless otherwise specified]

Commodity grouping	Annual average 1979	1979			1980									
		Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June [1]	July	Aug.	Sept.	Oct.
All commodities — less farm products	234.4	245.3	247.0	249.5	256.7	260.9	262.8	264.8	265.9	r267.5	270.3	273.0	273.9	277.3
All foods	226.4	226.9	230.0	232.2	231.2	235.8	234.8	231.9	237.3	237.7	245.4	253.9	254.2	258.3
Processed foods	227.2	228.9	231.8	234.2	233.3	238.6	236.9	234.1	239.0	239.9	247.1	255.5	254.8	261.2
Industrial commodities less fuels	218.3	225.9	226.9	228.5	234.7	238.0	238.9	240.5	240.6	r242.0	243.3	244.8	245.4	248.8
Selected textile mill products (Dec. 1975 = 100)	113.9	116.4	117.0	117.2	118.9	119.3	121.3	122.2	122.9	r123.7	125.4	125.8	126.9	127.9
Hosiery	112.6	113.3	114.6	115.3	119.2	119.4	120.3	121.1	121.5	122.2	123.1	125.5	126.1	126.4
Underwear and nightwear	168.9	171.2	171.6	172.9	175.3	177.4	182.1	182.4	182.6	r187.1	188.5	189.4	189.7	189.9
Chemicals and allied products, including synthetic rubber and manmade fibers and yarns	212.4	224.3	226.3	228.7	236.3	239.2	243.2	250.0	252.6	r253.8	253.8	254.7	253.8	256.3
Pharmaceutical preparations	152.0	155.6	155.4	156.9	159.2	160.3	161.7	165.6	165.9	r167.6	167.8	168.2	168.8	170.8
Lumber and wood products, excluding millwork and other wood products	325.0	337.3	323.3	310.6	306.6	313.9	312.2	294.7	282.0	293.5	306.4	314.3	306.7	301.4
Special metals and metal products	234.6	243.4	244.5	246.3	253.7	256.0	255.1	255.8	254.0	r254.4	254.9	257.5	257.0	264.6
Fabricated metal products	236.8	244.0	244.6	245.3	247.2	248.4	252.0	255.9	256.8	r258.6	260.0	261.3	262.7	264.2
Copper and copper products	209.3	212.2	213.8	217.1	227.7	260.7	240.9	222.0	212.2	r208.5	211.7	209.0	214.1	218.9
Machinery and motive products	207.0	213.4	214.3	215.9	219.7	220.9	222.5	226.7	227.1	r228.3	230.2	232.5	231.7	236.1
Machinery and equipment, except electrical	234.2	240.8	242.5	244.8	249.1	251.1	253.5	258.2	259.6	r261.2	263.2	264.1	266.7	269.4
Agricultural machinery, including tractors	237.4	246.3	250.8	251.5	256.1	257.2	260.0	261.9	263.9	r264.7	264.1	266.4	270.8	271.1
Metalworking machinery	259.1	269.5	272.7	276.0	281.9	284.4	287.5	293.6	296.8	r299.7	303.6	304.7	306.5	309.4
Numerically controlled machine tools (Dec. 1971 = 100)	199.8	208.5	208.8	211.2	213.1	215.4	216.7	223.8	226.9	r228.5	228.7	229.3	230.0	231.7
Total tractors	251.6	261.2	262.5	268.2	273.0	275.1	276.6	280.8	282.9	r284.0	286.1	289.3	294.0	298.4
Agricultural machinery and equipment less parts	232.7	241.0	244.9	245.8	250.0	251.5	254.1	256.2	258.0	r258.7	258.9	260.8	264.6	264.9
Farm and garden tractors less parts	236.1	247.6	250.5	251.1	256.0	257.5	261.5	263.7	264.7	r264.8	264.9	269.3	276.3	276.3
Agricultural machinery excluding tractors less parts	238.7	245.4	251.3	252.0	256.4	257.3	258.9	260.7	263.6	r265.0	263.7	264.3	266.6	267.0
Industrial valves	256.0	261.8	263.1	266.1	271.0	273.5	280.0	287.8	288.4	r290.1	289.5	289.6	290.1	291.8
Industrial fittings	261.7	272.6	276.8	276.8	276.8	280.4	282.8	289.9	291.5	295.9	295.9	295.9	295.9	298.4
Abrasive grinding wheels	226.2	239.0	239.0	239.0	239.0	244.0	244.0	261.4	261.3	261.3	261.3	261.3	261.3	268.4
Construction materials	251.4	258.5	256.7	255.4	259.3	262.6	265.1	262.3	261.8	r264.2	266.5	268.9	268.8	269.4

[1] Data for June 1980 have been revised to reflect the availability of late reports and corrections by respondents. All data are subject to revision 4 months after original publication.

29. Producer Price Indexes, by durability of product

[1967=100]

Commodity grouping	Annual average 1979	1979			1980									
		Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June [1]	July	Aug.	Sept.	Oct.
Total durable goods	226.9	234.6	236.3	237.0	243.8	247.1	247.0	247.7	247.1	r248.7	250.3	252.1	252.9	257.2
Total nondurable goods	241.7	253.7	256.2	259.3	263.2	270.2	273.4	274.4	277.6	r278.8	285.3	289.9	291.1	292.7
Total manufactures	228.8	239.0	240.6	242.6	248.4	253.2	255.2	257.0	258.3	r259.8	262.5	265.0	265.4	268.8
Durable	226.1	234.0	234.6	236.2	242.9	245.7	245.6	246.7	246.7	r248.5	250.1	251.7	252.3	256.5
Nondurable	231.1	244.0	246.6	249.0	253.9	260.8	265.2	267.9	270.7	r271.7	275.6	279.3	279.4	281.8
Total raw or slightly processed goods	270.4	278.7	281.0	285.9	287.6	295.9	295.4	290.4	292.7	r293.8	307.5	314.8	319.5	319.5
Durable	262.1	259.2	265.8	267.8	282.8	305.3	303.4	286.0	262.2	249.9	253.9	263.1	273.1	282.7
Nondurable	270.1	279.2	281.2	286.3	286.9	294.2	293.8	289.8	294.0	r296.1	310.4	317.6	321.9	321.1

[1] Data for June 1980 have been revised to reflect the availability of late reports and corrections by respondents. All data are subject to revision 4 months after original publication.

30. Producer Price Indexes for the output of selected SIC industries

[1967=100 unless otherwise specified]

1972 SIC code	Industry description	Annual average 1979	1979			1980									
			Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June [1]	July	Aug.	Sept.	Oct.
	MINING														
1011	Iron ores (12/75 = 100)	134.8	140.2	140.2	142.0	142.0	147.3	152.6	152.6	152.6	152.6	155.8	155.8	155.8	155.8
1092	Mercury ores (12/75 = 100)	234.4	275.0	252.1	300.0	308.3	335.4	330.0	337.5	337.5	r322.9	331.2	329.1	336.4	338.7
1211	Bituminous coal and lignite	451.3	455.1	455.5	456.9	459.2	459.6	461.7	464.6	466.0	r466.0	467.2	468.2	471.2	470.0
1311	Crude petroleum and natural gas	459.8	522.1	533.9	561.3	582.7	598.0	600.6	612.5	619.6	r631.5	637.8	650.0	666.4	680.6
1442	Construction sand and gravel	217.6	224.0	224.7	225.6	238.8	243.2	243.9	248.6	249.3	r250.0	249.6	250.6	251.9	261.4
1455	Kaolin and ball clay (6/76 = 100)	125.8	126.7	124.2	129.3	136.6	136.6	136.6	136.6	136.6	136.6	136.6	136.6	136.6	137.2
	MANUFACTURING														
2011	Meat packing plants	247.4	238.9	241.5	243.9	240.8	240.1	238.9	225.6	227.2	r230.0	249.1	265.2	257.1	257.9
2013	Sausages and other prepared meats	219.6	211.9	213.4	220.0	211.9	207.8	209.4	197.9	193.3	r190.9	213.4	232.8	239.3	246.4
2016	Poultry dressing plants	187.1	183.1	188.3	188.5	186.1	178.2	173.5	164.5	164.7	164.2	214.2	212.1	226.0	211.3
2021	Creamery butter	228.6	240.1	241.7	243.1	241.8	242.8	243.4	252.7	253.7	255.7	256.3	266.6	265.8	273.2

See footnote at end of table.

30. Continued—Producer Price Indexes for the output of selected SIC industries

[1967 = 100 unless otherwise specified]

1972 SIC code	Industry description	Annual average 1979	1979			1980									
			Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June [1]	July	Aug.	Sept.	Oct.
	MANUFACTURING—Continued														
2022	Cheese natural and processed (12/72 = 100)	189.2	196.8	193.6	193.9	195.4	192.9	195.7	201.9	201.9	r202.5	205.1	208.6	209.8	215.5
2024	Ice cream and frozen desserts (12/72 = 100)	172.5	177.5	179.9	180.1	180.9	181.5	185.0	191.3	192.1	195.2	195.2	195.5	198.1	199.5
2033	Canned fruits and vegetables	208.6	212.9	212.2	212.2	213.4	213.6	214.7	216.3	217.3	r219.9	222.6	223.5	225.4	226.5
2034	Dehydrated food products (12/73 = 100)	174.2	158.2	156.2	157.3	157.6	159.0	156.4	157.5	156.4	156.3	157.7	159.6	159.9	162.6
2041	Flour mills (12/71 = 100)	173.1	184.2	184.4	184.1	181.7	183.6	181.6	175.0	182.3	r180.8	189.6	193.1	196.1	201.5
2044	Rice milling	204.0	227.3	231.8	218.1	217.5	233.0	258.0	260.4	254.5	236.0	225.3	219.9	225.9	237.2
2048	Prepared foods, n.e.c. (12/75 = 100)	120.4	123.6	124.3	125.0	122.0	122.6	121.5	116.5	116.9	r116.2	122.6	127.0	130.0	129.5
2061	Raw cane sugar	210.3	224.3	223.3	248.4	260.5	374.9	276.0	320.2	456.1	402.4	381.8	484.0	458.9	586.2
2063	Beet sugar	202.6	204.7	210.6	223.2	224.6	293.2	305.7	296.6	339.9	r346.0	343.5	366.3	384.7	429.4
2067	Chewing gum	245.8	242.9	262.3	262.3	262.3	262.3	281.9	282.0	282.0	282.0	282.4	282.4	302.4	322.4
2074	Cottonseed oil mills	207.4	214.9	204.7	205.6	182.4	184.4	170.4	154.7	150.4	155.1	190.1	213.5	232.9	218.7
2075	Soybean oil mills	245.0	244.7	242.4	241.9	235.1	230.4	222.3	211.9	212.9	r208.6	224.6	242.9	274.9	278.5
2077	Animal and marine fats and oils	338.4	333.7	315.2	300.7	298.1	292.6	297.4	274.0	262.9	r238.9	274.4	297.1	307.0	311.0
2083	Malt	203.7	214.9	228.2	228.2	244.1	244.1	244.1	244.1	244.1	244.1	244.1	244.1	244.1	267.4
2085	Distilled liquor, except brandy (12/75 = 100)	113.7	117.1	118.1	118.1	118.6	118.7	118.7	118.7	118.9	r120.5	118.9	127.7	127.7	127.9
2091	Canned and cured seafoods (12/73 = 100)	146.4	154.3	155.6	158.8	160.9	164.0	165.7	170.2	173.1	175.3	175.9	177.5	178.6	180.0
2092	Fresh or frozen packaged fish	381.6	400.1	391.4	388.4	389.7	385.5	381.6	370.5	380.0	r361.2	365.2	365.7	355.5	354.3
2095	Roasted coffee (12/72 = 100)	254.5	280.0	287.5	287.5	281.3	273.9	274.0	273.9	273.9	263.1	274.5	274.7	263.9	257.0
2098	Macaroni and spaghetti	199.7	210.4	221.5	227.7	227.7	227.7	227.7	230.5	230.5	230.5	230.5	230.5	230.3	243.6
2111	Cigarettes	225.0	229.2	229.2	234.3	245.8	245.9	246.0	246.3	257.3	r257.4	257.2	257.2	257.2	257.6
2121	Cigars	147.3	149.8	150.4	150.4	151.2	154.2	154.4	155.3	155.3	r156.8	157.2	157.2	157.2	161.0
2131	Chewing and smoking tobacco	248.4	260.4	260.8	260.8	260.9	265.1	267.3	279.2	278.6	r278.6	274.7	274.9	274.9	290.1
2211	Weaving mills, cotton (12/72 = 100)	195.3	201.1	201.6	201.9	204.4	206.9	209.5	211.3	212.9	r212.9	217.4	218.7	221.4	223.0
2221	Weaving mills, synthetic (12/77 = 100)	115.0	116.8	117.3	117.2	118.1	118.3	122.7	123.0	122.4	r121.2	122.3	124.2	126.1	129.9
2251	Women's hosiery, except socks (12/75 = 100)	97.5	98.2	100.3	100.2	103.3	103.3	104.3	105.0	105.4	105.4	105.4	108.8	108.8	108.9
2254	Knit underwear mills	173.3	174.3	174.6	178.3	182.5	184.1	186.5	186.8	187.1	r190.4	192.5	192.8	194.0	194.1
2257	Circular knit fabric mills (6/76 = 100)	95.2	96.9	98.4	98.6	99.3	100.4	103.4	104.0	104.4	r105.0	105.1	105.4	105.5	106.4
2261	Finishing plants, cotton (6/76 = 100)	121.8	126.1	126.3	126.6	128.7	129.6	131.9	132.4	134.5	r134.6	137.2	137.2	136.8	139.0
2262	Finishing plants, synthetics, silk (6/76 = 100)	107.2	109.3	109.7	109.8	110.3	109.4	110.4	110.7	111.8	r112.1	173.7	114.1	115.1	117.3
2272	Tufted carpets and rugs	128.0	129.8	130.1	130.1	134.7	134.5	137.0	137.3	137.1	r137.4	137.6	137.9	138.3	139.0
2281	Yarn mills, except wool (12/71 = 100)	176.7	181.2	183.0	183.7	188.0	197.8	199.5	203.7	204.5	202.8	203.0	204.3	205.7	207.8
2282	Throwing and winding mills (6/76 = 100)	107.4	110.4	108.6	109.2	110.1	110.6	112.0	114.8	118.1	r115.8	113.4	114.2	115.3	115.8
2284	Thread mills (6/76 = 100)	123.7	128.4	128.4	128.6	128.7	129.2	130.0	134.6	143.0	r142.9	143.0	143.1	143.1	143.8
2298	Cordage and twine (12/77 = 100)	107.0	114.9	114.9	114.9	115.0	117.2	118.5	123.6	123.8	125.0	125.0	125.0	125.0	127.1
2311	Men's and boys' suits and coats	204.2	206.6	206.8	206.7	209.0	208.1	208.3	209.7	210.9	r211.6	214.9	214.9	214.9	215.9
2321	Men's and boys' shirts and nightwear	194.0	196.1	196.6	196.3	197.7	196.2	199.3	204.0	203.7	r205.1	205.4	206.7	206.7	206.9
2322	Men's and boys' underwear	188.9	190.0	190.0	194.0	199.8	202.0	204.0	204.2	204.3	208.5	211.1	211.1	212.8	212.8
2323	Men's and boys' neckwear (12/75 = 100)	106.5	110.9	110.9	110.9	112.4	112.4	112.4	112.4	112.4	r112.4	106.3	112.4	112.4	112.4
2327	Men's and boys' separate trousers	161.5	162.9	163.4	163.5	164.2	174.2	174.3	174.9	174.9	175.1	175.3	175.3	175.3	175.3
2328	Men's and boys' work clothing	208.6	213.4	219.1	219.6	225.1	233.6	235.4	241.2	241.8	r242.6	244.8	244.1	243.8	243.9
2331	Women's and misses' blouses and waists (6/78 = 100)	102.0	103.0	105.9	106.8	107.1	106.6	106.7	107.6	107.6	107.8	111.4	112.6	112.6	112.8
2335	Women's and misses' dresses (12/77 = 100)	107.0	108.7	108.8	108.8	112.9	113.8	113.8	113.9	113.9	114.0	114.0	115.4	115.4	116.3
2341	Women's and children's underwear (12/72 = 100)	144.3	146.7	147.4	147.7	149.4	150.0	153.1	153.1	153.2	r155.0	155.4	156.8	155.7	156.0
2342	Brassieres and allied garments (12/75 = 100)	116.9	117.8	117.8	118.8	119.7	122.9	124.9	125.4	125.4	r126.6	129.2	129.4	129.4	129.4
2361	Children's dresses and blouses (12/77 = 100)	104.8	105.7	105.7	105.6	105.3	105.3	105.5	106.3	105.6	r108.0	112.4	112.4	111.9	112.3
2381	Fabric dress and work gloves	241.4	245.4	246.9	246.9	257.7	261.7	265.0	267.5	271.1	271.1	271.1	271.1	271.1	271.1
2394	Canvas and related products (12/77 = 100)	109.3	112.3	112.1	120.1	122.1	122.8	123.4	123.4	123.4	123.4	123.4	123.4	124.5	125.6
2396	Automotive and apparel trimmings (12/77 = 100)	111.3	114.3	114.3	114.3	114.3	114.3	122.3	122.3	122.3	122.3	122.3	122.3	122.3	122.3
2421	Sawmills and planing mills (12/71 = 100)	251.0	262.2	250.2	237.9	234.8	239.5	239.1	215.8	209.4	218.1	228.8	233.9	228.0	222.1
2436	Softwood veneer and plywood (12/75 = 100)	152.3	153.1	142.9	138.9	138.5	143.7	139.8	121.9	130.3	140.5	148.7	157.2	150.3	149.2
2439	Structural wood members, n.e.c. (12/75 = 100)	151.2	158.2	158.2	158.2	158.2	158.2	158.3	158.2	152.1	152.1	152.1	152.2	155.5	158.9
2448	Wood pallets and skids (12/75 = 100)	166.5	167.9	171.0	170.5	169.8	167.0	166.3	164.6	162.8	159.7	157.1	156.0	154.9	154.6
2451	Mobile homes (12/74 = 100)	138.2	143.0	144.0	144.1	144.8	146.9	147.2	149.5	150.5	r150.7	151.2	151.4	151.1	152.1
2492	Particleboard (12/75 = 100)	139.1	139.5	136.8	134.5	136.9	150.7	158.9	161.9	167.3	171.7	168.7	167.4	162.5	158.6
2511	Wood household furniture (12/71 = 100)	165.5	169.3	172.3	174.5	177.5	178.2	178.9	180.0	182.2	r183.5	183.8	185.7	186.0	187.0
2512	Upholstered household furniture (12/71 = 100)	150.0	151.8	153.8	155.7	156.9	158.7	158.7	160.9	161.1	r162.5	163.3	163.4	163.4	164.9
2515	Mattresses and bedsprings	165.7	168.9	172.3	172.3	169.9	170.5	170.5	172.8	176.0	r176.0	180.7	186.3	186.3	186.3
2521	Wood office furniture	215.3	217.6	217.6	221.9	226.2	233.8	233.8	233.9	233.9	r234.0	236.1	236.1	236.2	240.3
2611	Pulp mills (12/73 = 100)	200.6	213.5	213.9	213.9	225.2	225.1	225.5	243.8	243.9	r243.9	246.6	246.6	246.6	248.3
2621	Paper mills, except building (12/74 = 100)	130.2	135.1	136.5	136.8	139.0	139.8	142.5	145.0	145.8	r146.2	146.7	146.9	146.9	148.5
2631	Paperboard mills (12/74 = 100)	119.8	125.4	126.3	127.6	131.3	132.3	134.6	137.9	139.5	r141.2	140.4	140.9	141.6	142.5
2647	Sanitary paper products	277.7	286.3	286.4	290.9	286.8	303.9	311.7	316.7	319.3	r321.2	328.4	332.0	332.1	333.6
2654	Sanitary food containers	188.7	195.8	198.2	199.9	202.6	204.8	208.9	212.9	215.5	r217.2	219.4	221.5	223.4	223.4
2655	Fiber cans, drums, and similar products (12/75 = 100)	134.8	136.5	138.5	142.3	143.2	143.2	143.3	146.6	148.7	150.6	155.2	155.2	155.2	155.5
2812	Alkalies and chlorine (12/73 = 100)	208.8	214.1	216.7	217.3	220.4	226.5	233.7	241.2	246.5	r250.0	250.4	261.9	261.8	262.8
2821	Plastics materials and resins (6/76 = 100)	121.2	132.9	133.8	134.1	136.5	139.7	140.8	146.4	147.3	r146.9	146.3	144.6	141.9	141.8
2822	Synthetic rubber	210.3	225.7	228.0	230.4	240.9	244.2	244.7	256.8	259.3	r259.6	258.9	259.4	259.1	259.9
2824	Organic fiber, noncellulosic	117.6	123.6	123.2	122.6	124.1	124.7	128.9	128.5	131.7	r132.8	133.6	135.1	136.7	138.6
2873	Nitrogenous fertilizers (12/75 = 100)	103.4	108.0	111.7	113.5	114.3	119.8	122.1	123.6	124.5	123.4	122.6	123.7	123.7	130.3
2874	Phosphatic fertilizers	193.8	213.2	221.6	223.4	229.2	233.2	235.0	237.2	236.3	r236.7	234.9	240.2	240.5	239.2
2875	Fertilizers, mixing only	203.8	218.3	227.0	227.1	233.2	239.8	242.5	245.2	248.5	r249.0	248.3	247.5	249.7	249.3
2892	Explosives	239.4	250.8	251.7	252.6	253.6	255.2	269.2	271.4	272.8	r273.7	273.6	273.3	273.2	273.4
2911	Petroleum refining (6/76 = 100)	163.6	196.4	201.0	204.8	213.9	228.4	242.3	250.5	253.0	r253.3	255.8	257.0	256.3	254.5
2951	Paving mixtures and blocks (12/75 = 100)	134.3	145.6	145.6	145.7	150.0	161.5	167.9	172.7	172.7	r172.6	173.7	175.0	175.9	176.5
2952	Asphalt felts and coatings (12/75) = 100)	162.5	147.6	152.2	151.9	156.1	162.7	169.9	179.2	174.8	175.0	180.1	179.0	177.8	178.5
3011	Tires and inner tubes (12/73 = 100)	176.4	186.9	191.2	191.4	193.0	196.7	198.8	199.1	200.1	r202.2	203.3	203.3	205.7	209.5

30. Continued—Producer Price indexes for the output of selected SIC industries

[1967=100 unless otherwise specified]

1972 SIC code	Industry description	Annual average 1979	1979 Oct.	1979 Nov.	1979 Dec.	1980 Jan.	1980 Feb.	1980 Mar.	1980 Apr.	1980 May	1980 June [1]	1980 July	1980 Aug.	1980 Sept.	1980 Oct.
3021	Rubber and plastic footwear (12/71 = 100)	171.1	173.5	173.5	173.5	173.5	173.6	173.6	173.7	173.7	r173.6	181.9	182.1	182.1	182.7
3031	Reclaimed rubber (12/73 = 100)	170.0	178.8	179.2	179.5	179.7	180.0	184.9	185.9	186.5	r186.5	184.4	183.7	183.9	182.0
3079	Miscellaneous plastic products (6/78 = 100)	109.9	114.3	114.6	115.6	116.6	117.0	119.1	120.3	120.5	r122.2	121.9	123.1	123.6	123.7
3111	Leather tanning and finishing (12/77 = 100)	167.5	161.9	150.8	153.5	164.3	160.8	146.7	140.8	137.9	134.6	137.7	147.9	141.0	129.1
3142	House slippers (12/75 = 100)	135.8	135.8	135.9	135.9	143.5	145.4	145.4	145.4	145.4	r145.4	152.5	152.5	152.5	154.9
3143	Men's footwear, except athletic (12/75 = 100)	152.7	160.4	160.3	160.3	160.3	157.9	158.5	158.5	158.5	r158.5	158.6	159.5	161.6	161.7
3144	Women's footwear, except athletic	194.5	202.3	204.0	204.0	205.6	206.3	213.5	213.8	213.8	213.8	214.3	214.3	215.2	217.1
3171	Women's handbags and purses (12/75 = 100)	128.9	131.8	131.8	131.8	131.9	131.9	132.1	132.1	140.8	140.9	140.9	140.9	140.9	140.9
3211	Flat glass (12/71 = 100)	151.7	152.6	153.3	153.9	157.6	157.6	157.9	160.8	160.8	158.9	159.5	162.6	162.8	163.8
3221	Glass containers	261.1	265.2	265.2	274.2	274.3	274.3	274.3	294.2	294.2	r294.2	294.5	294.5	294.5	304.9
3241	Cement, hydraulic	283.1	285.4	285.5	286.2	305.7	305.9	308.3	312.6	313.8	r313.8	310.5	310.3	309.4	309.0
3251	Brick and structural clay tile	258.6	261.3	261.3	262.7	268.3	270.4	271.9	276.4	278.5	278.5	278.5	277.6	278.5	282.6
3253	Ceramic wall and floor tile (12/75 = 100)	117.2	120.2	120.2	130.3	130.4	130.4	130.4	130.4	117.6	117.6	117.6	117.6	117.6	120.1
3255	Clay refractories	242.1	251.0	252.9	254.0	255.1	259.4	263.7	273.9	275.6	r275.9	280.7	281.1	281.3	281.6
3259	Structural clay products, n.e.c.	189.2	192.8	192.3	196.5	196.3	198.1	196.4	203.1	204.1	r204.4	205.1	205.4	205.2	205.3
3261	Vitreous plumbing fixtures	207.4	214.5	215.7	217.3	219.2	224.6	226.7	227.6	236.1	235.8	237.2	240.4	241.1	241.5
3262	Vitreous china food utensils	295.2	298.0	305.4	308.2	308.2	308.2	308.2	313.4	313.4	318.6	318.2	318.2	318.7	327.4
3263	Fine earthenware food utensils	244.9	246.0	248.4	294.3	294.3	294.3	294.3	295.1	293.9	r294.7	294.3	294.3	296.1	297.6
3269	Pottery products, n.e.c. (12/75 = 100)	132.5	133.3	135.5	150.1	150.1	150.1	150.1	151.4	151.5	r152.7	152.6	152.6	153.2	155.4
3271	Concrete block and brick	233.0	240.0	240.0	240.2	249.5	250.6	252.3	259.3	259.4	259.4	259.4	259.5	260.4	259.3
3273	Ready-mixed concrete	248.2	254.0	254.6	257.0	270.8	272.6	275.5	278.8	281.5	282.5	282.5	282.6	283.5	282.8
3274	Lime (12/75 = 100)	141.0	144.6	144.3	144.6	149.5	153.5	155.6	157.1	157.3	r157.7	159.6	159.9	158.8	160.9
3275	Gypsum products	252.8	255.9	256.8	255.6	255.9	262.8	268.1	264.6	257.0	257.5	253.5	252.3	252.2	250.0
3291	Abrasive products (12/71 = 100)	187.8	195.1	195.3	196.5	199.4	203.3	203.9	212.0	211.8	213.5	215.2	215.7	217.2	218.8
3297	Nonclay refractories (12/74 = 100)	145.6	150.1	152.3	152.3	152.6	153.3	154.2	157.4	159.7	161.2	162.8	164.9	164.9	167.9
3312	Blast furnaces and steel mills	288.8	296.4	297.1	297.7	302.4	302.9	304.1	312.0	313.3	r313.5	308.5	308.4	308.5	314.8
3313	Electrometallurgical products (12/75 = 100)	111.9	116.2	117.5	117.6	117.8	117.8	118.0	118.7	118.6	118.7	117.0	117.1	117.2	117.3
3316	Cold finishing of steel shapes	265.5	271.7	273.4	273.9	274.1	277.1	277.2	285.9	288.1	288.2	282.2	282.3	282.3	288.1
3317	Steel pipes and tubes	268.6	272.7	273.1	273.2	280.5	281.0	283.2	286.8	286.9	r290.4	292.5	292.6	292.6	294.3
3321	Gray iron foundries (12/68 = 100)	255.8	267.1	269.6	269.7	273.7	276.9	277.2	279.8	280.5	r282.5	280.4	280.6	280.7	288.2
3333	Primary zinc	265.7	265.2	257.8	265.7	266.1	272.4	279.6	274.3	268.2	268.6	255.8	255.8	260.9	269.9
3334	Primary aluminum	243.1	256.0	263.2	266.6	267.0	267.0	267.8	276.0	287.0	r290.1	293.3	310.7	313.7	327.6
3351	Copper rolling and drawing	213.2	226.3	222.6	225.0	231.0	253.1	238.6	227.4	222.8	r220.2	223.3	224.1	220.2	222.2
3353	Aluminum sheet plate and foil (12/75 = 100)	148.9	150.7	151.3	151.7	153.2	153.5	155.5	157.8	157.6	r157.8	158.2	157.6	157.6	161.4
3354	Aluminum extruded products (12/75 = 100)	149.3	155.2	157.4	158.0	158.8	158.9	160.9	167.7	167.7	167.7	168.3	168.3	168.1	173.1
3355	Aluminum rolling, drawing, n.e.c. (12/75 = 100)	132.4	136.9	139.9	140.5	140.7	141.0	141.1	143.8	145.2	r146.7	147.2	147.6	147.6	150.5
3411	Metal cans	264.1	273.8	274.6	274.7	276.6	277.3	279.9	295.1	295.2	294.9	295.6	295.9	296.1	297.9
3425	Hand saws and saw blades (12/72 = 100)	163.3	167.1	169.5	169.8	173.1	174.6	176.4	178.0	181.5	r181.9	183.3	185.2	185.6	186.6
3431	Metal sanitary ware	224.8	230.1	231.7	232.9	237.8	242.1	243.1	245.5	249.7	249.9	250.9	251.4	251.3	251.5
3465	Automotive stampings (12/75 = 100)	128.5	132.4	132.4	132.4	132.4	132.4	132.7	133.5	133.8	r137.8	138.1	140.1	140.4	140.5
3482	Small arms ammunition (12/75 = 100)	132.2	133.2	133.6	143.2	143.2	143.2	142.6	141.7	141.4	r144.6	149.8	152.1	150.1	150.6
3493	Steel springs, except wire	219.8	223.7	224.1	225.6	226.1	226.6	228.6	229.2	229.2	r230.3	230.1	230.6	231.7	232.8
3494	Valves and pipe fittings (12/71 = 100)	204.8	210.4	212.5	214.3	216.9	219.6	223.1	229.4	229.9	r231.8	231.8	232.0	232.3	234.7
3498	Fabricated pipe and fittings	289.2	297.3	297.4	297.4	301.7	301.8	303.5	313.0	313.1	313.8	317.2	317.2	319.9	325.0
3519	Internal combustion engines, n.e.c.	243.3	254.2	254.9	254.9	260.5	261.8	266.1	270.6	271.6	r271.7	275.1	276.3	281.8	283.8
3531	Construction machinery (12/76 = 100)	125.1	128.9	129.4	130.9	134.6	135.7	136.3	138.6	139.5	r140.3	141.5	142.5	143.5	145.1
3532	Mining machinery (12/72 = 100)	229.4	233.1	235.4	236.4	245.8	247.1	247.8	256.0	257.3	r258.2	259.4	262.0	263.4	265.2
3533	Oilfield machinery and equipment	291.6	300.5	302.8	308.1	314.2	316.2	318.9	329.8	333.1	337.4	342.6	343.8	344.7	350.8
3534	Elevators and moving stairways	215.9	219.4	220.6	220.9	225.6	226.1	229.1	232.6	234.1	r242.8	244.2	243.8	246.4	248.3
3542	Machine tools, metal forming types (12/71 = 100)	242.6	249.8	253.7	256.7	266.1	268.1	269.4	274.3	275.1	r279.2	284.9	285.9	286.2	287.1
3546	Power driven hand tools (12/76 = 100)	119.3	122.0	122.8	124.4	126.3	126.6	127.4	129.0	131.2	r131.1	133.5	134.4	134.7	136.3
3552	Textile machinery (12/69 = 100)	194.7	199.3	200.6	200.6	202.6	205.2	207.0	213.4	213.8	217.0	222.1	222.1	222.2	223.7
3553	Woodworking machinery (12/72 = 100)	185.4	192.6	192.7	192.9	201.2	201.6	205.1	212.3	212.1	r213.7	216.3	216.4	216.5	217.4
3576	Scales and balances, excluding laboratory	194.2	195.7	199.5	201.0	204.2	205.8	206.6	207.5	208.2	208.6	208.8	217.0	217.0	217.1
3592	Carburetors, pistons, rings, valves (6/76 = 100)	139.6	142.8	145.1	145.3	147.5	147.8	148.6	152.6	153.0	r153.5	158.3	158.9	159.9	164.7
3612	Transformers	168.1	171.2	170.4	171.6	172.9	176.6	177.5	180.5	181.5	r182.9	186.2	189.5	190.9	194.0
3623	Welding apparatus, electric (12/72 = 100)	192.2	196.9	198.6	200.3	201.3	203.3	206.0	207.0	209.2	211.0	212.3	212.3	211.4	213.8
3631	Household cooking equipment (12/75 = 100)	122.2	124.4	125.9	126.3	128.7	129.3	129.4	129.7	133.1	r134.7	134.7	134.1	134.6	134.7
3632	Household refrigerators, freezers (6/76 = 100)	113.6	115.1	115.7	116.3	117.0	118.5	118.6	119.3	119.4	r122.0	121.7	121.7	121.9	122.8
3633	Household laundry equipment (12/73 = 100)	148.8	150.9	152.3	153.5	154.0	156.6	158.3	160.3	161.7	162.3	160.1	161.5	165.5	166.1
3635	Household vacuum cleaners	141.7	144.5	144.7	145.8	146.1	149.7	151.3	148.6	149.3	r155.8	151.9	151.9	152.1	152.2
3636	Sewing machines (12/75 = 100)	121.4	122.6	122.6	122.6	122.6	129.2	129.2	129.2	129.2	r129.2	129.4	129.4	129.4	129.7
3641	Electric lamps	235.2	244.8	238.7	240.8	248.5	252.4	251.8	252.3	251.3	r258.1	266.4	268.0	267.8	268.9
3644	Noncurrent-carrying wiring devices (12/72 = 100)	204.6	210.5	211.9	215.0	212.9	215.2	215.3	217.4	218.2	r220.4	222.3	222.8	223.0	223.8
3646	Commercial lighting fixtures (12/75 = 100)	126.5	131.4	131.6	131.9	133.4	134.3	136.2	138.0	138.5	r139.2	139.6	140.9	141.9	142.3
3648	Lighting equipment, n.e.c. (12/75 = 100)	126.0	129.6	129.8	130.5	133.0	133.2	134.6	139.4	140.2	r140.7	140.5	140.8	143.3	143.4
3671	Electron tubes receiving type	220.3	227.2	227.4	227.7	228.1	229.4	229.7	254.0	254.7	r255.2	255.1	255.2	255.7	264.6
3674	Semiconductors and related devices	84.8	85.1	85.6	86.4	86.8	88.5	89.3	90.4	91.2	r92.0	91.6	91.3	91.7	91.7
3675	Electronic capacitors (12/75 = 100)	125.2	133.9	135.8	138.0	147.7	149.1	151.3	157.0	160.7	r160.5	164.3	164.5	174.0	170.0
3676	Electronic resistors (12/75 = 100)	124.4	126.6	126.7	127.3	127.4	128.8	131.8	131.9	133.0	r135.2	135.1	136.1	136.9	137.7
3678	Electronic connectors (12/75 = 100)	131.7	138.9	140.7	142.1	145.1	146.4	146.7	146.5	146.8	r148.7	149.0	149.2	149.7	150.0
3692	Primary batteries, dry and wet	170.1	173.1	173.1	174.1	174.2	176.5	176.6	176.8	176.4	176.4	176.4	176.7	176.8	176.9
3711	Motor vehicles and car bodies (12/75 = 100)	125.1	130.2	130.1	130.4	132.7	131.6	131.8	136.5	134.5	r134.6	136.8	138.1	131.1	144.0
3942	Dolls (12/75 = 100)	110.8	112.9	112.9	113.0	122.7	125.4	125.6	127.7	128.4	r128.4	126.7	126.7	126.7	128.6
3944	Games, toys, and children's vehicles	182.7	186.2	186.3	186.6	196.7	203.8	204.0	205.0	205.3	r205.9	204.4	204.5	204.5	204.7
3955	Carbon paper and inked ribbons (12/75 = 100)	118.6	123.1	125.2	125.2	126.2	128.2	128.3	131.5	133.3	136.4	136.4	136.4	136.4	135.0
3995	Burial caskets (6/76 = 100)	122.5	122.1	124.8	124.8	128.3	128.3	128.3	128.4	130.3	132.2	132.2	132.2	132.9	132.9
3996	Hard surface floor coverings (12/75 = 100)	126.3	131.0	134.1	134.1	136.6	136.7	136.7	143.2	143.3	143.3	146.1	146.6	146.6	146.6

[1] Data for June 1980 have been revised to reflect the availability of late reports and corrections by respondents. All data are subject to revision 4 months after original publication.

r = revised.

PRODUCTIVITY DATA

PRODUCTIVITY DATA are compiled by the Bureau of Labor Statistics from establishment data and from estimates of compensation and output supplied by the U.S. Department of Commerce and the Federal Reserve Board.

Definitions

Output is the constant dollar gross domestic product produced in a given period. Indexes of **output per hour of labor input,** or labor productivity, measure the value of goods and services produced per hour of labor. **Compensation per hour** includes wages and salaries of employees plus employers' contributions for social insurance and private benefit plans. The data also include an estimate of wages, salaries, and supplementary payments for the self-employed, except for nonfinancial corporations, in which there are no self-employed. **Real compensation per hour** is compensation per hour adjusted by the Consumer Price Index for All Urban Consumers.

Unit labor cost measures the labor compensation cost required to produce one unit of output and is derived by dividing compensation by output. **Unit nonlabor payments** include profits, depreciation, interest, and indirect taxes per unit of output. They are computed by subtracting compensation of all persons from the current dollar gross domestic product and dividing by output. In these tables, **Unit nonlabor costs** contain all the components of unit nonlabor payments except unit profits. **Unit profits** include corporate profits and inventory valuation adjustments per unit of output.

The **implicit price deflator** is derived by dividing the current dollar estimate of gross product by the constant dollar estimate, making the deflator, in effect, a price index for gross product of the sector reported.

The use of the term "man-hours" to identify the labor component of productivity and costs, in tables 31 through 34, has been discontinued. **Hours of all persons** is now used to describe the labor input of payroll workers, self-employed persons, and unpaid family workers. **Output per all-employee hour** is now used to describe labor productivity in nonfinancial corporations where there are no self-employed.

Notes on the data

In the private business sector and the nonfarm business sector, the basis for the output measure employed in the computation of output per hour is Gross Domestic Product rather than Gross National Product. Computation of hours includes estimates of nonfarm and farm proprietor hours.

Output data are supplied by the Bureau of Economic Analysis, U.S. Department of Commerce, and the Federal Reserve Board. Quarterly manufacturing output indexes are adjusted by the Bureau of Labor Statistics to annual estimates of output (gross product originating) from the Bureau of Economic Analysis. Compensation and hours data are from the Bureau of Economic Analysis and the Bureau of Labor Statistics.

Beginning with the September 1976 issue of the *Review*, tables 31–34 were revised to reflect changeover to the new series—private business sector and nonfarm business sector—which differ from the previously published total private economy and nonfarm sector in that output imputed for owner-occupied dwellings and the household and institutions sectors, as well as the statistical discrepancy, are omitted. For a detailed explanation, see J. R. Norsworthy and L. J. Fulco, "New sector definitions for productivity series," *Monthly Labor Review*, October 1976, pages 40–42.

31. Annual indexes of productivity, hourly compensation, unit costs, and prices, 1950–79

[1967=100]

Item	1950	1955	1960	1965	1970	1972	1973	1974	1975	1976	1977	1978	1979
Private business sector:													
Output per hour of all persons	61.2	70.6	79.0	95.1	104.4	111.5	113.6	110.2	112.6	116.6	118.7	119.3	118.3
Compensation per hour	42.6	56.1	72.2	88.7	123.3	139.8	151.3	165.2	181.7	197.6	213.3	231.4	253.1
Real compensation per hour	59.2	69.9	81.4	93.9	106.0	111.6	113.6	111.8	112.7	115.9	117.5	118.4	116.4
Unit labor cost	69.6	79.4	91.4	93.3	118.2	125.4	133.2	149.8	161.3	169.5	179.7	194.0	214.0
Unit nonlabor payments	73.1	80.4	85.4	95.9	105.8	118.9	124.9	130.3	150.3	157.9	165.5	174.3	184.4
Implicit price deflator	70.8	79.8	89.3	94.2	113.9	123.2	130.3	143.1	157.5	165.5	174.8	187.2	203.8
Nonfarm business sector:													
Output per hour of all persons	67.2	74.6	81.2	96.0	103.2	110.1	112.0	108.6	110.7	114.6	116.4	116.9	115.7
Compensation per hour	45.6	59.0	74.5	89.4	121.9	138.4	149.2	163.0	179.3	194.2	209.6	227.5	247.9
Real compensation per hour	63.3	73.6	84.1	94.6	104.8	110.5	112.1	110.4	111.2	113.9	115.5	116.4	114.0
Unit labor cost	68.0	79.1	91.7	93.2	118.1	125.7	133.2	150.1	161.9	169.5	180.1	194.6	214.4
Unit nonlabor payments	71.4	80.1	84.4	95.8	106.0	117.4	117.8	124.7	145.9	156.0	163.8	169.9	178.6
Implicit price deflator	68.1	79.4	89.2	94.1	114.0	122.9	127.9	141.4	156.4	164.8	174.5	186.1	202.1
Nonfinancial corporations:													
Output per hour of all employees	(1)	(1)	80.6	96.9	103.7	110.6	112.9	108.7	112.2	115.8	117.0	118.0	117.5
Compensation per hour	(1)	(1)	76.0	90.1	121.8	136.7	147.6	161.7	177.9	192.7	208.0	225.0	244.9
Real compensation per hour	(1)	(1)	85.7	95.3	104.7	109.1	110.9	109.5	110.4	113.0	114.6	115.2	112.7
Unit labor cost	(1)	(1)	94.3	93.0	117.4	123.7	130.7	148.8	158.6	166.4	177.7	190.6	208.4
Unit nonlabor payments	(1)	(1)	90.8	100.1	103.5	114.8	116.8	124.8	148.1	156.8	164.4	170.6	179.5
Implicit price deflator	(1)	(1)	93.1	95.5	112.5	120.5	125.8	140.2	154.9	163.0	173.0	183.5	198.1
Manufacturing:													
Output per hour of all persons	65.8	75.0	79.8	98.4	105.0	115.7	118.9	113.0	118.8	124.0	127.7	128.2	129.2
Compensation per hour	45.6	61.2	78.0	91.1	122.3	136.6	146.5	161.7	181.1	196.1	212.7	229.9	250.8
Real compensation per hour	63.3	76.3	88.0	96.4	105.1	109.0	110.1	109.5	112.3	115.0	117.2	117.6	115.3
Unit labor cost	69.4	81.6	97.7	92.6	116.5	118.1	123.2	143.1	152.4	158.2	166.6	179.4	194.1
Unit nonlabor payments	82.3	88.6	92.3	103.3	96.2	107.4	106.4	105.6	128.4	139.6	147.4	152.4	154.4
Implicit price deflator	73.3	83.8	96.1	95.9	110.3	114.8	118.0	131.8	145.1	152.5	160.7	171.1	181.9

[1] Not available.

32. Annual changes in productivity, hourly compensation, unit costs, and prices, 1969–79

Item	Year											Annual rate of change	
	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1950-79	1969-79
Private business sector:													
Output per hour of all persons	0.2	0.7	3.3	3.4	1.9	−3.0	2.1	3.5	1.8	0.5	−0.8	2.5	2.1
Compensation per hour	6.9	7.2	6.7	6.2	8.2	9.2	10.0	8.8	8.0	8.5	9.4	5.9	6.9
Real compensation per hour	1.4	1.2	2.3	2.8	1.9	−1.6	.8	2.8	1.4	0.8	−1.7	2.5	2.0
Unit labor cost	6.6	6.4	3.3	2.8	6.2	12.5	7.7	5.0	6.0	8.0	10.3	3.3	4.7
Unit nonlabor payments	1.0	1.2	6.8	5.3	5.0	4.4	15.3	5.1	4.8	5.3	5.8	3.0	4.2
Implicit price deflator	4.7	4.7	4.4	3.6	5.8	9.8	10.1	5.0	5.6	7.1	8.9	3.2	4.5
Nonfarm business sector:													
Output per hour of all persons	−.2	.2	3.0	3.6	1.7	−3.1	2.0	3.5	1.5	.5	−1.1	2.1	1.9
Compensation per hour	6.4	6.8	6.7	6.4	7.8	9.2	10.0	8.3	7.9	8.6	9.0	5.6	6.7
Real compensation per hour	1.0	.8	2.3	3.0	1.5	−1.6	.8	2.4	1.4	.8	−2.1	2.2	1.7
Unit labor cost	6.7	6.5	3.5	2.7	6.0	12.7	7.9	4.7	6.3	8.0	10.2	3.4	4.7
Unit nonlabor payments	.4	1.6	6.7	3.8	.3	5.9	17.0	6.9	5.0	3.7	5.1	2.9	4.0
Implicit price deflator	4.5	4.9	4.5	3.1	4.1	10.5	10.6	5.4	5.9	6.6	8.6	3.3	4.5
Nonfinancial corporations:													
Output per hour of all employees	.4	.0	3.3	3.1	2.1	−3.7	3.2	3.2	1.1	.9	−.4	(1)	1.9
Compensation per hour	6.8	6.8	6.2	5.7	7.9	9.6	10.0	8.3	7.9	8.2	8.9	(1)	6.5
Real compensation per hour	1.3	.8	1.8	2.4	1.6	−1.3	.8	2.4	1.4	.5	−2.2	(1)	1.6
Unit labor cost	6.3	6.8	2.7	2.5	5.7	13.8	6.6	4.9	6.8	7.3	9.3	(1)	4.5
Unit nonlabor payments	0	.5	7.3	3.3	1.8	6.8	18.7	5.8	4.9	3.8	5.2	(1)	3.6
Implicit price deflator	4.1	4.6	4.2	2.8	4.4	11.5	10.5	5.2	6.1	6.1	7.9	(1)	4.2
Manufacturing:													
Output per hour of all persons	1.3	−.1	5.2	4.8	2.8	−5.0	5.1	4.4	3.0	.4	0.8	2.5	2.5
Compensation per hour	6.6	7.1	6.2	5.2	7.2	10.4	12.0	8.3	8.4	8.1	9.1	5.5	6.5
Real compensation per hour	1.2	1.1	1.9	1.8	.9	−.5	2.6	2.4	1.9	.4	−2.0	2.1	1.5
Unit labor cost	5.2	7.2	.9	.4	4.3	16.1	6.6	3.8	5.3	7.7	8.2	2.9	3.9
Unit nonlabor payments	−4.4	−3.2	9.2	2.3	−1.0	−.7	21.6	8.8	5.5	3.4	1.3	1.9	2.5
Implicit price deflator	2.3	4.2	3.1	1.5	2.8	11.5	10.2	5.1	5.4	6.5	6.3	2.6	3.5

[1] Not available.

r = revised.

33. Quarterly indexes of productivity, hourly compensation, unit costs, and prices, seasonally adjusted

[1967 = 100]

Item	Annual average		Quarterly indexes										
			1978				1979				1980		
	1978	1979	I	II	III	IV	I	II	III	IV	I	II	III
Private business sector:													
Output per hour of all persons	119.3	118.3	118.5	119.1	119.7	119.8	118.9	118.3	117.8	117.7	117.7	r116.8	p117.3
Compensation per hour	231.4	253.1	224.6	228.8	233.7	238.4	244.8	250.4	255.7	260.3	267.6	275.3	p280.8
Real compensation per hour	118.4	116.4	118.8	118.3	118.2	117.9	117.9	117.0	115.8	114.2	112.9	r112.5	p112.7
Unit labor cost	194.0	214.0	189.4	192.1	195.2	199.0	205.9	211.7	217.0	221.1	227.5	r235.6	p239.5
Unit nonlabor payments	174.3	184.4	164.8	173.0	177.0	181.3	180.8	183.7	185.6	188.3	190.0	r192.3	p200.4
Implicit price deflator	187.2	203.8	180.9	184.6	188.9	192.9	197.2	202.0	206.1	209.7	214.5	220.6	p226.0
Nonfarm business sector:													
Output per hour of all persons	116.9	115.7	116.2	116.7	117.4	117.6	116.6	115.4	115.0	115.2	114.9	r113.8	p114.6
Compensation per hour	227.5	247.9	221.0	224.9	229.5	234.4	240.2	244.9	249.9	255.6	262.2	269.0	p274.4
Real compensation per hour	116.4	114.0	116.9	116.3	116.1	115.9	115.7	114.4	113.2	112.1	110.6	109.9	p110.2
Unit labor cost	194.6	214.4	190.2	192.8	195.6	199.3	206.0	212.1	217.3	221.8	228.2	r236.3	p239.6
Unit nonlabor payments	169.9	178.6	161.1	169.1	173.0	176.1	174.3	177.6	180.5	182.5	185.9	r190.0	p197.6
Implicit price deflator	186.1	202.1	180.2	184.7	187.8	191.4	195.1	200.3	204.7	208.4	213.7	r220.4	p225.2
Nonfinancial corporations:													
Output per hour of all employees	118.0	117.5	116.9	118.0	118.5	118.8	118.1	117.3	117.2	117.1	117.1	r116.5	(1)
Compensation per hour	225.0	244.9	219.0	222.6	226.9	231.3	237.3	242.1	247.1	252.1	258.8	265.7	(1)
Real compensation per hour	115.2	112.7	115.8	115.1	114.8	114.4	114.3	113.1	111.9	110.6	109.2	108.5	(1)
Total unit costs	193.3	210.4	190.8	191.6	194.0	196.8	202.3	208.0	213.2	218.0	224.3	r233.6	(1)
Unit labor cost	190.6	208.4	187.3	188.7	191.5	194.8	201.0	206.4	210.8	215.3	221.1	r228.0	(1)
Unit nonlabor costs	201.8	216.6	201.5	200.8	201.6	203.1	206.5	213.2	220.5	226.1	234.4	r250.8	(1)
Unit profits	127.2	127.8	107.1	129.2	132.7	138.7	130.3	129.2	127.5	124.0	120.5	r108.3	(1)
Implicit price deflator	183.5	198.1	178.3	182.3	184.9	188.2	191.6	196.3	200.4	204.0	208.9	215.0	(1)
Manufacturing:													
Output per hour of all persons	128.2	129.2	r126.4	127.7	129.3	r129.4	r128.4	r128.7	r129.5	129.1	r128.2	r126.7	p125.8
Compensation per hour	229.9	250.8	223.9	227.1	231.7	236.6	242.3	248.0	252.7	258.0	264.6	274.1	p282.0
Real compensation per hour	117.8	115.3	118.4	117.5	117.2	117.0	116.7	115.9	114.4	113.2	111.8	112.0	p113.2
Unit labor cost	179.4	194.1	177.2	r177.8	179.1	r182.8	r188.8	192.6	r195.1	r199.9	r206.4	r216.4	p224.2

[1] Not available.

r = revised.

34. Percent change from preceding quarter and year in productivity, hourly compensation, unit costs, and prices, seasonally adjusted at annual rate

[1967=100]

Item	Quarterly percent change at annual rate						Percent change from same quarter a year ago					
	I 1979 to II 1979	II 1979 to III 1979	III 1979 to IV 1979	IV 1979 to I 1980	I 1980 to II 1980	II 1980 to III 1980	II 1978 to II 1979	III 1978 to III 1979	IV 1978 to IV 1979	I 1979 to I 1980	II 1979 to II 1980	III 1979 to III 1980
Private business sector:												
Output per hour of all persons	−2.0	−1.4	−0.3	−0.3	[r] −2.7	[p] 1.4	−0.7	−1.6	−1.7	−1.0	−1.2	[p] −0.5
Compensation per hour	9.5	8.7	7.5	11.7	[r] 12.0	[p] 8.3	9.4	9.4	9.2	9.3	9.9	[p] 9.8
Real compensation per hour	−2.9	−4.1	−5.4	−4.5	[r] −1.5	[p] 1.0	−1.1	−2.1	−3.2	−4.2	−3.9	[p] −2.6
Unit labor cost	11.8	10.3	7.8	12.1	[r] 15.1	[p] 6.8	10.2	11.2	11.1	10.5	[r] 11.3	[p] 10.4
Unit nonlabor payments	6.5	4.2	5.9	3.8	[r] 4.9	[p] 17.9	5.7	4.8	3.9	5.1	[r] 4.7	[p] 8.0
Implicit price deflator	10.1	8.3	7.2	9.4	[r] 11.9	[p] 10.0	8.7	9.1	8.7	8.8	9.2	[p] 9.6
Nonfarm business sector:												
Output per hour of all persons	−3.9	−1.5	0.8	−1.1	[r] −3.7	[p] 2.6	−1.1	−2.0	−2.0	−1.4	[r] −1.4	[p] −0.4
Compensation per hour	8.1	8.5	9.5	10.7	[r] 10.8	[p] 8.4	8.9	8.9	9.1	[r] 9.8	9.8	[p] 9.8
Real compensation per hour	−4.2	−4.4	−3.6	−5.3	−2.6	[p] 1.1	−1.6	−2.5	−3.3	−4.4	−4.0	[p] −2.6
Unit labor cost	12.5	10.1	8.6	12.0	[r] 15.0	[p] 5.7	10.1	11.1	11.3	10.8	[r] 11.4	[p] 10.3
Unit nonlabor payments	7.7	6.6	4.6	7.5	[r] 9.1	[p] 17.0	5.0	4.3	3.7	6.6	[r] 7.0	[p] 9.5
Implicit price deflator	11.0	9.0	7.4	10.6	[r] 13.2	[p] 8.9	8.5	9.0	8.9	9.5	[r] 10.0	[p] 10.0
Nonfinancial corporations:												
Output per hour of all employees	−2.7	−0.3	−0.4	−0.1	[r] −1.9	(1)	−.6	−1.1	−1.4	−0.9	[r] −0.7	(1)
Compensation per hour	8.3	8.5	8.4	11.0	11.1	(1)	8.7	8.9	9.0	9.0	9.7	(1)
Real compensation per hour	−4.1	−4.3	−4.5	−5.1	−2.3	(1)	−1.8	−2.6	−3.3	−4.5	−4.1	(1)
Total unit costs	11.8	10.2	9.3	12.2	[r] 17.6	(1)	8.6	9.9	10.8	10.9	12.1	(1)
Unit labor costs	11.2	8.8	8.9	11.1	[r] 13.2	(1)	9.4	10.1	10.6	10.0	[r] 10.5	(1)
Unit nonlabor costs	13.5	14.6	10.6	15.4	[r] 31.1	(1)	6.2	9.4	11.3	13.5	[r] 17.7	(1)
Unit profits	−3.4	−5.3	−10.4	−10.9	[r] −34.7	(1)	0	−3.9	−10.6	−7.6	[r] −16.2	(1)
Implicit price deflator	10.2	8.6	7.3	9.9	[r] 12.1	(1)	7.7	8.4	8.4	9.0	9.5	(1)
Manufacturing:												
Output per hour of all persons	[r] 1.1	2.5	[r] −1.3	[r] −2.8	[r] −4.7	[p] −2.7	[r] 0.8	[r] 0.1	−0.3	[r] 0.2	[r] −1.6	[p] −2.9
Compensation per hour	9.6	7.8	8.8	10.5	15.2	[p] 12.0	9.2	9.1	9.1	9.2	10.5	[p] 11.6
Real compensation per hour	−2.8	−4.9	−4.2	−5.5	[r] 1.4	[p] 4.5	−1.3	−2.4	−3.3	−4.4	−3.4	[p] −1.1
Unit labor cost	[r] 8.5	5.2	[r] 10.2	[r] 13.7	[r] 20.9	[p] 15.1	[r] 8.3	8.9	[r] 9.3	[r] 9.3	[r] 12.4	[p] 14.9

[1] Not available.

r = revised.

LABOR-MANAGEMENT DATA

MAJOR COLLECTIVE BARGAINING DATA are obtained from contracts on file at the Bureau of Labor Statistics, direct contact with the parties, and from secondary sources. Additional detail is published in *Current Wage Developments*, a monthly periodical of the Bureau. Data on work stoppages are based on confidential responses to questionnaires mailed by the Bureau of Labor Statistics to parties involved in work stoppages. Stoppages initially come to the attention of the Bureau from reports of Federal and State mediation agencies, newspapers, and union and industry publications.

Definitions

Data on wage changes apply to private nonfarm industry agreements covering 1,000 workers or more. Data on wage and benefit changes *combined* apply only to those agreements covering 5,000 workers or more. **First-year wage settlements** refer to pay changes going into effect within the first 12 months after the effective date of the agreement. **Changes over the life of the agreement** refer to total agreed upon settlements (exclusive of potential cost-of-living escalator adjustments) expressed at an average annual rate. **Wage-rate changes** are expressed as a percent of straight-time hourly earnings, while **wage and benefit changes** are expressed as a percent of total compensation.

Effective wage-rate adjustments going into effect in major bargaining units measure changes actually placed into effect during the reference period, whether the result of a newly negotiated increase, a deferred increase negotiated in an earlier year, or as a result of a cost-of-living escalator adjustment. Average adjustments are affected by workers receiving no adjustment, as well as by those receiving increases or decreases.

Work stoppages include all known strikes or lockouts involving six workers or more and lasting a full shift or longer. Data cover all workers idle one shift or more in establishments directly involved in a stoppage. They do not measure the indirect or secondary effect on other establishments whose employees are idle owing to material or service shortages.

35. Wage and benefit settlements in major collective bargaining units, 1975 to date

[In percent]

Sector and measure	Annual average					Quarterly average							
	1975	1976	1977	1978	1979	1978	1979				1980 P		
						IV	I	II	III	IV	I	II	III
Wage and benefit settlements, all industries:													
First-year settlements	11.4	8.5	9.6	8.3	9.0	6.1	2.8	10.5	9.0	8.5	8.6	10.1	11.6
Annual rate over life of contract	8.1	6.6	6.2	6.3	6.6	5.2	5.3	7.8	6.1	6.0	6.4	6.8	7.3
Wage rate settlements, all industries:													
First-year settlements	10.2	8.4	7.8	7.6	7.4	7.4	5.7	8.9	6.8	6.3	7.8	8.7	10.7
Annual rate over life of contract	7.8	6.4	5.8	6.4	6.0	5.9	6.6	7.2	5.1	5.3	6.3	6.8	7.4
Manufacturing:													
First-year settlements	9.8	8.9	8.4	8.3	6.9	9.5	8.7	9.7	6.3	5.6	7.0	6.6	8.7
Annual rate over life of contract	8.0	6.0	5.5	6.6	5.4	7.4	7.7	8.1	4.7	4.2	5.6	4.9	5.5
Nonmanufacturing (excluding construction):													
First-year settlements	11.9	8.6	8.0	8.0	7.6	6.4	3.2	8.5	9.4	7.8	9.1	10.4	9.4
Annual rate over life of contract	8.0	7.2	5.9	6.5	6.2	5.1	5.6	5.8	6.5	7.4	7.1	8.6	5.8
Construction:													
First-year settlements	8.0	6.1	6.3	6.5	8.8	8.4	9.7	8.7	9.7	7.5	9.6	12.7	15.7
Annual rate over life of contract	7.5	6.2	6.3	6.2	8.3	7.1	8.2	8.3	8.5	7.6	9.3	10.3	13.3

36. Effective wage adjustments going into effect in major collective bargaining units, 1975 to date

[In percent]

Sector and measure	Average annual changes					Average quarterly changes								
	1975	1976	1977	1978	1979	1978		1979				1980 P		
						III	IV	I	II	III	IV	I	II	III
Total effective wage rate adjustment, all industries	8.7	8.1	8.0	8.2	9.1	2.7	1.4	1.4	2.6	3.3	1.6	1.5	2.9	3.1
Change resulting from—														
Current settlement	2.8	3.2	3.0	2.0	3.0	.5	.4	.2	1.1	1.0	.5	.4	1.0	1.5
Prior settlement	3.7	3.2	3.2	3.7	3.0	1.2	.5	.6	1.0	1.0	.4	.5	1.2	1.1
Escalator provision	2.2	1.6	1.7	2.4	3.1	1.0	.5	.6	.5	1.2	.7	.6	.6	.6
Manufacturing	8.5	8.5	8.4	8.6	9.6	2.9	1.9	1.5	2.3	3.2	2.4	1.8	3.2	2.6
Nonmanufacturing	8.9	7.7	7.6	7.9	8.8	2.5	1.1	1.4	2.8	3.4	1.0	1.3	2.7	3.6

NOTE: Because of rounding and compounding, the sums of individual items may not equal totals.

37. Work stoppages, 1947 to date

Month and year		Number of stoppages		Workers involved		Days idle	
		Beginning in month or year	In effect during month	Beginning in month or year (thousands)	In effect during month (thousands)	Number (thousands)	Percent of estimated working time
1947		3,693	…	2,170	…	34,600	.30
1948		3,419	…	1,960	…	34,100	.28
1949		3,606	…	3,030	…	50,500	.44
1950		4,843	…	2,410	…	38,800	.33
1951		4,737	…	2,220	…	22,900	.18
1952		5,117	…	3,540	…	59,100	.48
1953		5,091	…	2,400	…	28,300	.22
1954		3,468	…	1,530	…	22,600	.18
1955		4,320	…	2,650	…	28,200	.22
1956		3,825	…	1,900	…	33,100	.24
1957		3,673	…	1,390	…	16,500	.12
1958		3,694	…	2,060	…	23,900	.18
1959		3,708	…	1,880	…	69,000	.50
1960		3,333	…	1,320	…	19,100	.14
1961		3,367	…	1,450	…	16,300	.11
1962		3,614	…	1,230		18,600	.13
1963		3,362	…	941	…	16,100	.11
1964		3,655	…	1,640	…	22,900	.15
1965		3,963	…	1,550	…	23,300	.15
1966		4,405	…	1,960	…	25,400	.15
1967		4,595	…	2,870	…	42,100	.25
1968		5,045	…	2,649	…	49,018	.28
1969		5,700	…	2,481	…	42,869	.24
1970		5,716	…	3,305		66,414	.37
1971		5,138	…	3,280	…	47,589	.26
1972		5,010	…	1,714	…	27,066	.15
1973		5,353	…	2,251	…	27,948	.14
1974		6,074	…	2,778	…	47,991	.24
1975		5,031	…	1,746	…	31,237	.16
1976		5,648	…	2,420	…	37,859	.19
1977		5,506	…	2,040	…	35,822	.17
1978		4,230	…	1,623	…	36,922	.17
1979[r]	September	474	…	152	…	2,804	.16
	October	439	…	208	…	3,372	.17
	November	272	…	91	…	3,201	.17
	December	149	…	45	…	2,424	.13
1980[p]	January	352	441	207	292	3,142	.16
	February	354	590	114	332	3,025	.17
	March	396	631	123	310	2,705	.14
	April	425	663	116	231	2,786	.14
	May	505	752	139	214	2,464	.13
	June	435	714	164	201	2,553	.13
	July	491	768	270	394	4,030	.21
	August	409	768	64	238	3,363	.17
	September	438	711	163	269	3,169	.16

[r] = revised

[p] = preliminary

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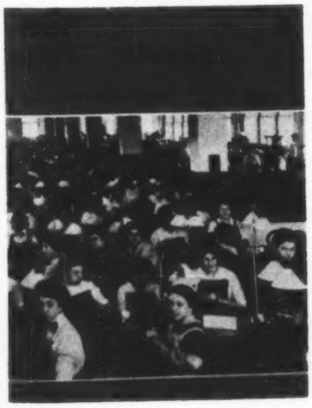

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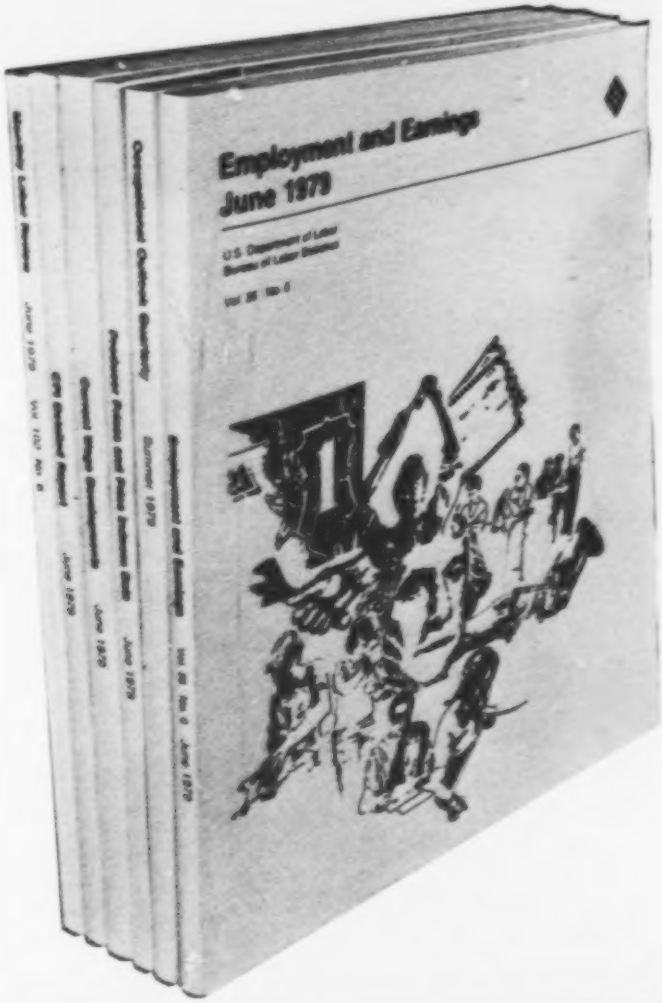
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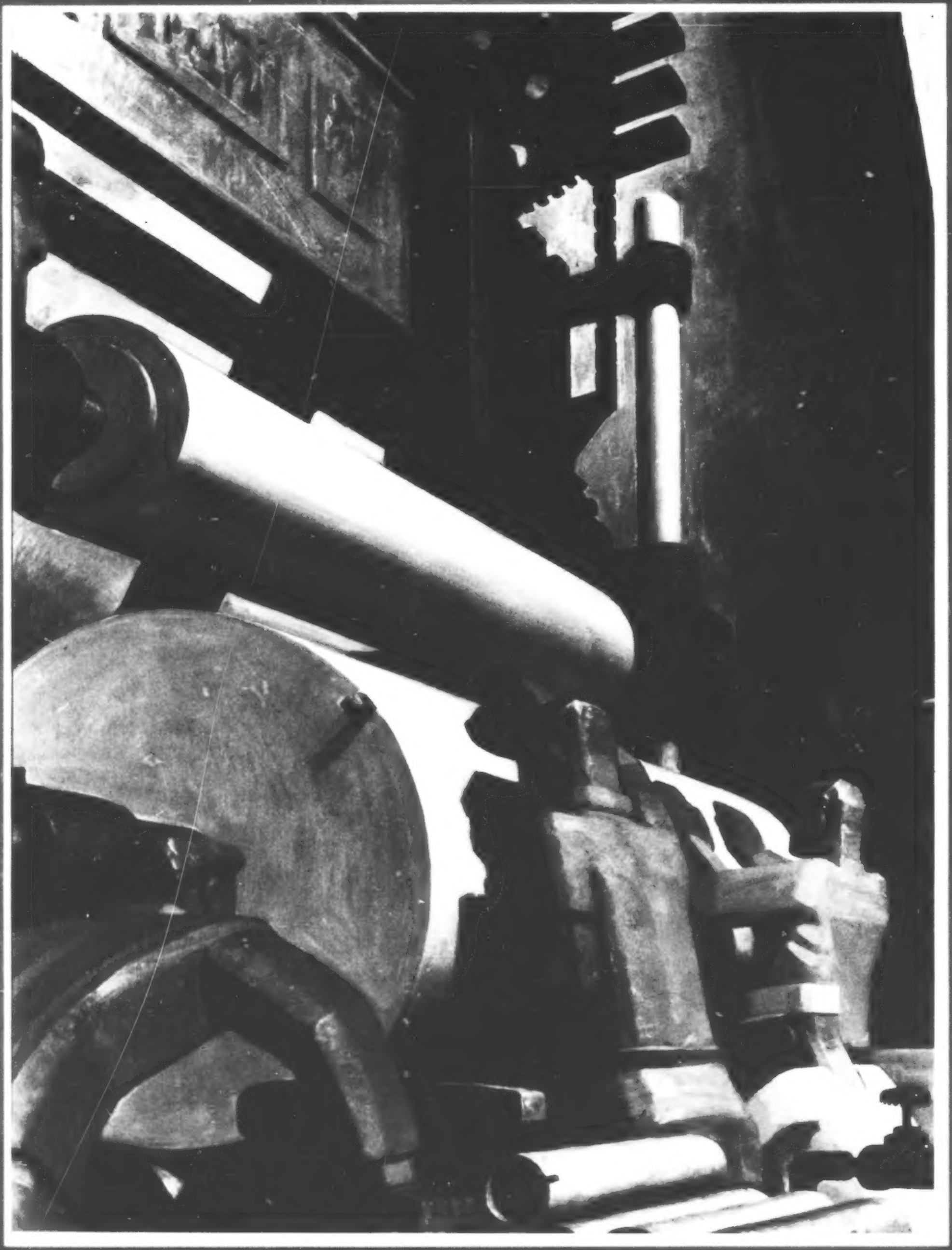MLR NEWAR005N ISSDUE000B 1
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